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Chad Resettlement and Compensation Plan

Evaluation Study

Main Report

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Abbreviations and local terms.

ACT	– Assemblée Chrétienne du Tchad (Protestant Church)
APE	– Association des Parents D'Elèves, Local Parents Association
Argui	– Local strong alcohol, prepared from distilled fermented sorghum, usually sold in beer bottles of 0.65 cl)
AV	– Association Villageoise: Organisation of the cotton farmers in a village which is the mandatory intermediary between the Cotontchad Company and the local farmers.
BELACD	– Bureau d'Etude et de Liaison des Actions Caritatives et de Développement : Development organization of the Catholic mission founded in 1973.
Bili-bili	– Local fresh fermented millet beer
CEP	- Chad Export Project
CRCP	- Chad Resettlement and Compensation Plan
Dr Tchoukou	– Also called Dr. Jim, small vendors of modern medicines usually made in Nigeria
EET	– Eglise Evangélique au Tchad (Evangelical church)
FCFA	– CFA franc valid in Central Africa, sometimes noted in a abbreviated forms as F, or as KF/KFCFA (1,000 FCFA). The FCFA is linked to the former French franc (100 FCFA = 1 FF). It has a fixed exchange rate with the Euro (655.957 FCFA = 1 euro). In October 2004, 1 US\$ was about 505 FCFA.
Koro	– Market measure, a small scale which weighs about 2,5 kg of cereals.
LCC	– Local Community Contact (A local person hired by the Project, who is the Intermediary between the Project and the Local Population)
Mosso	– Small village traders, who buy foods on a small scale in the village in order to resell it in another village at a higher price.
NGO/ONG	– Non Governmental Organization
OFDA	– Oil Field Development Area
ONDR	– Office National de Développement Rural (National Rural Development Service)
PSAP	– Projet des Services Agricoles et Pastoraux (World bank funded Agricultural and Pastoral programme)
RNT	– Radio Nationale du Tchad (National Radio Broadcasting service, government radio)
RAP	– Resettlement Action Plan
PAP/PAH	– Projet Affected People/Project Affected Households
SE index	– Socio-economic index (based on the value of household characteristics as defined in this report). The higher the index the better. It is sometimes referred to as a “quality of life index”.
Timbre/Timbrier	– literarily “Stamp”: small vendor of manufactured goods, foods and condiments, who sells his merchandise from a small table or a box that he can carry around.

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Executive Summary

Purpose of the Evaluation

- The Chad Resettlement and Compensation Plan Evaluation Study had two purposes: (1) it fulfilled a Chad Export Project Environmental Management Plan (EMP) commitment to complete an evaluation of resettlement and compensation activities “...at the end of the first agricultural cycle after the construction of the fixed facilities has been completed...¹”; and, (2) it assessed the adequacy of the Chad Resettlement and Compensation Plan (CRCP) for addressing changes in project scope and land requirements arising from more extensive drilling and production well development in the Oil Field Development Area (OFDA) than was envisaged in the original CRCP.
- The Study was commissioned jointly by the International Finance Corporation (IFC) and Esso Exploration and Production Chad, Inc. (EEPCI) in April 2006. Field work for the evaluation was completed in June and July 2006.
- Under the terms of reference, the evaluation focussed only on land acquisition, resettlement, compensation, and livelihood restoration in the OFDA. It did not review resettlement implementation for the Chad export pipeline.
- Project loan agreements require the project to carry out the resettlement and compensation plan as described in the Chad EMP (of which the CRCP forms Vol. 3). This Study therefore used the CRCP as the principal benchmark for assessing project resettlement performance.
- A corrective action plan is proposed in Chapter 7 of the report. Recommendations for any future resettlement planning of oil fields that may be developed to take advantage of the Chad export pipeline are presented in Chapter 8.
- The project faces some challenges to redress problems with the OFDA resettlement and compensation program but with EEPCI and Government of Chad commitment, these challenges are not insurmountable.

Scope of the Study

- Amongst other activities, the evaluation included a socioeconomic survey covering 434 households (with 3,696 household members) in 14 of the most heavily impacted villages. Based on study estimates, this sample represents more than one quarter of all households which have received project compensation for loss of land use or houses in the OFDA.
- Informal village discussions were also conducted in public spaces in 10 villages, often with more than 50 people in attendance. Individual discussions were also held with selected types of compensation recipients in order to gain a qualitative understanding of peoples’ experience of the project resettlement and compensation program.
- Consultations with project affected people and stakeholders were extensive and more than adequate to thoroughly evaluate the effectiveness of the resettlement and compensation program. EEPCI was forthcoming with information and records and provided the study team with open access to its personnel and resettlement database.

Project Description

- OFDA works included construction of central treatment facilities and drilling of some 287 wells to extract oil from three oil fields (Miandoum, Kome and Bolobo) in the Doba basin in southern Chad. The OFDA is situated within Cantons Béro, Kome and Miandoum in Bebedjia Sub-Prefecture, Logone Oriental, Chad.

¹ Chad EMP, Volume 3, Section 8.9.1.

- After lower than projected oil flows from the initial wells following project inauguration in October 2003, it was decided to increase the size of the well field in the OFDA to about 450 wells. As of June 2006, 391 wells had been drilled.
- The additional 104 wells drilled to date, together with associated gathering stations, access roads, flow lines and power supply have resulted in an ongoing program of land acquisition which has so far involved acquisition of an additional 442 ha. of land. Land acquisition to complete the remainder of the well field is expected to continue until late 2007.

Project Impacts on People

- Project compensation dossiers show that 61 villages have been affected by project temporary or permanent acquisition of land within the OFDA.
- The majority of project affected people have been impacted by loss of use of land, trees and crops. Affected people are predominantly of the Ngambaye ethnic group living in small rural villages. They practice agriculture mainly for self consumption with some limited surplus for exchange or sale in markets. Villagers have largely abandoned growing cotton which historically was an important cash crop.
- The evaluation study estimates the total project affected population as of June 2006 to be about 1,640 households or about 12,000 people. The CRCP omitted any comprehensive estimate of the number of households experiencing loss of land (economic displacement) due to project activities.
- As land acquisition for additional well pads will continue in the OFDA for a further 12 months, the final project affected population will be higher than this June 2006 estimate. The estimate does not account for the population affected by loss of communal resources, most notably bush land.
- Using project compensation data, the evaluation study estimates that of the 1,640 project affected households, about 480 households (29%) lost use of 20-50% of their total land area and about 430 lost use of 50-100% of their total land area. These findings indicate that over 900 households may have been seriously affected by loss of land (loss of >20%²), substantially more than the 60-150 households that the CRCP projected would be left economically non-viable as a result of land losses.
- The CRCP uses a threshold based on economic viability for identifying seriously affected households. The minimum threshold is set at a landholding of 2/3 corde (~5,400 m²) per person, below which a household is considered economically non-viable. Such households become eligible for training to restore livelihoods or resettlement (physical relocation) in order to access replacement land. The evaluation study did not encounter any household that could recall being offered the option of resettlement. This is a non-compliance with the CRCP.
- The CRCP significantly underestimated the project affected population and in particular the number of those in the OFDA who would experience serious land losses. Consequently, insufficient emphasis was placed on the mechanisms necessary to assist project affected people to access replacement land. The principal recommendation of this evaluation is that the project needs to revise its livelihood restoration program and make its primary focus, land replacement.

Physical Displacement

- 47 households have been required to physically relocate to new dwellings constructed by the project, compared to the 23 originally estimated in the CRCP. The increase is not unexpected given the much more extensive project land acquisition.
- Households required to relocate dwellings have been able to negotiate replacement housing plots usually in their original village. Resettlers were generally satisfied with the size and quality of their replacement dwellings and level of assistance that they received from the project.

² As a general principle, cash compensation alone is often considered sufficient where land taken constitutes less than 20% of a household's total productive area. This principle assumes that the amount paid for land includes compensation for loss of future production, which is not the case for this project. In any event, the principle is that for land losses greater than 20 percent, replacement land is the preferred restoration measure, where it is available.

Project Impacts on Land

- CRCP prescribed mitigations are assessed as no longer adequate to address the magnitude of project impacts on the agricultural livelihood of households and on community resources (bush and fallow), particularly in a small number of villages where land to support populations is already scarce.
- As of June 2006, the project had permanently acquired 1,243 hectares of land in the OFDA exceeding CRCP estimates by about 65 percent. A further 1,698 hectares of land has been temporarily acquired, nearly twice the area estimated by the CRCP.
- Recently, EEPCI has redesigned its well construction, and is progressively reducing well pad sizes to conform with those specified in the CRCP. When completed this will reduce the permanent land take by about 2%. This is a small but positive measure.
- Of the temporarily used land, about 1,514 hectares (89 percent) has been reinstated and 267 hectares (16 percent) returned to communities. Some of the temporarily acquired land has been occupied for 4-5 years, instead of the maximum one year for which compensation was paid. In response to criticism, EEPCI had accelerated its reinstatement of temporarily used land, but as of June 2006 its actual return to use is still being delayed by a bottleneck in the project land exit ('quitus') procedure. This needs to be addressed.
- The evaluation concluded that the project has failed to achieve its objective of minimising its impact on land and had only partially achieved its objective of reclaiming land after construction, and making as much land as possible available again to customary users. See Table ES-2.
- The CRCP assumed that access to replacement land would be achieved by affected people through reliance on customary land allocation mechanisms and, as a last resort, self-resettlement.
- The evaluation study found that customary mechanisms have failed to provide access to replacement area for a number of reasons. These include envy and retaliatory withholding of land by those who missed out on compensation, retention of land in the hope of receiving project compensation and, in some villages, a scarcity of available land. No instances of households self resettling in order to access replacement land were identified during the evaluation.
- The CRCP did not make any provision for compensation for loss of livelihood caused by severance or fragmentation of land use plots caused by project works, whether temporary or permanent. Project works (especially well pad access roads and associated oil and water flow lines) have fragmented cultivated fields and left some areas no longer viable for cultivation. The study recommends compensation should be paid in circumstances where residual holdings can no longer be viably worked. Rules to determine eligibility and entitlements need to be developed.

Cumulative Land Impacts

- The CRCP underestimated the original project land requirement. Subsequent successive, incremental land acquisitions for the well field expansion (which could not have been foreseen by the CRCP) have contributed to a cumulative land impact of a magnitude significantly beyond that envisaged by the CRCP.
- In one case study village examined during the evaluation (Ngalaba), it was found that over time, through successive land takes, the project footprint (land acquired temporarily and permanently) had peaked at 18% of the total village area. This has greatly exacerbated pre-existing shortages of land and left villagers practicing agriculture with unsustainably short rotations and too-small areas of fallow. While incremental acquisitions of land were subject to the environmental baseline assessment (EBA) process used by EEPCI, they overlooked the cumulative impact.
- The evaluation has recommended that EEPCI retrospectively conduct mapping and an inventory of land resources in each village in the OFDA as a basis to ascertain where project land acquisition may have compromised village agricultural, fallow and bush resources. The evaluation has also recommended introduction of periodic (possibly six monthly), higher level reviews to be implemented by EMP management and endorsed by EEPCI management to assess cumulative impacts (proposed and actual) of project works on each affected village's land resources and population.

- It is surprising, and a failure of project management systems, that in spite of the magnitude of the additional land acquired which greatly exceeds CRCP estimates, change management mechanisms did not trigger any requirement for additional assessment of livelihood impacts, or a survey to ascertain the availability of suitable replacement land.

Socioeconomic Impacts of Project Resettlement

- The evaluation included a socio-economic survey of 434 households from 14 of the more heavily affected villages. Households were categorized into a control group (people who did not lose any land to the project), people receiving only cash compensation (lightly or moderately affected) and those receiving cash compensation plus training (more seriously affected). Results were also compared to a comparable study conducted in the OFDA in 2003.
- The questionnaire was an adaptation of a GEPFE³ questionnaire used in various studies in Chad, Cameroon and the Congo. The questions asked respondents about various attributes of their economic activities, standard of living, and access to community services and facilities. Responses were scored and incorporated into an index designed to provide an indication of each respondent household's standard of living. The index is not a universal one, but has been applied by several researchers from GEPFE over a number of years and has been found to provide a useful indication of rural households' relative standards of living in Chad, Cameroon and Congo. Results are shown in Figure ES-1.
- Figure ES-1 shows that the average index of all project affected people is 10.5, which is almost double the index of the control group (unaffected people), indicating a significant improvement in standard of living for project affected people relative to the non-affected general population. The more heavily people are impacted by the project, the higher is their socio-economic score. Their score rises relative to both the absolute "amount of land lost", and the relative amount as indicated by the category "compensation status".
- The results are influenced by the fact that many households have recently received compensation, or are still receiving training allowances. These short term sources of income boost affected peoples' score by about 10% (denoted as "Direct Esso Impact" in the figure). The evaluation team has concerns about the sustainability of these standard of living improvements once project sources of income cease. It could be expected that affected people will revert to the same level as other households once project subsidies cease, and perhaps lower as the effect of affected people's reduced land holding on livelihood becomes apparent.
- Many people that were eligible for resettlement assistance were already vulnerable before the start of the project. According to data from the project database, about half of the individuals or households were already in a vulnerable situation, owning less than 0.67 corde of land before the project. After project land acquisition, an additional 17.5% of households became vulnerable as a result of land lost to the project.

Vulnerable individuals and households: Less than 2/3 of a corde of land/person		
Land loss	Households	Individual dossiers
Before land take by the project	48.4%	52.5%
After land loss	64.7%	59.3%
Lost all land	--	3.8%

Table ES-1 – Summary of vulnerable households before and after project land acquisition (source survey sample and project database).

³ Groupe d'Etude des Populations Forestières Equatoriales

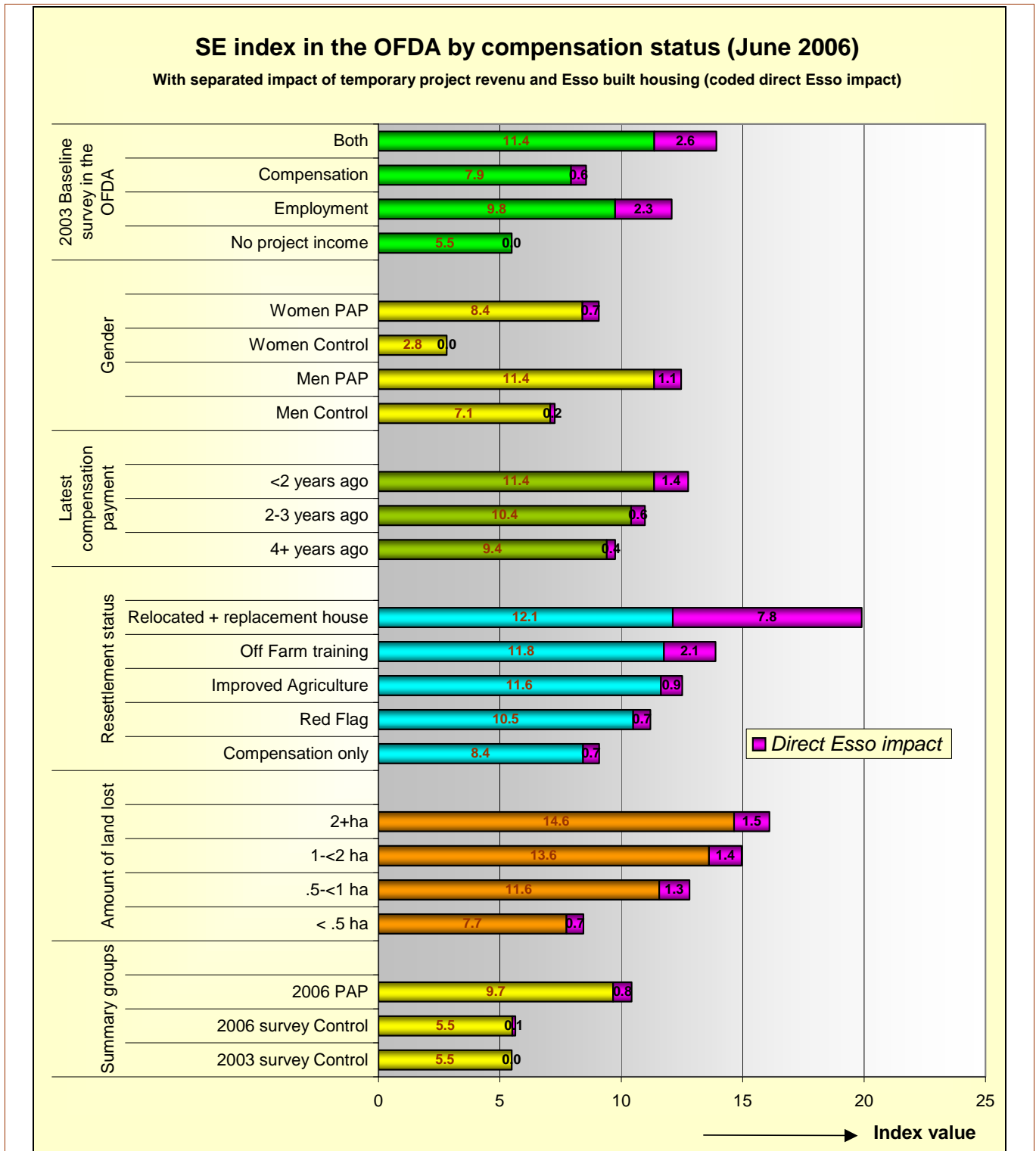


Figure ES-1 – Socio-economic index corrected (in pink) for the direct impact of ESSO through compensation, temporary salaries and housing built by (i) Amount of land lost, (ii) Resettlement status (iii) gender (iv) categories of the 2003 OFDA study.

Effectiveness of Compensation to Individuals

- This study's socioeconomic index shows that individual compensation has been very effective in restoring (and in most cases enhancing) project affected households' standards of housing, ownership of certain household goods and productive assets, and in increasing their utilization of community services. Project affected household scored higher on the study's index than non-affected households.

- On average, project affected people received an average of 1.9 million FCFA (nearly USD 4,000) in compensation since the project commenced. The survey found a proportion of compensation (about 25%) has been used by beneficiaries to make improvements in housing, settle debts, purchase cattle, farm equipment, bicycles, motorcycles and for spending on health and education. Other compensation was distributed and shared amongst relatives and extended family to meet customary obligations. Interviewed villagers and local NGOs also report that some compensation has been dissipated on less productive uses – alcohol consumption, bride purchase and local prostitution.
- Overall, 65% of surveyed PAPs considered they were “better off” or that there had been “no change” in their standard of living as a result of their compensation.
- There is some indication that the benefits of compensation diminish with time, with household standard of living trending towards pre-project levels as more time elapses after receiving compensation. This is to be expected as standard of living has been bolstered by a one-off event (the payment of compensation) rather than gradually increased by sustained improvements in household income.
- On average, project affected household income presently remains higher than non-affected households, but much of this income is of a temporary nature consisting of periodic compensation payments and training allowances paid by the project. This situation will eventually reverse as temporary project income ceases and the impacts of affected households’ smaller landholdings become evident.
- Improvements in living standard and asset ownership aside, a major concern is that compensation to individuals has not enabled them to access replacement land. As households are significantly reliant on subsistence production, their failure to access replacement agricultural area needs to be addressed or some households are likely to experience decreased food security and increasing impoverishment.
- It is apparent that as a short term measure to offset losses in agricultural land, affected households have used their fallow. In each of the three case study villages, about half of all households reported having no fallow or reserve land. Households are aware that this will quickly deplete soil fertility and is not sustainable.

Effectiveness of Communal Compensation

- The CRCP provided for in-kind compensation to offset village losses of communal land or losses of population exceeding 10 percent as a result of self resettlement (which has not eventuated). Villages chose their compensation from a list of facilities including a school building, well or pump, market place, road, or a storage building.
- The CRCP does not explain how community compensation entitlements were related to the differing magnitude of losses experienced by each village and in reality, there does not appear to be any connection. For example, Mbanga lost about 14 ha of bush land and received a school building and two drilled wells, while Ngalaba lost about 157 ha of bush land and received a school building and one well. Mouarom lost about 40 ha and received nothing.
- Compensation should be reviewed for all villages and where necessary adjusted to reflect their differing levels of communal land loss.

Effectiveness of Livelihood Restoration

- The CRCP describes a livelihood restoration strategy based on (i) cash compensation to offset short-term losses in crop production; (ii) reinstatement and hand-back of land to original users for temporary use; (iii) on- and off-farm training to diversify/increase household earnings, or create alternative off-farm employment; and, (iv) replacement land through customary mechanisms to offset permanent losses.
- The CRCP also identifies the option of resettlement to be offered to households that are left economically non-viable. As noted elsewhere, this option has apparently not been extended to economically non-viable households. This is a non-compliance that must be addressed.

- The evaluation found that the CRCP's emphasis on agricultural training and off-farm training as the principal livelihood restoration measures was inadequate to restore the livelihood losses of those 900 or so households experiencing loss of access to more than 20% of their land.
- The evaluation found that agricultural training and off-farm training have only supplemented household income. Survey results indicate that the improvement in average household income attributable to training to date is probably equivalent to less than 10% of the agricultural income lost as a result of project land impacts. Greater improvement in yield (perhaps 30-40%) and increases in livelihood may be possible through agricultural training if current programs are extended for 3 or more years and succeed in achieving a cultural shift in local agricultural practices.
- Off-farm training does not appear to have resulted in many (if any) affected people being able to transition to full time off-farm employment. Opportunities for this outside of the project are very limited. Village economies need to develop considerably before there is widespread demand or capacity to pay for many of the kinds of services off-farm training has been developing. Enterprise opportunities are very limited. The living allowances received by off farm trainees have undoubtedly provided an important short-term source of income for more seriously affected households.
- In short the magnitude and severity of project impacts in the OFDA are far greater than envisaged in the CRCP. The livelihood restoration strategies proposed in the CRCP are not adequate to address the impacts of households left economically non-viable as a result of land losses to the project. The overall role of training in the livelihood restoration model needs to be rethought. Training is supplementing traditional agricultural activities for some households, but it is not an alternative to land replacement programs.
- For livelihood restoration in the OFDA, priority must be given to achieving access to replacement land for those households that have lost 20% or more of their land. A new livelihood replacement strategy should be developed based on a program for facilitating access to replacement land.

Implementation Issues

- Project information on the affected population is not systematically recorded. Information about dependents and household members is incomplete. The full resource and income base of households is not being adequately assessed. Ultimately the project team is unable to determine the level of impact on any given household and so judgments about who is eligible for training or resettlement are based on subjective and unreliable information. The study recommends improved procedures for recording and assessing project affected households.
- A weakness in the current CRCP is the lack of a clear entitlement matrix that (i) identifies all the types of possible loss caused by the project; and that, (ii) clearly distinguishes the compensation entitlements of each different type of user (titled owner, communal customary rights holder, individual customary rights holder and third party users). It is recommended that a comprehensive compensation entitlement matrix be prepared and included in an amended CRCP.
- The evaluation identified a need for more systematic monitoring of project affected households and vulnerable households in particular. Improved monitoring and gathering of feedback from affected people will provide a basis for EMP management and EEPIC management to better evaluate their resettlement implementation performance and to adjust the program when required.

Key Recommendations

- Key recommendations arising from the study are summarized as follows.
 - (i) Review and redesign the project livelihood strategy to place the primary focus on providing project affected people with replacement land. Training programs should be continued to provide supplementary income.
 - (ii) Undertake mapping and an inventory of the land use resources of each project affected villages in the OFDA to quantify project impacts on village resources to date and to assess the availability of suitable replacement land for project affected households.

- (iii) On the basis of the findings of the land use inventory, prepare land replacement execution plans for each village to describe how seriously affected households will be provided with access to replacement land.
- (iv) Undertake a 'footprint' survey of all project works areas to measure the actual area of disturbance versus that which has been compensated for. Pay top-up compensation where indicated by the survey.
- (v) Implement more systematic and rigorous socioeconomic assessment of households prior to their experiencing land acquisition so that project impacts on their land and livelihood resources can be more clearly understood, and appropriate mitigations provided.
- (vi) Develop a clear and comprehensive entitlement matrix so that project affected people and project staff have a clear and transparent framework for understanding project compensation and mitigations.
- (vii) Strengthen internal monitoring and reporting.
- (viii) Amend and update the CRCP to reflect the corrective actions recommended by this evaluation and in accordance with the Management of Change provisions of the EMP.

Need for Future Resettlement Evaluation

- The Study concluded that there is still significant land acquisition yet to occur. Delivery of compensation and training programs is still ongoing. Taking this into account, as well as the fact that project affected people have not yet been able to access replacement land, it is recommended that a further "final evaluation" of resettlement implementation should be undertaken not less than 24 months after last land acquisition for the OFDA well-infill program has been completed.

CRCP Objective	Evaluation of Progress towards Meeting Objective
Minimize project land use, reclaim land after construction, and make as much land available as possible to customary users	Objective of minimizing land use has not been achieved. Project land use (temporary and permanent) has very significantly exceeded projections in the CRCP. In terms of reclamation and land return, the objective has been partially achieved. In the last 6 months, the project has made good progress in land reinstatement (89% temporary land reinstated), but is lagging in return of use (16% returned). Land hand-back delays have led to some farmers missing use of land for several seasons. Retrospective compensation for livelihood losses where project temporary occupation of land has extended beyond the 1 year compensation period should be considered. Insufficient attention is being paid to minimizing land use impact during implementation of the well infill program, although there is progress in reducing well pads nearer to CRCP prescribed dimensions. Minimization of the project footprint and land use impacts needs to be mainstreamed into ongoing oil field planning procedures and implementation. Consolidation of access roads, flow lines, and other utilities into corridors to avoid fragmentation of land should be practiced.
Design the project to avoid village relocation	Objective is substantially achieved. While it is considered unlikely that it will be necessary to relocate whole villages, the option to relocate some households from within worst affected villages needs to be carefully re-assessed. The CRCP allows for this possibility, but a more specific process, actions and resources need to be defined to assess the need and, if necessary plan and undertake such resettlement. Village relocation was avoided in initial design for the export pipeline and central facilities. The project presently has insufficient information on its subsequent impacts on village land and resources to determine whether or not groups from within some villages may need relocation. In 1 out of 3 case study villages examined as part of this study, it was found that in all probability there is insufficient land to replace agricultural area lost to the project. It is probable that a small number of other villages face a similar shortage of suitable replacement land.
Meet the intent of the World Bank Group guidelines (OD 4.30) on involuntary resettlement and all local laws	Objective is only partially achieved. Most crucially, PAPs left economically un-viable as a result of the project land acquisition have not been given access to replacement land. Land acquisition/involuntary resettlement for the well infill program is not being "...conceived and executed as development programs..." as required by OD 4.30. Specific actions to meet the intent of OD 4.30 have been identified: (i) implement additional measures to facilitate PAPs' access to replacement land to offset losses caused by project permanent land acquisition; (ii) adjust compensation to reflect villages' actual losses of communal land and resources; (iii) where the project has occupied temporarily acquired land for more than one year, deliver top-up compensation to affected individuals (or to their communities as the case may be) to cover their livelihood losses resulting from the actual period of occupation; and, (iv) adjust procedures and timeframes for 'just-in-time' well pad acquisition to ensure that land and resettlement impacts are minimized, that adequate social assessment to identify impacts is carried out and that PAPs are adequately informed, consulted and have access to legal assistance if required. Compliance with local laws was not assessed.
Minimize potential resettlement estimated to affect approximately 80 households, or a maximum of 150	This objective has not been achieved. Study findings are that resettlement impacts (physical and/or economic displacement) have affected an estimated 1,640 households. With the exception of about 25 households who have been able to lease or access replacement fields, none of the other 1,615 households have been able to access replacement land. None has been offered replacement land or the option of resettlement to access it.
Model resettlement on the existing cultural institution of resettlement, common among ethnic groups in the area	The CRCP was modelled with such resettlement as was required and access to replacement being achieved through using existing cultural institutions and following customary procedures. In reality, this evaluation concluded that this model has failed. Customary institutions and mechanisms have not been effective and project affected people have been unable to access replacement land as envisaged in the CRCP. As affected people largely practice subsistence agriculture, access to replacement land is essential for achieving livelihood restoration.
Determine compensation values based on extensive data collection and socio-economic analysis in the area	This objective has been achieved. An extensive study of market prices was completed in 1998 to establish project compensation rates. Rates were assessed as adequate by the present study, but should be regularly monitored and adjusted if necessary.
Provide for EEPCI compensation and resettlement at current market values	The objective has been achieved. No complaints were received about compensation rates for trees and crops. 1998 market prices used for setting compensation rates had not been exceeded in the period up until 2006. The Study recommends annual review of compensation rates to ensure they remain current. Relocated households were generally satisfied with size and quality of their house-for-house compensation.
Incorporate preferences voiced during extensive consultation with local peoples, NGOs, and other stakeholders	This objective was initially achieved, but there is no documented ongoing disclosure and consultation program. Extensive consultation was undertaken as part of CRCP preparation up until 1999. Subsequent information disclosure and consultation appears to have occurred sporadically. A need to better inform and notify customary rights holders about return of use of land was noted. Project consultation and information dissemination to local government and NGOs was assessed as poor.
Provide compensation for both private landowners and customary users	The objective has generally been complied with, except in the area of achieving access to replacement land to offset permanent land losses to the project. This is a critical part of compensation for customary land users. Additional measures to ensure adequate compensation for the following are also recommended: (i) losses experienced by third party users of customary rights holders' land; and, (ii) losses incurred as a result of project temporary use of land, where such use extends beyond one year.

Table ES-1 Summary of Compliance with CRCP Objectives

1 INTRODUCTION

1.1 Purpose of the Evaluation

The Chad Resettlement and Compensation Plan Evaluation Study (the 'Study') has two purposes. Firstly, it fulfils a Chad Export Project Environmental Management Plan (EMP) commitment to undertake an evaluation of resettlement and compensation activities "...at the end of the first agricultural cycle after the construction of the fixed facilities has been completed..."¹. Secondly, it assesses the adequacy of the Chad Resettlement and Compensation Plan (CRCP) for addressing changes in project scope and land requirements arising from more extensive drilling and production well development in the Oil Field Development Area (OFDA) than was envisaged in the original CRCP. The Study was commissioned by the International Finance Corporation (IFC) and Esso Exploration and Production Chad, Inc. (EEPCI) in April 2006. The Terms of Reference for the Study form Appendix A of this report.

The Study makes recommendations on some corrective measures to strengthen ongoing CRCP implementation in the OFDA. Based on lessons learned, the Study also recommends some changes in approach for any land acquisition and resettlement that may be required for future oil fields development in areas of Southern Chad, outside of the OFDA (see Chapter 7).

1.2 The Chad Cameroon Project

The project involves development of the oil fields at Doba in southern Chad (the OFDA) and construction of a 1,070 km pipeline to offshore oil-loading facilities on Cameroon's Atlantic coast.

The oil development project extracts and carries oil from three oil fields (Miandoum, Kome and Bolobo) in the Doba basin in southern Chad to off-loading facilities off the coast of Cameroon. The construction phase consisted of:

- OFDA works including construction of central treatment facilities and drilling of some 300 wells in fields in southwestern Chad that hold about 900 million barrels of oil (subsequently increased to about 450 wells due to lower than projected oil flows from the initial wells);
- Building a 1070km buried pipeline from the fields across Cameroon to the coast;
- Installing an off-shore terminal facility - a "floating storage and off-loading" vessel with associated marine pipelines.

Construction of the pipeline took three years and the pipeline was inaugurated in October 2003. Drilling of wells and construction of associated infrastructure in the OFDA was ongoing at the time of the Study. Completion of the OFDA well field is not anticipated to occur until late 2007.

The present evaluation addressed land acquisition, compensation and resettlement only in the OFDA. The OFDA is situated within Cantons Béro, Kome and Miandoum in Bebedjia Sub-Prefecture, Logone Oriental, Chad. Project compensation dossiers show that 61 villages have been affected by project temporary or permanent acquisition of land within the OFDA.

1.3 Project Land and Resettlement Impacts

The Study estimates the total project affected population as of June 2006 to be about 1,640 households or about 12,000 people. The CRCP did not provide a corresponding estimate. Until now, the size of the project affected population has not been calculated. As land acquisition for additional well pads will continue in the OFDA for a further 12 months, the final project affected population will be higher than this June 2006 estimate. The estimate does not account for the population affected by loss of communal resources, most notably bush land. The method used by the Study for estimating the project affected population is described in Chapter 3.

¹ Chad EMP, Volume 3, Section 8.9.1.

The majority of project affected people have been impacted by temporary or permanent loss of use of land, trees and crops. Forty-seven households have been required to relocate to replacement dwellings constructed by the project.

As of June 2006, the project had permanently acquired 1,243 hectares of land in the OFDA exceeding CRCP estimates by about 65 percent. A further 1,698 hectares of land has been temporarily acquired, nearly twice the area estimated by the CRCP. Of the temporarily used land, about 1,514 hectares (89 percent) has been reinstated and 267 hectares (16 percent) returned to original users. Land issues are discussed in greater detail in Chapter 2.

1.4 Study Method

The sequence of tasks that were undertaken to complete the Study is summarized in Figure 1.1. The socio-economic survey design is described in Chapter 3.

1.5 Scope of the Study

The Study entailed five person months of international consultant input and 4 person months of a local socio-economic survey team. The Study socio-economist, Dr. George Koppert, and resettlement specialist, Mr. Robert Barclay, spent 6 weeks and 4 weeks respectively conducting household surveys, one-on-one interviews, village discussions and stakeholder consultations within the OFDA. The Study team was satisfied with the level of cooperation it received from project personnel and its access to databases covering project affected people and land.

Socio-economic surveys covered 434 households² representing about 3,696 household members in 14 villages³. Informal village discussions were also conducted in public spaces in 10 villages, often with more than 50 people in attendance. Stakeholder consultations covered a cross-section of (i) village chiefs, land chiefs, village secretaries, elders, and other local informants such as teachers, local judges and religious leaders; (ii) local government officers at canton and sub-prefect level; (iii) local business interests including street and market stallholders, local traders, trades people and cooperative leaders; (iv) representatives of development and advocacy NGOs active in the OFDA; and, (v) NGO partners responsible for delivering on and off-farm training. One-on-one discussions were also held with selected types of compensation recipients in order to gain a qualitative understanding of the effectiveness of project compensatory measures and procedures.

1.6 Resettlement Standards

Project loan agreements require the project to carry out the resettlement and compensation plan as described in the Chad EMP. This Study therefore used the CRCP as the principal benchmark for assessing project resettlement performance. The CRCP does list as one of its "key elements" "...meeting the intent of the World Bank guidelines on resettlement..." (CRCP, Sect. 1.2). Accordingly, where the CRCP is silent on important resettlement matters, reference is made to World Bank Operational Directive 4.30 Involuntary Resettlement (WB OD 4.30) which was the IFC's policy in force at that time that project loan agreements were signed. This is also consistent with the *Chad Petroleum Development and Pipeline Project Loan Agreement* (Republic of Chad and IBRD, 29 March 2001) which refers to WB OD 4.30 as one of the "Relevant Policies and Guidelines" where an event occurs

² The Study adopted "household" as the unit for assessing standard of living and livelihood. As explained in the Appendix B "Human Environment" of the project *Environmental Assessment* (p. 32), within traditional frameworks 'residence' is not necessarily the best basis for defining a household. The Study developed a consistent set of rules for assessing who belonged or did not belong to a given household. These were adopted by socio-economic survey enumerators who with practice became adept at eliciting the necessary information. While somewhat simplistic, such rules included: young un-married people who ate with their parents were considered part of their parent's household (even though they might insist on being counted as 'independent'); wives that lived in a different part of the village to their husband's compound were categorized as a separate household; and, elderly people that lived alone were treated as a household. Needless to say, in reality, the combinations and permutations of households and their dependents are very complex. Within the scope of a 1 hour interview, it was not always possible to discern definitive patterns of economic organization and dependency.

³ Several villages had two or more village chiefs but have been considered for the survey as one village: Begada, Mbanga, Ngalaba. Béro II and Miandoum II are independent parts of the respective villages Béro and Miandoum.

that is unforeseen and which cannot be adequately addressed using objectives and standards defined in the EMP⁴.

1.7 Study Limitations

The Study team was not able to find a satisfactory pre-resettlement socioeconomic baseline study. The CRCP refers to a random sample questionnaire of 460 households having been conducted to assess resettlement issues and costs (CRCP, Sect. 2.2.8). Detailed results are not presented in the CRCP or other EMP appendices. Selected information from a survey of “approximately 100 households” conducted by Dr. Ellen Brown in 1995 is cited in Appendix B “Human Environment” of the *Chad Export Project Environmental Assessment*⁵ but consolidated results with data useful as a resettlement baseline were not available. Neither of these sources provided an adequate baseline for the present study.

In order to assess how project affected people had fared relative to other members of the community, a control group of households not directly affected by the project (i.e. not receiving compensation for loss of use of land or loss of assets) was randomly selected from within each surveyed village (see details in Chapter 3). In addition, reference was made to socioeconomic data covering some OFDA villages collected by Cogels and Koppert in 2003⁶ as part of a wider survey of project affected villages that also encompassed the pipeline route. The 2003 study does not represent a true baseline study because by 2003 project compensation and construction activities were well advanced. The 2003 study does, however, provide a basis for examining trends in the standard of living and income levels amongst those who have received compensation and other assistance from the project.

Four of the OFDA villages covered by the Cogels and Koppert in their 2003 survey were included in the present survey. The four villages were Béro, Miandoum, Danmadja, and Kome. The survey techniques and instruments used for the present study were evolved from those used by Cogels and Koppert in 2003. There were some differences in sampling design between the two studies (particularly in the selection of “control groups”), but both studies included relatively large samples of project affected people from the same four villages so reasonable comparisons are possible. Data from both studies was incorporated into a “socio-economic development index” so that scores achieved in 2006 could be compared to those obtained in 2003. Two members of the 2006 survey team also participated in the 2003 survey so that consistent methods for recording household characteristics and data were applied.

The above data sources (control households, 2003 survey) have limitations but were assessed as adequate for the purposes of the Study.

The Study did not attempt to quantify or place a value on subsistence or self-consumed agricultural production of households. Such an investigation would need to extend over several growing seasons, would be time-consuming to complete and, in the absence of pre-project baseline data specific to each household, results would have limited value for assessing project livelihood impact. Qualitative information about food sufficiency was sought during household interviews.

Several shortcomings with the project’s database of affected people are discussed in detail in Chapter 3. Two shortcomings of particular relevance to understanding project resettlement impacts were (i) the lack of consistent data on project affected households total land use area prior to project land acquisition; and, (ii) the lack of ability to associate individual compensation dossiers with specific households. These two shortcomings meant that the Study team had no definitive basis for determining the level of impact of project land acquisition on a household’s total land resource i.e. it could not be clearly established whether a household had lost use of 10 percent, 50 percent or 100 percent of its pre-project lands. The fact that some households had five or more members sign multiple land agreements further complicated trying to determine how many members resided in any

⁴ See Art. IV, Sect. 4.01 (f) of the *Chad Petroleum Development and Pipeline Project Loan Agreement* (Republic of Chad and IBRD, 29 March 2001). See also related definitions (ww) and (mmm) in Art. I.

⁵ *Environmental Assessment, Chad Export Project, Appendix B Human Environment 1997*, Dames and Moore.

⁶ Cogels, S. and Koppert, G. (2004) *Socioeconomic Monitoring Survey in the Chad Oil Field Development Area and Pipeline Corridor*, Groupe d’Etude des Populations Forestières Equatoriales, Report published on internet: http://www.ulb.ac.be/socio/anthropo/tchad/CoverSEstudies_fichiers/v3_slide0001.htm

given households and how much land any one household had relinquished. In this regard, the most useful data was gathered by the Study survey team who were meticulous in identifying and recording household members.

One of the most significant shortcomings of CRCP baseline information was the lack of quantitative information about the overall land resources available to each project affected village in the OFDA. This meant that in most cases, it was not possible for the Study to determine the magnitude of project land use impact on the productive resources of individual villages. It also meant that the Study was not able to determine within which villages scarcity of land was a limiting factor in project affected people's inability to access adequate replacement area. As an outcome of this study, it is recommended that EEPIC undertake mapping and inventory of village land resources, and an assessment of available unallocated land, in order that specific strategies for land or livelihood replacement can be tailored to each village's circumstances. This was not possible with the information available to the Study team.

This evaluation study was conducted while large numbers of people were still undertaking their off-farm training. Others were still being displaced from land and receiving cash compensation payments. To this extent, it is premature to regard this study as a final evaluation of the resettlement program. **A final evaluation should be conducted not less than 2 years after the last compensation payment, or after the last intake of off-farm training has been completed, which ever occurs later.**

1.8 Interpreting the CRCP

It was beyond the scope of the present study to undertake a detailed critique of the CRCP. It was assumed that the CRCP had been screened by the IFC and other lenders and found fit for purpose. It was also considered that the CRCP forms part of the legal documentation for the project and as such was a 'given' for the present evaluation. During the course of the evaluation, it became apparent that the CRCP has shortcomings, some of which have undoubtedly contributed to the project team's difficulties in effectively executing project resettlement. These shortcomings, insofar as they are specific to project resettlement implementation, are variously discussed in Chapters 2, 6, 7 and 8. Where necessary, corrective actions are recommended. It is understood that EEPIC will adjust and develop its resettlement procedures based on these recommendations and document any changes either through an addendum or amendment of the CRCP.

1.9 Note on Terminology

This report uses the term "involuntary resettlement" or "resettlement" as referring to the economic and/or physical displacement of people. Physical displacement is the actual physical relocation of people resulting in the loss of shelter, productive assets or access to productive assets (such as land, water and pasture). Economic displacement results from an action that interrupts or eliminates people's access to productive assets without physically relocating the people themselves. This definition is consistent with use of the term in World Bank OD 4.30 and IFC Resettlement Handbook.⁷

This report uses the term "land acquisition" in its broadest sense, that is the process whereby customary rights over the land are relinquished by the customary rights holders in return for compensation, and the subsequent granting of occupancy rights to the project by the State. Use of the term is not intended to imply a transfer of "ownership" rights. Similarly, where this report advocates making available replacement land to customary rights holders displaced by the project, it is advocating making land available for use by displaced people, not a transfer of ownership.

⁷ It is noted that the term "resettlement" is used inconsistently through the CRCP, sometimes apparently referring only to physical displacement and in other cases to both physical and economic displacement. In several instances it is therefore difficult to interpret the intent of the plan. For example, a 'key element' or objective of the CRCP is expressed as: "*Minimizing potential resettlement estimated to affect approximately 80 households. However, the Plan allows for a maximum of 150 households to be resettled.*" (EMP, Vol. 3, Sect. 1.2). The present study (following IFC/World Bank convention) considered the number of households affected by resettlement (social and/or economic displacement) to be about 1,240. The CRCP objective for minimization is establishing a standard below what is normally required under World Bank OD 4.30.

Figure 1.1 Study Activities

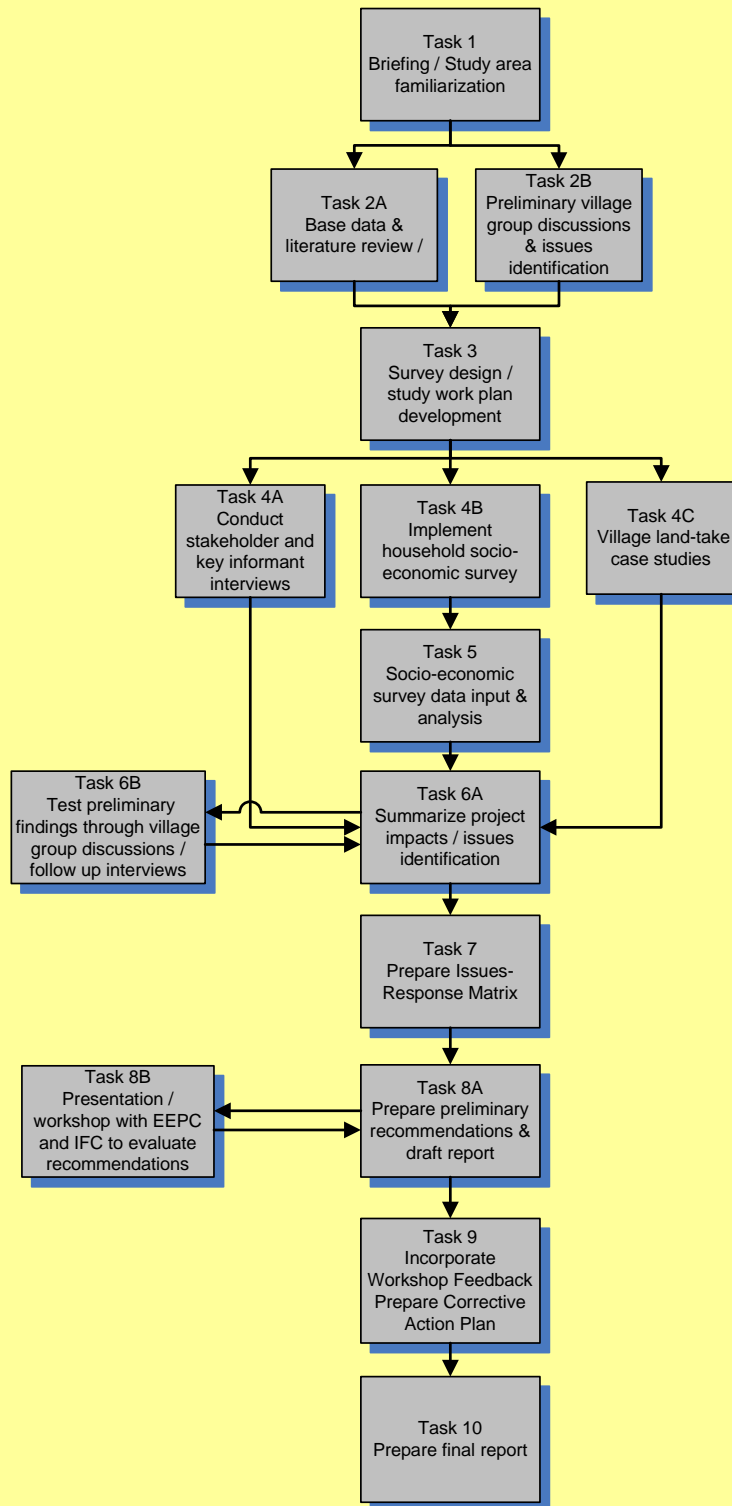


Figure 1-1 Study Activities

2 Project Impacts on Land

2.1 General

This chapter summarizes the overall project impacts on land in the OFDA. It compares CRCP estimates of land to be acquired with actual land acquisition to date. It also projects likely future land requirements up until completion of the OFDA well infill program in 2007. Impacts of project land acquisition on three case study villages are also examined.

Impacts of land on individual households are discussed in Chapters 4. A detailed discussion of the effectiveness of the project land acquisition strategy, compensation and related issues identified by the Study is included in Chapter 6.

2.2 CRCP on Land

In many respects, the CRCP has characteristics of a resettlement framework in that it provides only very generalized estimates of land impacts, and little information about the numbers of people affected by land acquisition. This is acknowledged in the Chad EMP which notes that "*It has been impossible up to the time the EA was written to develop a finished resettlement plan*" (EMP, Human Environment Appendix B, Sect. 5.4.5).

Many of the issues reported in this Study appear to have arisen because the scope of land and resettlement impacts was not sufficiently defined early in the project. Because the scope was not clearly defined, the project has engaged in a process of rolling and essentially open ended land acquisition without fully understanding the cumulative impacts on village land. The cumulative impacts on at least one village have been severe (see Sect. 2.6). The rolling land acquisition program has also mediated against resettlement being "...conceived and executed as development programs..." as envisaged in World Bank OD 4.30 and widely accepted as good practice. This has undoubtedly reduced the development effectiveness of some of the delivered resettlement assistance.

With the benefit of hindsight, it would have been desirable for more complete estimates of project affected land and affected population to have been assembled upon completion of detailed design or land identification surveys. This might have been undertaken for the project as whole or progressively in stages as detailed design was completed.

2.3 Project Impacts on Land in June 2006

As of June 2006, the project had permanently acquired 1,243 ha of land in the OFDA exceeding CRCP estimates by about 65 percent. A further 1,698 ha of land has been temporarily acquired, nearly twice the area estimated in the CRCP. Of the temporarily used land, about 1,514 ha (89 percent) has been reinstated and 267 ha (16 percent) returned to original users through the administrative procedure of signing a "quitus" with the responsible village chief¹.

Temporary and permanent lands acquired by the project are summarized in Table 2-2. Table 2-2 compares the estimates of land to be acquired by the project as described in the CRCP (1999) with actual land acquisition as of June 2006. Acquisition for well pads and associated infrastructure is continuing in the OFDA so final project land acquisition, both temporary and permanent, will be higher than indicated in this table.

The discrepancy between the CRCP estimates and the June 2006 estimates is largely attributable to three factors:

- The CRCP underestimated the land required for well pads and ancillary works such as access roads, flow lines and power supply. The foot print for 287 wells was estimated at 282 ha and field pipelines were estimated at 300 ha, or a total area of 582 ha. Based on constructed works, the average actual land take per well pad (including ancillary works) has proved to be

¹ Study consultations revealed there was quite widespread uncertainty amongst affected land users as to whether or not they were allowed to resume use of their customary land following its reinstatement. This problem appears to have arisen in part because the "quitus" was signed with the village chief and not with the affected land user. It appeared that village chiefs were not always effectively communicating to users that they were able to resume use.

4.25 ha (see Table 2-3). The land required for 287 wells was 1,234 ha, 652 ha higher than the CRCP estimate.

- The CRCP could not anticipate the need to drill additional wells in the OFDA. Oil flows from the three OFDA fields have proved to be much lower than projected. It has therefore become necessary to drill 450 wells in the OFDA versus the original CRCP estimate of 287. As of June 2006, 391 additional wells had been drilled. The additional footprint for infill wells (104 no.) up until June 2006 was 442 ha.
- The CRCP did not allow for borrow pits – about 353 ha.

Some observations on Table 2-2 are as follows.

- Tabulated areas for June 2006 are based on ArcGIS measurements of project acquired land, not the actual disturbed land area. The Study team has observed that the area of clearing and disturbance often extends well beyond the acquired land parcel boundaries.
- Tabulated areas for June 2006 do not account for areas of land left un-usable or non-viable as a result of severance or fragmentation caused by project activities. Particularly in well fields, there are a plethora of flow lines, above and below ground cables and access roads which can potentially dissect a land use parcel leaving parts of it physically difficult to access or too small to be worth planting during the construction period.
- Neither CRCP nor June 2006 estimates of land impact account for the land area that needs to be developed as “replacement agricultural land” where individually-used cultivated land is permanently lost to the project. See further discussion in Section 2-6.

These observations lead the Study team to conclude that the estimates for June 2006 significantly understate the actual area of land impacted by the project.

It is surprising to the Study team that in spite of the magnitude of the additional land acquired, which greatly exceeds CRCP estimates, change management mechanisms did not trigger any requirement for additional assessment of livelihood impacts, or a survey to ascertain the availability of suitable replacement land.

2.4 Projected Future Land Requirements in the OFDA

The Study team has not seen any project forward planning to estimate land requirements for completion of the well infill program or take into account provision of replacement land to individual owners affected by permanent land loss. Accordingly, the Study team has undertaken its own rough estimates based on the assumptions outlined below. Results are summarized in **Error! Reference source not found.**

These indicate that about 100-130 ha of permanent land and about 140-150 ha of temporary land will be required to complete the well infill program. A further 720-750 ha will be needed as replacement agricultural land for PAPs. Based on these estimates, the total project footprint will grow by 960-1,030 ha by late 2007 (not taking into account returned temporary land). This represents an increase of 30-35% over the 2006 footprint. The assumptions used to prepare these estimates are outlined below.

Total Project Affected Land in OFDA – Temporary & Permanent (Ha)			
	CRCP Estimate 1999	Esso Estimate June 2006	Study Projection Late 2007
Permanent	754	1,243	2,125
Temporary	893	1,697	1,847

Table 2-1 - Study Estimate of Project Affected Land (Source: EEPPI estimates & Study team projection)

▪ Future Land Requirement for Well Pads

Based on advice from Esso, the completed infill program could involve as many as 450 (no.) wells. To date, 391 (no.) wells have been constructed. For estimation purposes, a further 60 (no.) wells are assumed to be required between now and the end of 2007. The project provided the following data on land take of wells drilled to date.

LAND NEEDED PERMANENTLY FOR IMPROVEMENTS AND/OR PROJECT FACILITIES			
Type of Use	EMP Estimate (Ha)	June 2006 Estimate (Ha)	Examples
OFDA roads - including public road improvements & new access roads	<u>297</u> [297]	472	Land needed for improvements and upgrades within OFDA <ul style="list-style-type: none"> Public road between Miandoum and Bebedjia (~26 ha) OFDA spine road upgrade (~16 ha for 4m width) Access roads for field facilities (well pads, gathering station, ...)
Permanently Closed Facilities Sites with No Public Access	<u>457</u> [457]	771	Land needed for project facilities that for the entire operations phase will not be accessible to the public. Examples include: <ul style="list-style-type: none"> Central treating facility Power generation plant Gathering stations Power line 66 Kv pylons (1.6 ha = 103 pylons * 154 m²)
Well pads	<u>(-78)</u>	344	Well pads - 344 Ha of fenced operations pads included here
Subtotals	<u>754</u> [754]	1,243	Construction-Phase Land Needs Operations-Phase Land Needs

Underlined numbers are corrected values based on pages 3-1, 3-2, 3-5 and as detailed in Table 3-2 of Chad EMP, Volume 3.

LAND RECLAIMED AND MADE AVAILABLE TO PRE-CONSTRUCTION CUSTOMARY RIGHTS USERS			
Type of Use	EMP Estimate (Ha)	June 2006 Estimate (Ha) used/reclaimed/returned	Examples
Reclaimed Land Available for all Pre-construction Uses	549 ² [00]	71/58/57	Land used during construction that will be reclaimed and made available to communities holding pre-project customary rights - primarily associated with: <ul style="list-style-type: none"> Old Airport (Kome 2) 15m width of export pipeline RoW from KP0 to KP20 Well pad Extensions (Flare Pit)
Borrow pits ³	x	353/202/70	Borrow pits ³ - laterite only. Does not include sand and gravel pits which are in seasonal flood plains & do not require compensation.
Reclaimed Land Available with Some Restrictions	354 ² [354 ²]	1274/1254/140	Land available for most pre-construction uses, but with the restriction that the use not interfere with the normal functioning and maintenance of the buried pipelines or overhead power lines. <ul style="list-style-type: none"> 15m width of export pipeline RoW from KP0 to KP20 Land overlaying buried facilities (Trunline, Flowline, Gathering Lines, Water Injection Lines, Underground Cables) Clear areas under some power lines K5 Airport Ends Well pad temporary use areas to be returned to customary users
Subtotals	903 [354]	1698/1514/267	Construction Phase Land Needs Operations Phase Lands with Some Restrictions

TOTAL LAND NEEDED			
Type of Use	EMP Estimate (Ha)	June 2006 Estimate (Ha)	Examples
	1647 [754] [354]	2941	Construction Land Needs Operations-Phase Public Improvements/Permanent Facilities Sites Operations-Phase Land with Some Restrictions

Notes:

1. Most areas are calculated using Arc GIS software.
2. Areas do not include the export pipeline outside of the OFDA
3. Borrow pits were not included in original CRCP estimates

Table 2-2 – Project Land Impacts in the OFDA

	Miandoum	Bolobo	Kome	Average (All OFDA)	Acquisition Type
Number of wells	79	50	262	391	
Access road area / well (ha)	1.37	1.05	0.84	0.97	Permanent
Field pipeline area / well* (ha)	1.10	0.97	1.33	1.24	Temporary
Electricity line area / well** (ha)	1.50	0.92	0.59	0.82	Temporary
Av. well pad area (ha)	1.21	1.21	1.21	1.21	Permanent – 0.825 Ha ² Temporary – 0.4 Ha
Total (ha)	5.18	4.15	3.97	4.24	

Table 2-3 – Average Land Requirements for Completed Wells in the OFDA (Source: EEPCI, June 2006)

Using data from Table 2-3, future land requirements for the well infill program were estimated as follows. High estimates were based on the average land requirement for a well in Miandoum and low estimates for one in Kome. As indicated in Table 2-3, permanent land requirements for each well pad include access roads and the operations phase pad area. Temporary land requirements include the area required to install field pipelines, electricity lines and that part of the well pad that is only required during construction. Temporary land is reinstated and returned for use.

	Permanent		Temporary	
	Low	High	Low	High
Additional wells (no.)	60	60	60	60
Av. land take / well (ha)	1.7	2.2	2.3	3
Total land take -60 wells (ha)	102	132	138	180

Table 2-4 - Estimated Land Requirements to Complete the OFDA Well Infill Program

▪ Future Requirement for Replacement Land

Project land dossiers show that 1,465 ha of land had been acquired from individual customary rights holders in the OFDA up until June 2006. The dossiers do not distinguish whether this land was acquired temporarily or permanently. Overall in the OFDA, about 42% of land acquired to date is on a permanent basis. A similar percentage was assumed for acquired individual lands.

	Area (Ha)
Total area of individual land temporarily & permanently acquired (to June 2006)	1,465
Estimated area of individual land permanently acquired – permanent (42% of above) – See Note 1	615
Add:	
Replacement land for completion of well infill program (from Table 2.4 above)	102 - 132
Estimated Total Replacement Land (See Note 2)	717 - 747
	Say, 720-750 Ha

Note:

1. Estimate only – pro-rated from Table 2-1.
2. The estimated total replacement land is understated. It does not include (i) replacement land for plots affected by fragmentation: and, (ii) fallow land cleared more than 1 year ago.

Table 2-5 - Estimated Land Requirement for Replacement of EEPCI Permanently Acquired Land

2.5 Project Temporary Use of Land

Project annual land acquisition is summarized in Figure 2-1. Land acquisition peaked in 2002, but significant amounts of both temporary and permanent land have been acquired in subsequent years. The 2006 bar represents land acquisition for the six months up until June 2006 only.

² EEPCI has redesigned its well pad to reduce the permanent land take from around 0.825 ha per well pad to 0.523 ha. At the time of the Study, EEPCI was in the process of reinstating margins of existing well pads to achieve 0.523 ha per pad. It is noted that this reduced area still exceeds the operations size range prescribed in the CRCP of 0.273 ha (58m X 47m pad) to 0.442 ha (94m X 47m pad). See CRCP, Sect. 3.4, first table.

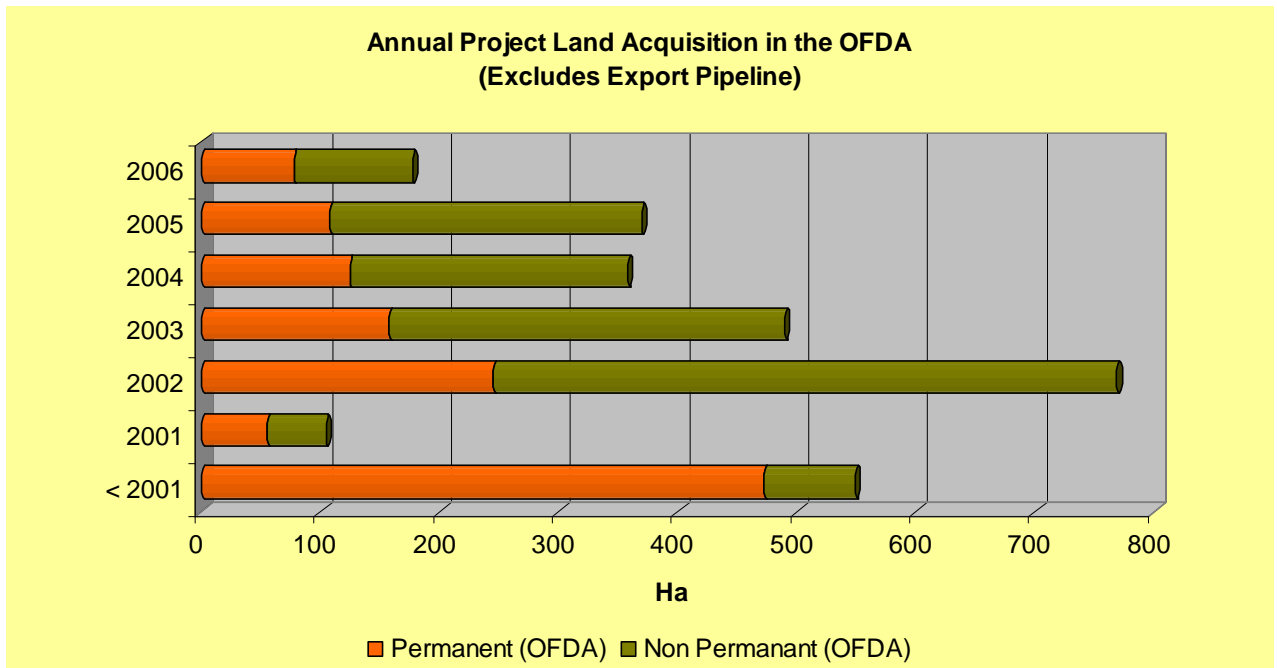


Figure 2-1 – Annual Land Acquisition in the OFDA 2001-2006

Figure 2-2 shows the cumulative amount of temporary land held by the project in the period 2000-2001. It is clear that a significant amount of temporary land has been held for periods exceeding one year, with some areas held for 4-5 years. The figure indicates that while steady progress has been made with reinstatement of temporarily used areas, project attention needs to be directed towards overcoming delays in returning land to land to communities (and thence to individual land users).

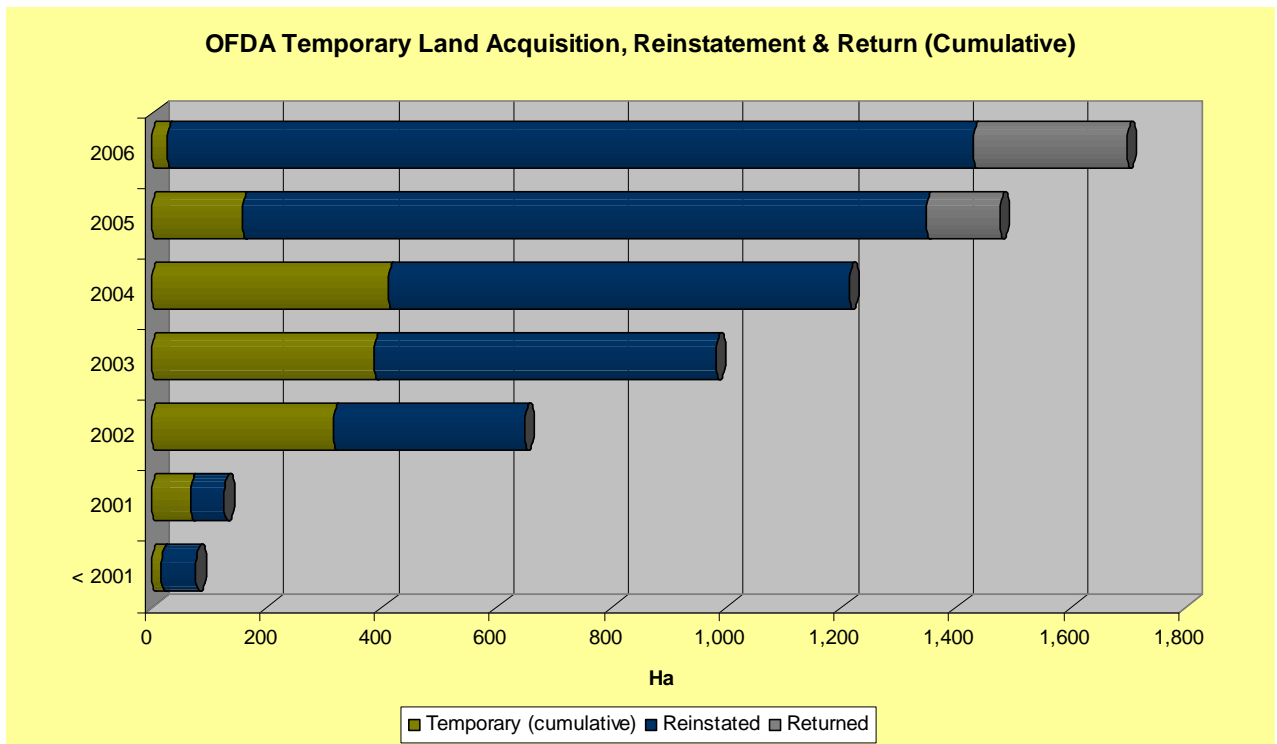


Figure 2-2 OFDA Temporary Land Held by the Project (Cumulative)

2.6 Village Land Case Studies

The Study examined project impacts on land supply in three case study villages, one in each of the OFDA oil fields. The three villages were Mouarom (Bolobo oil field), Ngalaba (Miandoum field) and Mbanga³ (Kome field). These villages were selected for being impacted by the main well fields in each area and are amongst the more heavily impacted villages in the OFDA. Plans showing village boundaries, the project footprint as well as active agricultural land and bush land within each village form Appendix G. Profiles of the three villages can be found in Appendix B.

For each village, an approximate village boundary was plotted in the field using GPS and based on the advice of the village chief. The village boundary was then overlaid on a recent satellite image. Broad land uses (settlement, cultivated and recent fallow, bush land) were then mapped and land use areas calculated to define pre-project conditions. Using ArcGIS software, the project footprint (temporary and permanent) was then overlaid on the village land. Remaining land use areas were calculated.

Land use areas used for the case studies are broad order estimates only but suffice to demonstrate the differing levels of impact on each village. A more sophisticated review of all OFDA villages' land use based on up-to-date air photos with more rigorous ground-truthing and consultation is recommended as an outcome of this Study.

Study findings on project impacts on the land resources of individual and household users are reported in Chapter 4.

▪ Village Land Supply and Demand before the Project

Approximate land use areas in the three case study villages prior to the project are summarized in Table 2-6. All land that was not wooded or occupied by settlement was assumed to be actively cultivated or fallow. Without extensive ground truthing, which could not be completed within the timeframe of the Study, it was not possible to accurately discriminate between cultivated land and fallow.

Pre-Project Land Use (Ha)			
	Mouarom	Ngalaba	Mbanga
Estimated Population ⁴	800 pers. (109 hh)	1870 pers. (255 hh)	2,250 pers. (307 hh)
Settlement area	7	30	23
Agricultural + fallow	1,176	1,688	1,875
Bush land	402	129	704
Total Village Area	1,585	1,846	2,602
Population density (persons/ha)	0.5	1.01	0.86
Average cultivated/fallow area/person	1.47	0.99	1.16

Table 2-6 - Pre-Project Land Use in the Three Case Study Villages

The 'average cultivated/fallow area per person' needs to be interpreted with some caution. Some of the "agricultural and fallow area" is in reality poor, unsuitable for agriculture, or in otherwise degraded condition⁵. Land is far from equally distributed. People outside of the village may also utilize some of the area. The actual usable per capita cultivated/fallow area is probably considerably lower than indicated in Table 2-6. A more sophisticated analysis, such as that recommended elsewhere in this report, would also include an assessment of agricultural suitability and mapping of customary ownership.

Table 2-6 reveals significant differences in overall population density as well as in the availability of bush and agricultural land between the selected villages. The population density of Ngalaba is twice that of Mouarom. 25% of Mouarom village area remains wooded compared to only 7% of Ngalaba.

³ For the purposes of the case study Ngalaba I and II, and Mbanga I and II have been treated as two entities – Ngalaba and Mbanga. Population and area figures combine both parts of each village.

⁴ Population was estimated from a count of households. Household size was assumed to be the average for the OFDA of 7.34.

⁵ In Ngalaba, complaints about poor and diminishing crop yields were widespread.

Available bush resources, grazing area and area for accommodating future growth (or land losses to the project) differ markedly in the villages. Ngalaba clearly has very limited land available for future growth.

▪ **Village Population Growth and Demand for Land**

Increased demand for land is generally triggered by an increase in population either through a change in birth and death rates, or through in-migration. A crude approach to assessing possible changes in population was undertaken by comparing the number of dwellings in a village recorded in 2003 with the number recorded during the present study. The increase in dwellings over the 3 year period was assumed to approximate the increase in the number of households in each village. The 2003 mapping did not cover any of the case study villages, but elsewhere in the OFDA it indicated annual increases in the number of dwellings ranging from 8% in Miandoum area⁶ to 11.5% in Bero. Overall, the average increase was 9.7% per annum. See also discussion of population growth in Section 4.2.

The reasons for this growth in the number of dwellings are not entirely understood. It is surmised that growth can be attributed in part to (i) households that used project compensation to construct a new dwelling (while retaining an existing dwelling); (ii) new household formation (possibly facilitated in some cases by compensation payments); and, (iii) return of former residents to the village from elsewhere in Chad or the region to take advantage of perceived economic opportunities arising from the oil field development. In nearly all OFDA villages, interviewed people were generally very clear that there had not been an influx of outsiders to their villages. There was no evidence of atomization of households. The 2006 survey indicated substantial increase in the average household size (see Sect. 4.2).

▪ **Project Impacts on Village Land**

The project footprint in each village was calculated using ArcGIS software. Temporarily and permanently acquired lands are summarized in Table 2-7. As the well-field infill program is not yet complete, additional land may yet be acquired in some of the villages. The table indicates that Ngalaba, the village with the highest population density, also experienced the largest land-take by the project. Ngalaba permanently lost use of the equivalent of about 8 percent of its total village area. During the course of construction, the project has impacted as much as 18 percent of Ngalaba's land.

Project Land Acquisition (Ha)			
	Mouarom	Ngalaba	Mbanga
A. Permanent Acquisition			
Agricultural + fallow	54.2	76.1	37.4
Bush land	31.7	77.6	4.0
Sub-total	85.9	153.7	41.4
B. Temporary Acquisition			
Agricultural + fallow	39.1	100.2	119.5
Bush land	8.5	79.8	9.8
Sub-total	47.6	180.0	129.3
Grand Total (A + B)	133.5	333.7	170.7
% of Total Village Land	8.4%	18.1%	6.6%

Table 2-7 – Project Land Acquisition in the Case Study Villages (up until June 2006)

The project paid compensation to individuals for the individually used agricultural and fallow land (cleared <1 year prior to acquisition) that it acquired. Villages received in-kind compensation for affected community land, predominantly bush. A summary of in-kind components received by each of the case study villages is indicated in Table 2-8.

⁶ The Madana area included the villages of Danmadja, Madana, Koutou Nya and Medeubti Nya.

Community Compensation (In Kind)			
	Mouarom	Ngalaba	Mbanga
Communal land lost permanently (Ha)	31.7	77.6	4.0
Communal land lost temporarily (Ha)	8.5	79.8	9.8
Total (Ha)	40.2	157.4	13.8
Communal compensation package	Nil ⁷	School building 1 no. drilled well	School building 2 no. drilled wells

Table 2-8 – Community Land Lost compared to In-kind Compensation Received

Table 2-8 indicates that there was little correlation between the area of bush land lost and the amount of in-kind communal compensation each village received. As village boundaries were never mapped during the CRCP preparation, it is clear that no quantitative measurement of the area of communal land lost by each village was ever undertaken. The CRCP makes a case for equal compensation between villages to avoid causing social envy. The equal compensation approach may have been justifiable while the impact on most villages consisted of an export pipeline right of way. What the case studies reveal is that within the OFDA, villages have experienced very different levels of impact on their bush land, but their compensation entitlement has never been adjusted to reflect this. The CRCP highlighted the importance of bush land as an economic resource. This Study recommends that the amounts of communal land affected within each village be measured, and that where warranted, top-up communal compensation should be provided based on the actual areas of bush land each village has lost.

Post-Project Land Use after return of Temporary Land (Ha)			
	Mouarom	Ngalaba	Mbanga
Settlement area	7	30	23
Agricultural + fallow	1,122	1,612	1,838
Bush land	370	51	700
Project footprint	86	154	41
Total Village Area	1,585	1,846	2,602

Table 2-9 – Post-Project Land Use after return of Temporary Land (as of June 2006)

Temporary impacts on land can generally be straight forwardly addressed with compensation. It should be noted however, that while temporary acquisition of bush land is less damaging to village resources than permanent acquisition, it still involves clearing of vegetation and a short to medium term opportunity cost during the period required for regeneration⁸.

Village land uses adjusted for the project permanent land-take are summarised in Table 2-9. Table 2-9 does not allow for future land acquisition such as might take place after June 2006. It also assumes all temporarily acquired lands have been returned.

▪ Access to Replacement Land

As noted elsewhere, a significant finding of the Study was that the customary mechanisms assumed by the CRCP to provide project affected people with access to replacement agricultural land to offset losses to the project have not functioned. To date, most project affected people have not succeeded in accessing replacement agricultural land, neither have they taken the other CRCP option of self-resettlement.

The CRCP effectively externalized the issue of providing access to replacement land by assuming that customary mechanisms *within villages* would operate to provide affected households with access to

⁷ The Sub-Prefect does not recognize Mouarom as a separate village entity, but treats it as a hamlet under Kome village. On this basis, the project has deemed that Mouarom is ineligible for community compensation.

⁸ This observation may be somewhat simplistic as the re-vegetating bush land will go through several seral stages similar to those for left fallow land. The land will be usable for forage, gathering and other uses in the period before a mature woodland is re-established. Project disturbed works therefore become part of the mosaic of cleared, regenerating and climax vegetations that form the local landscape.

replacement area. Only a cursory assessment of the availability of replacement land within villages is reported in Appendix B “Human Environment” of the project *Environmental Assessment*. On the basis of reported average per capita land holdings derived from a small survey, it was concluded that “...in the cantons in the proposed project area, about 85 percent of land is ‘owned’...” (p. 92).

The need and demand for access to replacement land was an impact directly caused by the project. A key tenet of WB OD 4.30 is that for agriculturally based communities, access to equivalent replacement land is the preferred basis for compensation and livelihood restoration. In the case of communities substantially reliant on agriculture for subsistence, such as is the case in much of the OFDA, provision of replacement land is even more imperative. In the judgment of the Study team, unless access to replacement agricultural area can be provided, many project affected households are placed at high risk of experiencing food insecurity and increasing impoverishment. Reliance on external mechanisms to deliver replacement land has failed. The project, together with the government, must now assume responsibility for facilitating affected peoples’ access to replacement land. As is usual practice with resettlement projects, replacement agricultural area must be included in project land budgets.

For land budgeting purposes, the Study sought to model the impact of allocating replacement land to project affected people from communal land resources within their villages. The area of replacement land was assumed to be equal to the individually used “agricultural and fallow” land permanently acquired by the project within each village. For hypothetical purposes, the replacement land was assumed to be allocated from village bush land. It must be emphasized that this is an overly simplistic approach and is not being advocated as a solution by the Study. The social and environmental consequences of significantly depleting village bush land could be severe. The resultant areas are summarized in Table 2-10.

Post Project Land Use after return of temporary land & hypothetical allocation of bush as replacement land to PAPs (Ha)			
	Mouarom	Ngalaba	Mbanga
Settlement area	7	30	23
Agricultural + fallow	1,176	1,688	1,875
Bush land remaining after excision of replacement land	316	(-26)	663
% of Pre-Project Bush	79%	0%	94%
Bush cover remaining (% of total village area)	20%	0%	25%
Project footprint	86	154	41
Total Village Area	1,585	1,846	2,602

Table 2-10 – Post Project Land Use after return of temporary land & hypothetical allocation of bush as replacement land to PAPs

Table 2-10 indicates that agricultural and fallow land could hypothetically be made up to pre-project levels by allocating replacement land to project affected people from communal bush land, except in Ngalaba. In the cases of Mouarom and Mbanga, villages would retain possibly acceptable bush cover. The CRCP correctly observes that “...everyone needs bush in order to eat, and vulnerable people (the poor, sick aged and small households with little agricultural labor available) use the bush more than any other for food and products to sell for income. They will suffer as bush is turned into fields...” (*Chad Export Project Environmental Assessment*, Appendix B, Human Environment, Sect. 5.1.1). Such an approach would need to be subject to more rigorous investigation to determine if the trade-offs were acceptable. Factors to be assessed might include but not be limited to:

- Extent of remaining communal bush land in the village – if bush area were developed as replacement agricultural land would sufficient, accessible bush land remain?
- Competing community uses (e.g. for livestock forage, firewood gathering, as source of foodstuffs, construction materials, medicinal plants and other non-timber forest products, as social safety net for the vulnerable)

- Environmental functions (e.g. for soil retention and erosion control, for controlling run-off, for maintaining biodiversity and as habitat for fauna and avifauna that control vermin and insect pests)
- Cultural significance (religious and sacred sites, other culturally important features)
- Suitability for agricultural use
- Acceptability of woodland losses to village people

It is noted that the CRCP did not make provision for compensation for replacement land allocated from the village land pool. This is a significant oversight and may be one of the reasons why village and canton leaders have refused to allocate communal land as replacement to affected people. Bush land has economic value and where it has to be sacrificed to address project impacts, communal compensation (cash or in-kind) should be delivered to the villages bearing the loss.

Use of bush as replacement area is not the only possible option for providing replacement land in Mouarom and Mbanga. A combination of other measures such as proposed below for Ngalaba could also be considered in close consultation with villagers and village and canton chiefs.

Where un-allocated replacement land is scarce or not available within a village (such as Ngalaba), alternative options need to be considered. These might include:

- Inducements (e.g. agricultural or off-farm training) to the extended families of affected people in return for their making land available for affected family members' to use.
- Land redistribution within all or part of the village to make land accessible to project affected people (with agricultural intensification assistance to offset losses of all or participant villagers)
- Physical relocation of project affected households to available and prepared replacement land outside of their village (and possibly the OFDA)

The most appropriate measures will vary from village to village. In all cases, the process of considering and deciding on options will need to be undertaken through a process of broad community engagement and participation as each approach will be dependent on the goodwill of 'host' families or villagers. Where host families of a village forgo use of land or customary rights to land, this should be recognized through appropriate compensation. In-kind compensation, such as assistance with agricultural intensification, should be preferred over further large cash payments which will only give rise to further social envy. Each of these options will require significant support and facilitation by the project and local government.

▪ **Project Impacts on Demand for Land**

The project has contributed (or will contribute) to increased demand for land through the following means:

- Directly through project land acquisition and associated need for affected people to seek replacement land
- Indirectly, by attracting absentee villagers back to reside and work in their home villages
- Indirectly, by facilitating purchase of ploughs and cattle enabling villagers to clear and work larger agricultural areas (for those fortunate enough to have such areas to work)

The impact of the last factor is still emerging as many households are in the middle of their training and are yet to receive their grants for purchase of plough shares and/or cattle. Interviewed villagers who had received ploughs as part of their agricultural training package frequently confirmed they were cultivating a greater area than they had previously when using manual labour. The extent to which households continue to work within their customary plots or seek to expand beyond these leading to an aggregate increase in demand for land area remains to be seen.

Increasing pressure on land becomes manifest through shorter fallow periods, deteriorating soil fertility and diminishing crop yields. Households with access to smaller amounts of land are worst affected. They suffer from reduced food security, deteriorating nutrition and increased risk of impoverishment. If

pressures continue, soils can deteriorate to the point where agriculture becomes unsustainable and households are forced to seek land further afield.

In Ngalaba, villagers frequently complained about diminishing yields. In a group discussion with 12 Ngalaba people, all 12 reported having to purchase food from market because crop production from their land is no longer sufficient to meet household needs for a full year. In Mouarom, most households reported that they could grow sufficient food to meet all their household needs. Only a few households reported purchasing food from markets. Diminishing soil productivity was not raised as a concern. The situation in Mbanga was similar to that of Mouarom. It would appear that Ngalaba has insufficient agricultural land for its population and that this is leading to soil degradation.

▪ **Project Impacts on Supply of Land**

The Project has contributed to reduced agricultural land supply through the following:

- In the short term, through temporary use of land
- In the short – medium term through effectively “locking up” land use (see Chapter 6)
- In the long term, through removing permanently acquired land from productive use

It is unknown how long it will be before customary land allocation mechanisms start functioning again, if at all. It is unlikely to occur so long as the project continues to actively acquire land and pay compensation. While this is occurring, the social envy of those that did not receive compensation for those that did, and the hope of a compensation wind-fall make it likely that customary land users will continue to hold on tightly to their land. Several factors may eventually contribute to the resumption of customary land allocation practices: (i) the end of project-driven demand for land and compensation payment; (ii) dissipation of compensation monies and with it villagers' capacity to buy or rent land (limited) ; (iii) passage of time and reduction in social envy; and, (iv) resumption of more normal family relations.

Other factors may mediate against a full return to a functioning communal land system and perhaps lead to a continued trend towards greater individualization of land rights. These include: (i) the new awareness that land use rights have monetary value (although in the immediate future there is likely to be a paucity of buyers); (ii) the fact that landholdings have been partially ‘fixed’ through the process of survey, mapping and administrative decisions about who is entitled to compensation; and, (iii) the scarcity of land in some villages and the need to assert rights to secure access to land to maintain one's family's welfare.

2.7 Summary of Findings

Key findings of the study with respect to project land acquisition are summarized below. Recommendations to address the issues raised in this section are provided in Chapter 6.

- The nature and extent of land acquisition that has actually occurred in the OFDA has changed very significantly from that envisaged in the CRCP. This should have triggered an updated assessment of livelihood impacts and analysis of risks to affected communities.
- The rolling land acquisition program currently being conducted for the OFDA well infill program was not envisaged by the CRCP and the CRCP does not define procedures, timeframes or safeguards for conducting this kind of operation.
- There is still substantial land acquisition yet to occur in order to complete the OFDA well in-fill program and to provide replacement agricultural land to users affected by project permanent acquisition.
- The CRCP did not include estimates of replacement land requirements (estimated by the Study to be in the order of 720-750 ha or equivalent to 60% of all permanently acquired land to date) in project land budgets.
- There is no provision in the CRCP for compensation to any parties that might make replacement land available to project affected people.

- Temporary land area used by the project is nearly twice that estimated in the CRCP, with the duration of use of temporary land often exceeding the one year of crop losses for which the project has compensated customary users.
- The magnitude of land impacts varies very significantly between villages. From a superficial analysis, two out of three studied villages would appear to have sufficient land resources for allocation of replacement land out of bush land, while retaining reasonable bush cover.
- In one of the case study villages, Ngalaba, there is insufficient unutilized land within the village to provide replacement land to offset losses caused by the project. The option for relocation of a number of households needs to be seriously assessed.
- Big differences in loss of communal land between villages have not been reflected in the in-kind compensation packages each has received.
- By permanently alienating agricultural land, the net effect of the project has been to bring forward the time when village demands for land exceed available supply. The point where this occurs will vary according to each village's available land before the project, the area of land lost to the project and village population growth.

3. Methodology

The methodology combined the benefits of qualitative and quantitative interviews. It aimed to provide an understanding of the project impact on people and households. A list of the 19 most impacted villages was drawn from the project compensation database and each of these villages was studied as an entity from which different groups of project affected households and control households were drawn.

The categories studied were:

A. *Project affected people who received compensation and other forms of assistance:* (i) physically displaced people (who received a replacement house from the project); (ii) those who lost land to the project and who were eligible for agricultural training; and, (iii) those that lost land to the project who were eligible for off farm training.

B. *Project affected people who only received compensation:* (iv) those that were flagged in the database as having less than 2/3 of a corde of land per HH member, but who had not benefited from training; and, (v) those who received compensation only and reported more than 2/3 of a corde of land per HH member.

C. *A control group:* (vi) people from the same villages but not directly affected by the project.

According to the project database, the following were counts of individuals who had been affected:

In order to avoid sample bias, objectively defined criteria were used to draw the sample that was studied¹.

	Number	%	Sampled	Sampling method
Compensation only	1,722	47%	184	One out of ten, all ID numbers ending on an 8
Flagged as vulnerable but not eligible for livelihood restoration assistance	1,575	43%	231	One out of ten, all ID numbers ending on an 8
Improved agriculture	206	6%	104	All available persons in a village, half if more than 20 present
Off farm training	132	4%	69	All available persons in a village, half if more than 20 present
Physically displaced (new house)	18	0%	12	All available persons in a village
Land conquest	8	0%	7	All available persons in a village
Employment	5	0%	4	All available persons in a village
Control group	0	--	110	¼ of the PAPs to be interviewed in a given village, drawn from a list of all village households
Total	3,666	100%		

Table 3-1. – Sampling criteria based on the project's compensation database

The sample reflects an unbiased view of the different categories of compensated people, but it cannot be considered to provide an unbiased view of the global population as varying proportions of each of the categories were sampled. The tables in the report presenting the category 'total' have been weighted by the sample size in each of the categories to better represent the surveyed villages.

Households with members in different categories have been coded for the purpose of analysis with order as follows (highest code first): physically displaced, off farm training, agricultural training, and red flagged². A household where one member was eligible for off-farm training and another for improved agriculture has thus been analyzed under the heading 'off-farm-training' (the higher of the two codes).

In order to obtain a list of 'not project-affected' households per village, all houses within a sampled village were numbered with the help of a local assistant. The project status for each household was established in the presence of the chief and a group of villagers. This procedure also allowed the Study to determine (i) the proportion of project affected households within a village; and, (ii) to prepare

¹ The table that was used for sampling was an earlier version of the one that was used in other parts of the report, which explains some of the differences in numbers.

² See Figure 4-1 which shows the process by which households were screened for red flagging.

an updated population count and map of each village that was studied. The 110 interviewed 'not project-affected' households were drawn from the 1,242 uncompensated households in the surveyed villages.

This multi-layered approach (summarized below) was applied to each village.

1. Identification of all households living within the limits of the village.
2. Quantitative survey questionnaire (40 questions) administered to each selected household in the village.
3. Supplementary questionnaires were administered to those who had undertaken "improved agriculture" or "off-farm" training to learn about their perceptions of the respective courses.
4. A group discussion on village socio-economic issues was conducted with male and female villagers. The discussions were based on a standard interview guide, but also addressed specific additional issues that came out of the discussion.

	No compensation	Compensation	Red Flag	Improved Agriculture	Off Farm training	Resettlement + house
% of women headed households	35.5%	7.2%	21.1%	27.7%	9.0%	17.6%
Number of questionnaires	110	83	71	83	67	17
% of total	26%	19%	16%	19%	16%	4%

Table 3-2. – Sample size and proportion of women headed households.

3.1 Study area

The study area consists of the villages belonging to the OFDA covering the three cantons: Béro, Miandoum and Kome. Using the project database, the most impacted villages within the area were chosen. In each of the villages, the complete process of inventory and location of the households, sampling of the control households and applying questionnaires and meeting with key-persons was carried out. The questionnaires were administered by three university trained local social scientists. Each spoke the local language. Two of them had already participated in earlier GEPFE studies. A trilingual interpreter (Ngambaye, French and English) assisted the team.

3.2 Instruments used

▪ Project database

The project database provides information on affected individuals, their land and assets that have been affected and the amount of compensation that each has received. It further includes data reported by compensation recipients on their total land use and their household size. The data base provides information on individual dossiers of compensated individuals. Based on analysis by the study team, dossiers were consolidated where it was found that the same individual had multiple dossiers with slight differences in name spelling or the like. In such cases identities were confirmed by referring to the photographs taken as part of the project's payment procedure.

As no official identity papers were presented for compensation dossiers, different spellings have been entered in the database for the same name. An individual can also have fields in different villages, or a village may have split up during the period over which the project has been paying compensation. Other individuals used different names each time they signed a land agreement. The project has made an effort to remove duplications from the project compensation database. This has reduced the number of unique individuals receiving compensation from more than 12,000 to about 3,700. This process of data cleaning was ongoing at the time of the Study.

The project has obtained data for individuals. It is noted, however, the assessment of household income and their need for livelihood restoration is more satisfactorily based on households. To consolidate individual compensation information into household information was not possible using the project database.

The project database also does not distinguish between temporary and permanent land acquisition. Restored land is returned to communities, rather than to individual farmers. The data base thus

provides no way of assessing if and how much of the temporary project land take has been returned to individual farmers.

In the present survey, the database was used as the basic instrument for selecting the most impacted villages in the OFDA and for drawing a random sample of persons in the categories of project affected people for the survey.

▪ **Quantitative household survey**

The *Household Baseline Questionnaire* consisted of eleven main fields:

1. Demographic data
2. Education of the children of the household
3. Profession and actual occupation of adults
4. History of project employment of household members
5. Sources and volume of income, sales, and savings,
6. Housing and equipment
7. Agriculture, cattle
8. Health (access to imported medicines, children's diseases, quality of water, actions taken during the treatment of a recent spell of illness)
9. Food consumption through access to animal proteins (fish and meat) during the previous day
10. Perception of the compensation process, and use of compensation money
11. Main items of annual income and expenditures.

The questionnaire was an extended version of the 2003 GEPFE socio-economic questionnaire. It covered a range of socio-economic characteristics. The structuring of the various fields is aimed at addressing dimensions of social life both synchronically (present stage) and diachronically (evolution over time) as well as the development in and around the project area.

The questionnaires were filled out in the presence of the head of family or his spouse and were directed to the person nominated as receiving compensation in the Project compensation database. Each interview lasted typically about 45 minutes for the main questionnaire and 30 minutes for the detailed agricultural and economic questionnaire.

▪ **Agricultural Questionnaire**

This questionnaire was aimed at gaining an understanding about the land people farmed: its size³; who provided them with the land; for how long had they been using it; at what price; what were the perceived agricultural characteristics of the soil; and how had people replaced the land they had lost to the project. For each crop, it was noted whether it had been grown, bought or sold during the preceding year.

▪ **Economic Questionnaire**

As the economy is still basically subsistence based, information on both income and expenditure is hard to obtain. In order to work with indicators rather than with unverifiable day-to-day economic data, the survey sought to obtain information about important economic exchanges. No reliable information on agricultural production could be obtained because (i) part of the agricultural production is consumed before the main harvest takes place; (ii) the production varies from year to year according to climatic conditions; and, accordingly, (iii) total household production is difficult to quantify.

³ Land is locally measured in cordes, which designate officially an area of 71 x 71 meters, or about half a hectare. During the survey it appeared that the size of cordes varied strongly, most between 80 and 120 paces or between about 0.65 and 1.5 ha.

▪ **Evaluation of the agricultural and off farm training**

Open ended questions sought to establish when training was done and how it was perceived by the respondent. Information was also recorded about the presence and state of repair of any tools that the trainee had received, and about which elements of the training had actually been used to improve livelihood and, if at all, how much extra income was being generated as a result.

▪ **Village interview guide**

An open-ended interview, using a questionnaire as a guide, was administered at each location in order to collect general socioeconomic background information regarding the village. It covered main characteristics of the village, villagers' access to health, education and government services, village history, and perceptions about the project.

3.3 Socio economic Index

The questionnaire was an adaptation of a GEPFE questionnaire used in various studies in Chad, in Cameroon (oil pipeline, dam, aluminum plant), and the Democratic Republic of Congo (copper mining project)⁴. The questions asked respondents about various attributes of their economic activities, standard of living, and access to community services and facilities. Responses are scored and incorporated into an index designed to provide an indication of each respondent's household's standard of living. The index is not a universal one, but has been applied by several researchers from GEPFE over a number of years and has been found to provide a useful indication of rural households' relative standards of living in Chad, Cameroon and Congo. .

In order to obtain an overall index, weighting factors were based on the relative importance of each reply for each question of the questionnaire. Though the choice of a weighting factor is subjective one, it is based on the assumption that each extra (or negative) point means a more (or less) affluent and "developed" household.

The index has no defined upper value. In previous applications of this index values as high as 35 (among permanent employees of an international company), and as low as 1.5 (among the Bakola/Bagyeli Pygmies of Cameroon) have been observed.

Scores are attributed as follows:

- *Housing*: an aluminium roof yields 2 points, a mud wall 1, mud bricks 2, a partly cemented wall 4, baked bricks 3, completely cemented wall 6, a partly cemented floor 1, a completely cemented floor 2, and a tiled floor 3.
- *Education*: points are gained according to the school(s) that children attend, with a negative point in cases where school age children do not attend any school.
- *Health*: a mosquito net yields 1 point, the presence of different kinds of latrines yields between 1 and 4 points, purchased medicines between 1 and 3 points depending on where they are purchased.
- *Regular revenue*: valued between 5 points for a fixed project salary and 1 point for regular outside help. Adherence to a savings group gives 1 point, and each category of sold items that yielded at least 100,000 FCFA of yearly revenue gives 2 points.
- *Equipment, goods and services*: owned items usually get each 1 point, expensive items such as a generator, a motor bike, and a car up to 6 points.
- *Children's health*: the percentage of 0-5 year old children in the total mortality has a weighting factor of -10. The prevalence of "diarrhoea within the last week", "fever within the last week", and of "skin diseases" have respectively a weighting factor of -1.
- *Extra items taken into account in this study*: manufactured bed, mattress, meat consumption, have been added in this survey, but do not basically alter the results of the survey.

See <http://www.ulb.ac.be/socio/anthropo/tchad> for the results of the Chad studies.

The prevalence of children's diseases, the mortality rate of children under five, and school attendance are included in the index because they represent good indicators for quality of life. However, they are not as easily affected by money as other indicators such as housing, furniture, equipment and possessions.

In order to take into account the characteristics of employment in the OFDA, salaried jobs were divided into three different categories: local employment, where salary payment is usually low, was awarded 1 point; temporary project employment, 3 points; and, permanent employment, 5 points.

▪ **Data base**

All information has been entered in databases:

1. Geographical information on housing and the quality of housing (material of roof, walls and floors), trades, water points etc.
2. Socio-economic baseline and detailed questionnaire
3. Agricultural questionnaire

3.4 Surveyed villages and survey map

Number	Village	Number of Compounds (households)	Compensated	% Compensated	Non Compensated
1	Begada 1	143	76	58%	55
2	Begada 2	117	67	57%	50
3	Béla	127	59	46%	68
4	Béro 1	338	245	72%	93
5	Danmadja	115	71	62%	44
6	Dildo	226	74	33%	152
7	Dokaidilti	53	34	64%	19
8	Koutou Nya	44	8	18%	36
9	Madana Nadpeur	37	19	51%	18
10	Madjo	131	97	74%	34
11	Maikeri	131	83	63%	48
12	Mainani	111	73	66%	38
13	Mbanga 1	176	88	50%	88
14	Mbanga 2	131	68	52%	63
15	Medeubte Nya	26	6	23%	20
16	Miandoum 1	376	82	22%	294
17	Mouarom	109	55	50%	54
18	Ngalaba 1	137	97	71%	40
19	Ngalaba 2	118	100	85%	18
	Total	2646	1402	53%	1232

Table 3-3. – Summary of surveyed villages and hamlets, the number of compounds and the percentage of households that have received compensation.

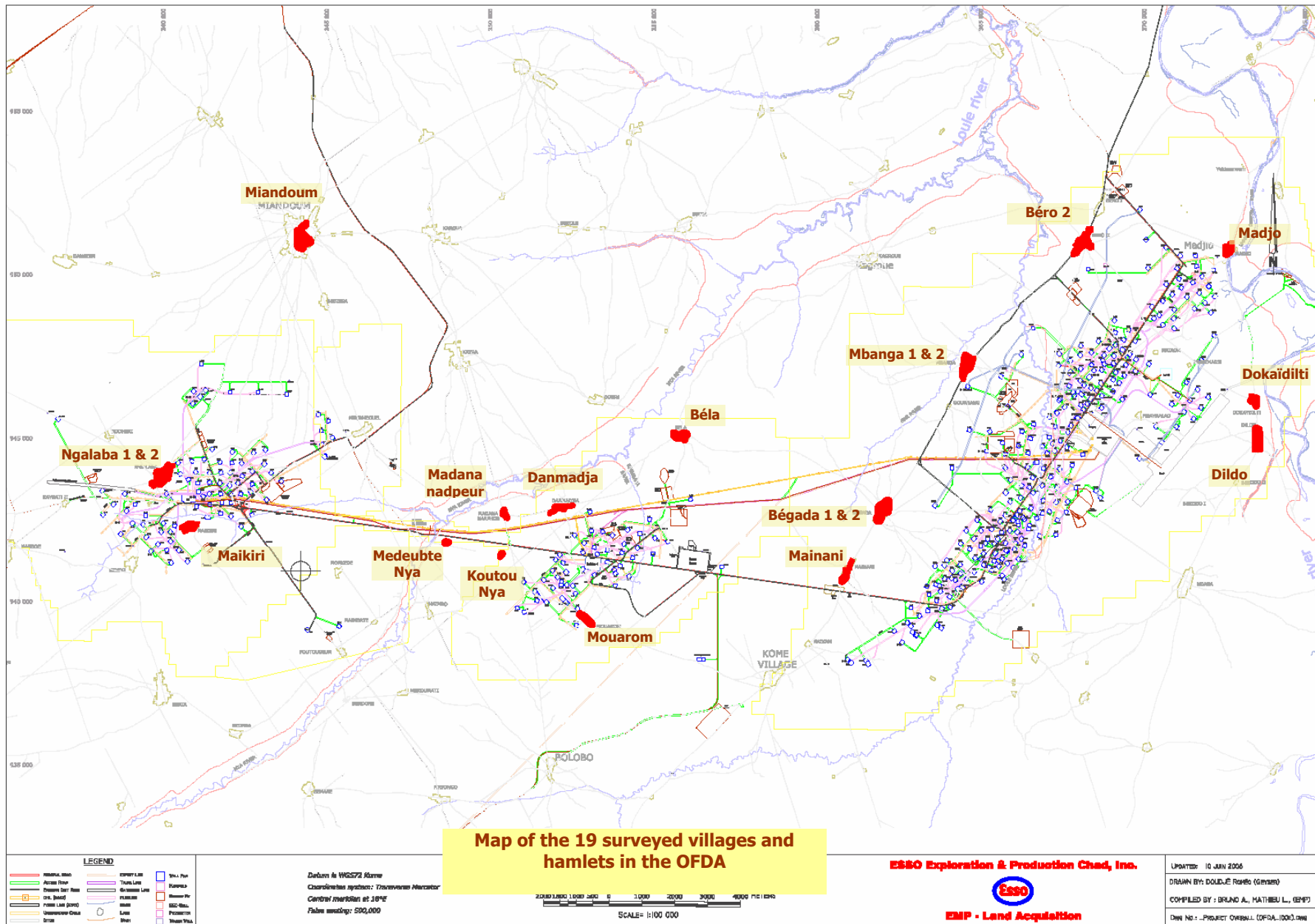


Figure 3-1. Map of the OFDA and the surveyed villages.

4. Resettlement Impacts in the OFDA

4.1 Context

The OFDA is a relatively densely populated agricultural area. The area is inhabited mainly by Ngambaye, and one of its local branches, the Mbay Doba. Main activities are agriculture during the rainy season that extends from April-May to September-October.

Various groups of transhumant and resident cattle-herders live in the area, which are mainly of Arabic, and Peul (locally called Fulata) origin. As is often the case in rural Africa, the relationship between resident agriculture and cattle herders is a tense one because of the damage caused by cattle to the mostly unprotected food crops of the villagers.

Agriculture is mostly based on sorghum and pennisetum staple crops, peanuts, beans, sesame and protein crops. Traditionally cotton has been an important market crop, but since the end of the 1990s, most villages and villagers have abandoned its culture. Among the most often cited reasons were low price and the difficult relationship with the parastatal Cotontchad company. In order to obtain the necessary inputs of fertilizers, insecticides and seeds, the villages had to create a group ("Association Villageoise"), which was jointly responsible for the refunding. Long delays in payment, and according to the villagers, unmerited downgrading of the quality, and thus the price for the delivered output, have led to the gradual abandonment of cotton. Numerous villages are still in debts to Cotontchad, and fear restarting cotton cultivation. The relationship between the demise of cotton and Esso is not spoken about, but as villages outside the OFDA continue growing cotton, there is apparently a causal connection. Observing the difficulties of gaining employment in the project, about half of the villages interviewed showed some interest in returning to cotton cultivation. A few farmers have already started to do so, such as in the villages Dildo and Dokaidilti, not far from Béro.

Village settlements in the OFDA are relatively compact, with fields around the compounds, and main fields further away in the bush. Traditionally, people who cannot find land around the village will go looking for land at greater distance from their settlement. Land usually belongs to extended families called "Ngelka", which descend from the same grand parents. There are, for instance, about 15 different Ngelka in Béro II. They share their land amongst themselves. The chief of Béro explained the way new land is claimed:

"People have to go further and further from the village to find agricultural land. The hamlet Miarom is an example of a growing agricultural settlement. It is still part of Béro, and until now has been only a temporary one. One man from Béro started farming in Miarom, and others followed him in later years. In Miarom, fields were first created next to the village, but the agricultural area has progressively spread out as a result of agricultural rotation, impoverishment of the soil and population growth. There is not yet a hamlet chief in Miarom, but it may eventually evolve into a permanent village. Even in this small hamlet (about 8 families), farmers from different ngelka reside".

4.2 Key demographic figures

▪ Sample data

The average household size in the sample was 8.5 persons with 37% of heads of households engaged in a polygamous marriage union. In the general population of the villages studied, the household size is 7.3, the difference being due to the sampling methodology⁵. In this report, the corrected average size of 7.3 per household will be used which best reflects the general population.

The family size of households headed by women was much lower: 3.6 for the controls, and 5.5 for project affected households. The sample of control households had been drawn randomly from the non-compensated population and, as shown in Table 3-1, women were over represented in this group

⁵ The sample surveyed is a biased sample of the general population, as eligible and compensated persons are over-represented. Using the average household size per category of PAPs and weighting for their proportion in the general population, the average household size can be estimated at 7.34. This is still 23% higher than in April-June 2003.

as they have less land or, more commonly, were using land for which their children would get compensation when affected.

- In the sample surveyed, 80% of the male-headed households had received compensation and 50% of women-headed households. Women clearly participated less and benefited less from project compensation than men.

	Household size	Polygamy	Non nuclear household members	Death rate	Birth rate
	Mean	% of married men	% of total	Number/100 families	Number/100 families
By Gender					
Men Control	7.6	33%	14%	15.9	26.1
Women Control	3.6		24%	10.5	2.6
Men PAP	9.9	38%	17%	34.4	45.2
Women PAP	5.5		31%	22.0	12.8
By compensation status					
All controls	6.2	34%	16%	14.0	17.8
Compensation	7.8	25%	18%	30.1	32.1
Red Flag	8.9	37%	17%	33.8	43.5
Improved Agriculture	9.2	38%	20%	33.7	46.9
Off farm training	11.5	52%	18%	37.9	49.3
Resettlement + house	10.1	42%	18%	17.7	17.7
By latest compensation payment					
4+ years ago	8.5	29%	18%	30.0	40.0
2-3 years ago	8.5	40%	20%	36.4	42.3
<2 years ago	9.7	38%	17%	31.2	41.2
Sample of control and compensated					
2003 survey of OFDA	6.0	--	--	21.8	30.0
2006 survey	7.3	37%	18%	28.1	35.3

Table 4-1. Summary of demographic household characteristics according to compensation type⁶.

- Women represented 36% of the control group but only 13% of the project affected group (those receiving compensation). This indicates that in the studied OFDA villages, where 53% of the households were compensated, women-headed households have benefited less from project compensation and are left relatively disadvantaged.
- Women that received compensation were more likely to become eligible for resettlement support by the project than men. They represent 7.2% of the “compensation only” category but 21.1% of the “red flagged” category. Those who were eligible for project support were more likely to enrol in agricultural training (28%) than in off-farm training (9%)
- Women thus fall in two unfavourable categories as they own less land than man: either they are not touched, and have no compensation, or – when they are touched – the impact on their small holding is such that they are directly eligible for resettlement support.
- In the general population (2003 data), 17% of the households were female-headed. 26% of men against 3% of women had received compensation.
- The household size increases steadily between the control category (6.2) and the off-farm training category (11.5). This might be explained by the fact that an increased number of household members could increase the chances of some of them becoming eligible for training, and also the number of children determined directly the amount of child allowance that an eligible household would receive.

⁶ Non nuclear family: household members other than spouses and children of the head of household. Birth rate: reported number of children born in the household during the last 12 months for 100 households; Death rate: reported number of deaths in the household during the last 12 months for 100 households. The household size of the total sample has been adjusted to reflect the general population.

- Higher compensation was associated with an increased incidence of polygamy. Polygamous marriages made up about one third of the married households in the control group, but more than 50% of households who benefited from off-farm training. In the overall population, the average number of spouses per married household increased from 1.18 in the 2003 survey to 1.48 in 2006.

▪ **Population growth**

The household size observed in 2006 was significantly higher than the 6.0 persons observed in the 2003 survey of the OFDA, which consisted of a randomly drawn sample. Using comparable data for 2006, the growth in household size is 23%.

Population growth in the area has been estimated by comparing the number of households in three villages with the data obtained from the survey in 2003 during Project construction (Table 4-2). As not all households were visited in 2006, the 2006 number may be slightly overestimated. This is because some of the household members captured in the 2006 survey may in fact be dependents of other households. Also, some surveyed houses may be inhabited by people who have their main dwelling elsewhere.

These data show significant growth in household numbers corresponding to an annual growth rate of almost 10%. Data from the survey indicate that more than 95% of the households interviewed people consider themselves either born in the village or married to someone from the village, which means that this population growth is probably caused by people that have moved from nearby villages towards these villages. How far such a movement is related to compensation payments or to perceived employment opportunities is not clear.

	2003	2006	Total growth	Yearly growth
Bero	277	384	39%	11.5%
Miandoum	301	380	26%	8.0%
Madana area	168	222	32%	9.7%
Total	746	986	32%	9.7%

Table 4-2. Number of households in three villages surveyed in 2003 and during the present study (2006).

4.3 Project Affected Population

Table 4-3 shows a study estimate of the total project affected population. The CRCP did not provide a corresponding estimate so up until now the total number of people affected by the project land has not been known.

The present survey of 19 of the 49 villages⁷ included in the project data base) covers 90% of the total area compensated and 85% of the affected population. From the survey data presented in Table 4.2 it can be deduced that the total project affected population is about 1,650 households or 12,000 persons.

	Surveyed villages	Villages not Surveyed	Total	Source
Dossiers	8075	896	8971	Project data base
Different individuals according to the database	3640	586	4226	Project data base
Total number of Households (in the villages surveyed)	2620	--	2620	This survey
Percentage of project affected households	53%	--	--	This survey
Number of dossiers per project affected household (PAH)	5.79	--		This survey
Project affected persons per PAH (includes doubles)	2.55			Survey+ database
Average household size in the area	7.3	7.3	7.3	This survey
Total area compensated	1442 ha	170 ha	1612 ha	Project data base
Cordes compensated per data base individual	0.8	0.54	0.76	Project data base
Cordes compensated per project affected household	2.04	1.67	1.99	This survey

⁷ Village names have changed since the start of the project, as some villages have split into two different ones since the start of the project. Such villages appear three times in the data base: under the original name, and the two new names. Several villages had two or more village chiefs but have been considered as one village: Begada, Mbanga, Ngalaba. Béro II and Miandoum II are independent parts of the respective villages Béro and Miandoum.

	Surveyed villages	Villages not Surveyed	Total	Source
Compensation received per project affected household	1,9 million fCFA	1,5 million fCFA	1.9 million fCFA	Project database
Number of villages as per the data base	17	34	51	Project data base
Project Affected Households (PAH)	1402	237 (estimated)	1639	This survey
Project Affected Persons (PAP)	10,235	1,730 (estimated)	11,965	This survey

Table 4-3. – Summary of Project Affected Population⁸

Two sources of information were used to estimate the number of project affected households. These were (i) physical counts of the households in each village, with recording of the number of those households that received compensation from the project; and, (ii) estimates of the number of affected households derived from the number of compensation dossiers kept by the project⁹. The estimate of affected population assumes an average household size in the OFDA of 7.3 people. The information in Table 4-3 is current for June 2006. As land acquisition for additional well pads will continue in the OFDA for a further 12 months, the final project affected population will be higher than is indicated in this table.

The majority of project-affected people summarized in Table 4-3 are impacted by temporary or permanent loss of use of land, loss of crops or trees or fixed assets. Project compensation agreements and the information provided to compensation recipients does not indicate whether the land in question is being acquired by the project temporarily or permanently.

Percentage loss of land per household member			Amount of loss of land per individual and household		
Land loss	Households	Individual dossiers	Number of cordes	Household	Individual dossiers
0-<20%	45.5%	65.4%	< 1 corde	44.1%	68.6%
20-<50%	28.5%	23.2%	1-2 cordes	18.1%	14.3%
50% and more	26.0%	11.4%	2-<4 cordes	25.6%	12.3%

Table 4-4. – Summary of relative and absolute land loss by Project affected households and individuals.

As described in section 3.2, the project database contains information about compensated assets (crops and trees) contained in dossiers with an individual number and name of recipient, subsequently linked to individuals based on their name, their village and verified using the photographs taken during the compensation payments.

Table 4-4 illustrates the difficulties that arise from the project compensation database which records information about individuals signing compensation agreements instead of about the households to which they belong. Amongst individuals, two thirds lost less than 20% of their total land, or less than 1 corde. When considered on a household basis, losses appear far more significant with 55% of households losing more than 1 corde, or more than 20% of their land.

Several reasons were given as to why many households have compensation dossiers in the names of multiple individuals and not one household head. Some dossiers (and land agreements) were assigned to children less than 15 years old. Some households said that land agreements were distributed amongst multiple family members in order to avoid jealousy or claims that benefits were not being spread fairly. Others believed that they could maximize chances of one household member becoming eligible for agricultural or off-farm training if agreements were signed in the names of as many different family members as possible.

Vulnerable individuals and households: Less than 2/3 of a corde of land/person		
Land loss	Households	Individual dossiers
Before land take by the project	48.4%	52.5%
After land loss	64.7%	59.3%

⁸ Calculation based on table "08 – OFDA – Total FCFA". The data are estimates, extrapolated using the survey results. The average household size is based on the estimated size of households in the general population. (See footnote 5).

⁹ The project has set up a compensation dossier for each individual who signed one or more land agreements and received compensation from the project. Often multiple members of a household (e.g. the household head, one or more wives, and one or more children) signed compensation agreements. The Study used those villages where it had a direct count of project affected households to correlate the number of affected households to the number of compensation dossiers for that village.

Lost all land	--	3.8%
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Table 4-5. – Summary of vulnerable households (defined as having less than 2/3 of a corde of land per household member) before and after the land take by the project (source survey sample and project database).

▪ **Categories of eligibility for resettlement assistance**

Eligibility for resettlement assistance is based on the amount of land owned per individual in the household. After signing the compensation agreement, farmers were interviewed about the number of members they considered as being part for their household, as well as about the total area of land that they owned. Individuals that received multiple compensations replied on each occasion to the same questions. From the two data – total land holding and number of household members – the amount of land owned per individual was calculated. As described in the CRCP, those households that reported owning less than 2/3 of a corde per household member were considered “*non viable*” and “*red flagged*”. Subsequently, these families were visited by the Esso socio-economic team who reviewed with the household the land they occupy and the number of members in their household. If after that visit it appeared that the family cultivated effectively less than 2/3 of a corde per household member, they were deemed eligible for livelihood restoration. The forms of livelihood restoration measures available to farmers were:

1. An improved agriculture program, base on the acquisition of new methods and techniques in agriculture, animal husbandry and food transformation. The training takes place in the villages and through short excursions to other projects. At the end of the training a grant of 500,000 FCFA (about 1,000USD) is awarded which can be used for productive investments in agriculture.
2. Off-farm training to various income-generating activities in non agricultural fields, the training takes place in towns, and lasts usually one year. At the end of the training, a toolbox is usually provided.
3. Project-assisted resettlement (reconstruction in an area where the household is able to find replacement land).
4. Employment in the project and “land conquest” – a signed agreement with local authorities and villagers assigning a plot of replacement land, have sometimes been used as unofficial measures that have since been abandoned by the project.

The various options were discussed with the farmers and a final choice was made. In practice, most eligible farmers chose between the options of improved agriculture and off-farm training. To the team's knowledge, nobody was proposed the option of project-assisted resettlement.

The project database keeps track of each individual compensation dossier, with the amount of land and number of household members reported on each occasion. Different dossiers of the same individual are grouped based on the name of the individual, his village and verification of photographs taken during each compensation payment. As no illegal identification papers are used, names for the same individual may be spelled differently in each of his dossiers and some people have had compensation in different villages, the grouping of dossiers for one individual is often incomplete. This is despite recent project efforts to merge these data. The database contains no information on the households to which the individuals belong, in spite of the fact that eligibility for livelihood restoration is based on the household situation rather than the individual situation.

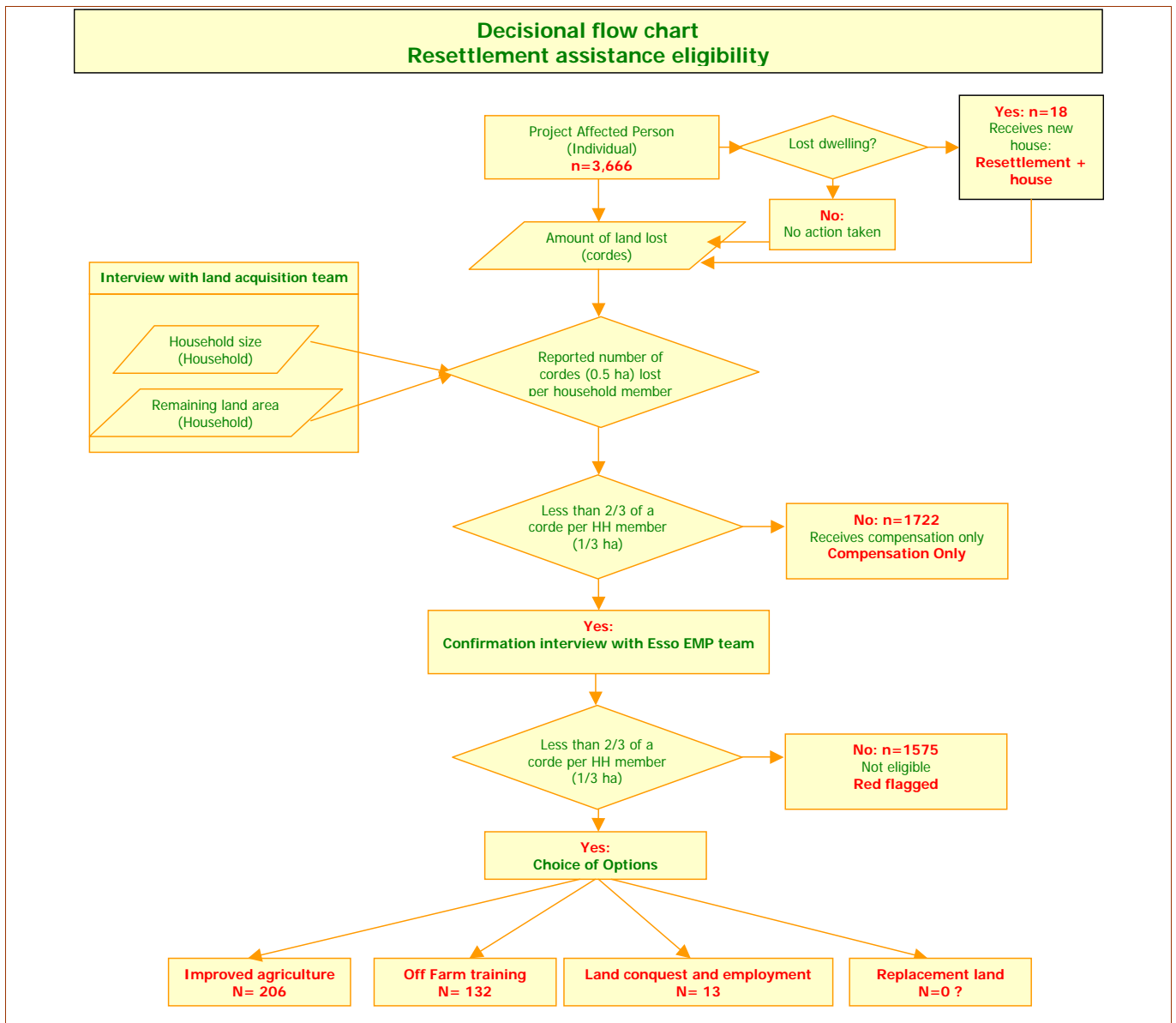


Figure 4-1. – Decisional flow chart on resettlement assistance eligibility and number of land users in each category.
[Source: project data base data].

- **Red flagged: potentially eligible for project assistance as they reported less than 2/3 of a corde of land per household member**

Land users were red-flagged in the database because initial information gathered by the project indicated that those users might have less than the 0.67 corde/person threshold adopted as the eligibility cut-off for resettlement assistance (agricultural or off-farm training, and other measures). Red-flagged land users were subject to a further interview and assessment by the project EMP team. After EMP team verification of each red-flagged affected user's useable land area, land users were categorized as either 'eligible for resettlement assistance' (agricultural or off-farm training, and other measures), or 'eligible to receive cash compensation only'. In this Study, the two eligibility groups were disaggregated. Members of the group 'eligible to receive resettlement assistance' had lost more land and received more compensation than the 'compensation only' group. Members of the group 'eligible to receive resettlement assistance' were more likely to report suffering from a shortage of land which was consistent with the greater land impact that they had generally suffered.

Most people that were eligible for resettlement assistance were already vulnerable before the start of the project. According to data from the project database, about half of the individuals or households were already in a vulnerable situation, owning less than 0.67 corde of land at the start of the project. When land loss caused by the project was taken into account, an additional 6% of individuals fell into

the category of 'vulnerable'. When all affected households are considered, an additional 17.5% of households are left vulnerable as a result of land lost to the project.

As noted previously, the project has so far based its decision concerning eligibility on individual dossiers and not the aggregate land loss of all members of a household who have signed compensation agreements. In the studied sample of 320 compensated households 135 families received training. Among these families 15% had more than one member eligible for training. 16 had two eligible members and three families had three members.

Surprisingly the loss of land of all the recognized categories is within a close range of 0.15 to 0.30 cordes per HH member. In the categories, other than "compensation only" between 60-80% of the persons were already vulnerable before they lost land to the project.

The way data in the project compensation database is organized does not allow one to objectively determine whether people are or are not eligible for training or other assistance. From Table 4-6 it could be interpreted that 248 individuals out of 620 have either not received the training to which they were entitled as defined in the CRCP, or have received training to which they were not entitled¹⁰.

	Compensation only	Red flag: not eligible	Off farm training	Agricultural training	Other resettlement conquered land, employment
Number of individuals	184	230	69	103	24
% of HH surveyed	58%	72%	22%	32%	8%
Average before per HH member	2.22	0.58	0.81	0.59	0.72
Cordes lost per HH member	0.18	0.16	0.23	0.16	0.27
Vulnerable before (% of households)	2.7%	79.2%	60.9%	73.3%	64.0%
Vulnerable After (% of households)	0.5%	100%	88.4%	90.5%	84.0%
Decision not according to the eligibility rules. (% of households)	0.5%	100%	11.6%	9.5%	-%

Table 4-6. – Summary of relative and absolute land loss in 320 project affected households belonging to 613 individuals. "red flag: not eligible": farmers who initially reported less than 2/3 cordes of land but were excluded after verification of the household size and land holding. (Source: survey sample and project database)

There are two possible reasons for this:

- Eligibility interviews were based on single dossiers and did not take into account the fact that most individuals had multiple dossiers (average of 3.5 dossiers / person in the survey sample). Or,
- New information gathered during the eligibility interviews about the total land available to a household and the number of people in that household has not been updated in the project compensation database.

Forty-seven households were required to relocate dwellings. Taking into account the expanded scope of land acquisition for the well infill program, this figure is fairly consistent with the CRCP estimate of 23 households for relocation. The project appears to have been successful in minimizing displacement of dwellings.

Table 4-3 does not account for the population affected by loss of communal resources, most notably bush land. The CRCP notes the importance of bush for "...*food and medicinal resources, construction materials and as a reservoir of potential farmland...*" (CRCP, Sect 7.2.1). Nearly all households are reliant either directly or indirectly on bush resources. A conservative calculation of project-affected people would assume that where a village loses bush land to the project, then all people in that village are project affected. On this basis the project-affected population would be about twice the figure indicated in Table 4-3.

¹⁰ 11.6% of those who participated in off-farm training and 9.5% of those in agricultural training were initially not considered "vulnerable" by the criterion "less than 2/3 of a corde per HH member". All 100% of those "Red flagged" who initially satisfied the criterion were after verification by Esso's EMP team finally not entitled to receive training, because they had more land or less people than initially reported.

4.4 Land Impacts As Reported By Project Affected People

▪ *Land loss and balance of land according to the farmers and the project's records*

As shown in Figure 4-2, the area of land lost as reported by farmers is higher than the land surveyed and compensated by the project. The difference is explained by the fact that: (i) the project does not compensate for fallow land except for that used with the past year¹¹ nor for bush land; and, (ii) many plots were only partly affected, but regarded by the farmer as lost, because the remaining plot area was too small to be worth cultivating; or (iii) sometimes the farmer was not able to calculate the part of the plot that was lost. Additional reasons may be the over-reporting land lost because they think it might benefit their eligibility for training, or that with multiple land takes, they have been unable to keep track of how much land they have in fact lost.

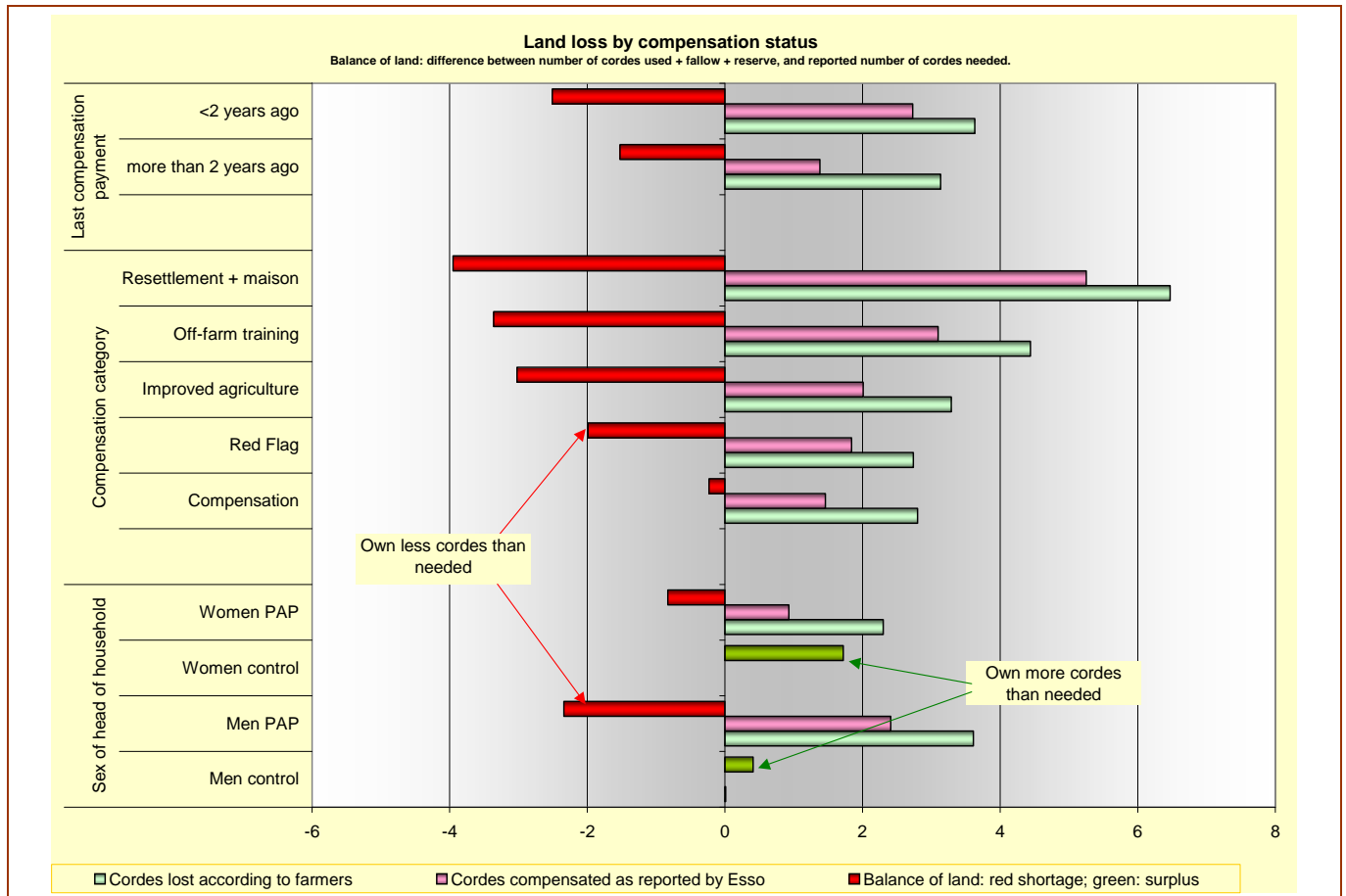


Figure 4-2. – Balance of land reportedly lost according to the farmers, land compensated according to the project records, and land lacking (“cordes missing”) according to the reported balance of available and needed land. [average number of cordes per household, source: survey data].

Unaffected households – both men and women – report on average possessing enough land, but this average hides individual differences. In the sample, 42% of the unaffected declare that they have not enough land, indicating once more that the land situation in the area is close to critical (Table 4-7), at least in some villages and for a significant number of households.

	All controls	Simple Compensation	Red Flag: not eligible	Improved agriculture	Off Farm Training	Resettlement + house
Report shortage of land	42%	59%	73%	78%	88%	93%

Table 4-7. – Reported prevalence of shortage of land by compensation category

¹¹ The farmers, having learnt this, now try to make sure that all land that they suspect will be used by the project has some sign of recent cultivation, so it can be compensated.

Conclusion: Insufficient agricultural land is reported by PAPs and unaffected villagers. Villagers who received livelihood assistance report the highest rate, while almost three quarters of the “red flagged” persons who did not receive such assistance report lack of agricultural land.

▪ **Project Impacts on Household Land Use and Access to Land**

Farmers report that they had cultivated last year an average of 2 cordes per household. Households with simple compensation and control households use more land than those households that were red flagged or eligible for resettlement assistance. Women cultivate less land than men, which is offset by the fact that their families are also smaller¹². The main difference between PAP and non-affected controls is in the amount of fallow and bush land they have available: While PAPs report only a slight decrease in the areas they actually cultivate, they have much less fallow and bush land left than the unaffected or slightly affected.

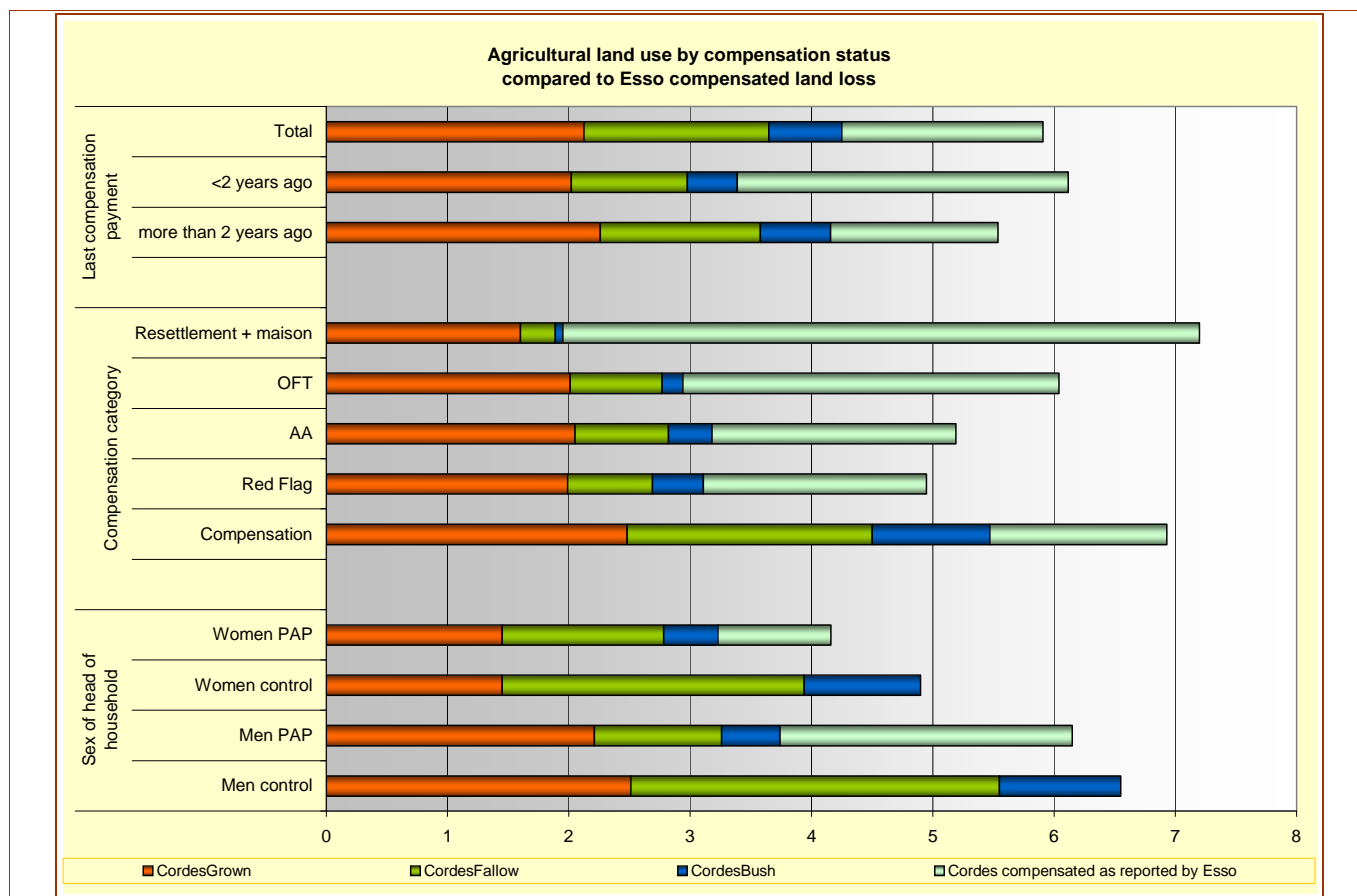


Figure 4-3. – Land use by project affected people. Shortage of land is prevalent if the amount needed is less than the sum of the amount grown + the amount fallow + the amount available as bush land.

	All controls	Simple Compensation	Red Flag: not eligible	Improved agriculture	Off Farm Training	Resettlement + house
Average household size	6.2	7.8	8.9	9.2	11.5	10.1
A Cordes Grown	2.15	2.48	1.99	2.05	2.01	1.6
B Cordes in Fallow	2.85	2.02	0.70	0.77	0.76	0.29
C Cordes as uncultivated bush land	0.99	0.97	0.42	0.36	0.17	0.06
D Cordes Needed as reported by farmers	5.21	5.7	5.1	6.2	6.3	5.9
E Balance of agricultural land (owned – needed)	0.78	-0.23	-1.99	-3.02	-3.36	-3.95
F Cordes compensated reported by Esso	0	1.46	1.84	2.01	3.10	5.25
G Cordes lost according to farmers	0	2.8	2.74	3.29	4.44	6.47
H Difference Farmers & Esso	0	1.34	0.9	1.28	1.34	1.22

¹² Average Family size in the surveyed sample: women control families 3.6 persons/household; women PAP: 5.5; men control: 7.6; men PAP: 9.9.

		All controls	Simple Compensation	Red Flag: not eligible	Improved agriculture	Off Farm Training	Resettlement + house
E	Balance of agricultural land (owned – needed)	0.78	-0.23	-1.99	-3.02	-3.36	-3.95
I	Balance of agricultural land if Esso returns all land taken.	0.78	1.23	-0.15	-1.01	-0.26	1.3

Table 4-8. – Summary table of land used and owned per household according to compensation category. (1 corde = 0.5 ha).

Appendix B “Human Environment” of the project *Environmental Assessment*¹³, based on a sample of 100 farmers, reported an average of 8 cordes (4 ha) cultivated per farmer, 10 cordes in fallow and 3 cordes as bush land: almost three times as much as the areas reported for the present study. Population growth and project impact are at the root of this impact.

Conclusion: Farmers balance their loss of land to the project by taking land from their stock of fallow land and bush. This is unsustainable.

▪ **Replacement of land occupied by the project**

The replacement strategy used by households to try and offset cultivated area lost to the Project is described in Table 4-9. Most farmers were able to replace part of the land occupied by the project. However, most of them had to obtain land from their own stock of land (56%), or simply said that they had not been able to replace the land lost (28%). Those who had found land elsewhere, other than from their close relatives, reported it as coming from “others in the village”. Of these, only a minority indicated that they had rented land (4%) or borrowed it for free.

	Own land	Parents' land	Village land	Other land	Bought land	Borrowed land	Rented land	Land not replaced
Origin of replacement land	56%	11%	4%	0%	1%	3%	4%	28%

Table 4-9. – Origin of replacement cultivated area as reported by PAP (multiple responses possible).

Conclusion: Almost all farmers resorted to traditional means of replacing land, using their own or family land, or simply did not replace the lost land.

▪ **Perceived quality of agricultural land owned and of replacement land**

The farmers in the OFDA generally considered that the land they use is of poor quality, but more so by those who received compensation (73%), than by those who did not (63%). The farmers consider the replacement land they obtained to be globally of the same poor quality as the original land:

	Control group	Compensated land users	
		Existing land	Replacement land
Bad quality	63%	73%	75%
Average quality	35%	25%	23%
Good quality	2%	3%	2%
All	100%	100%	100%

Table 4-10. – Reported fertility of the initial and replacement land.

Conclusion: Farmers consider that the replacement land they found is of the same mostly poor quality as the land they already used.

▪ **Use of agricultural techniques**

Agricultural techniques were reported as improved by the beneficiaries of compensation who made greater use of oxen, employed more paid labour and participated more often in mutual work groups.

¹³ Human Development (1997), page 93, but on page 46 it is noted that without animal traction people normally grow 3-4 cordes (1.5-2 ha), while with plow and cattle they grow more than 2 ha.

Use of outside labour was reported more commonly by those who had revenue from off farm training, or who had received compensation during the last two years. These reflect short-term and one-off benefits rather than a sustainable change in practices. In spite of training and greater access to cash through compensation, use of fertilizer and improved seeds was minimal in all categories of farmers.

	All controls	Simple Compensation	Red Flag: Not eligible	Improved agriculture	Off Farm Training	Resettlement	Compensated < 2 years ago
Oxen	75%	90%	86%	95%	92%	100%	90%
Fertilizer	3%	4%	3%	5%	5%	0	4%
Improved Seeds	0%	3%	0%	7%	3%	0	2%
Paid labour	25%	35%	32%	34%	43%	41%	39%
Mutual labour groups	27%	32%	32%	32%	32%	35%	31%
N=	97	316	69	82	65	17	196

Table 4-11. – Agricultural techniques applied according to compensation category.

Conclusion: Project affected households make more intensive use of oxen and of paid labor and mutual labor groups i.e. these are indications that project affected households have achieved some intensification of their agricultural practices compared to others. The presence of paid labor is directly linked to income from the project paid as part of off farm training and recent compensation payments.

▪ **Agricultural production**

Attaining sufficient agricultural production and food security is the bottom line of livelihood restoration. Under current agricultural circumstances in the OFDA, subsistence farming is the most reliable way of at least obtaining daily food for the family.

Detailed graphs are presented in appendix G that indicate the proportion of households that grow, sell and/or buy the two major crops (sorghum and peanuts) and a cash crop (market garden crops). The main results are:

▪ **Crops grown**

Sorghum – No significant changes for the major staple crop, sorghum, which is grown by 80-90% of households. One observes that uncompensated women-headed households and people with off farm training grow sorghum less often than others.

Project affected households. – There is no indication that project affected people have diminished significantly the range of crops they grow. Project affected households cultivated on average 3.4 different crops, compared to 2.9 for the control group. A greater percentage of farmers who have undertaken improved agricultural training grow market garden crops than others, although this impact may diminish with time.

Conclusion: Project affected households grow the important crops, sorghum and peanuts at least as often as non-affected households. Improved agriculture training has led to more intensified culture of market garden crops.

▪ **Crops bought**

Sorghum – 40% of the control groups report buying sorghum and around 50% of the project affected people. People eligible for off-farm training bought more often staples than the others. This may be because they needed more or because they had regular income through study and child allowance during their training, and disposable income from their craft after the training. Once all people eligible for off farm training have completed their training and apply (or not) their trades on return to their villages, this item should be re-evaluated.

Project affected Households. – Project affected households bought food more often during the preceding year than non-affected households. Project affected households bought on average 0.9 products, compared to 0.7 products for the control group.

Conclusion: Project affected male-headed households buy slightly more often food crops than non-affected households. Only amongst people with regular income from off-farm training and those who received a new house as the result of physical relocation do a majority report buying the main cereal sorghum.

▪ **Crops sold**

Sorghum – 31% of control group households reported selling sorghum, against 26% of the affected ones. The more heavily a household was impacted, the less likely it was to sell sorghum. No difference is observed between the people who recently received compensation and others. Sorghum is generally sold in smaller quantities by women in order to buy salt and spices in the markets.

Conclusion: Project affected households sell less often food crops than non-affected households. This may be due to their having alternative direct income from compensation and employment, or because they have a lack of produce to sell. Peanuts as a market crop remain important among all categories as a source of cash.

▪ **Conclusion: Sufficiency of food supply**

Project affected and control households cultivate in similar proportions the main food and cash crops commonly grown in the area. A significant proportion of both groups engage in both selling and buying of crops. In terms of food sufficiency the following elements are important:

1. As indicated elsewhere, a significant proportion of the compensated population has recently received compensation and / or still receives an allowance for the off-farm training. In the short term until their money is spent, they will have sufficient money to buy food in the markets to offset any deficiency in what they are able to grow.
2. Many affected farmers have started to cultivate fallow land, so diminishing their reserve of land available for the future. This helps them to attain sufficient production for the short term, but will not be sustainable in the medium to long term.
3. Last year's harvest was reported as having been a very good one. The rains in 2006 were late arriving and up until the end of June were sporadic and very localized. A good harvest was not yet guaranteed at the time of the survey.

The situation captured by the survey is a transitional state during which project affected households' production and livelihoods remain significantly subsidized through ongoing payment of compensation and training allowances. In many instances, households have been able to maintain their pre-project agricultural production but at the cost of using their fallow land. This is a short-term strategy that will result in rapidly diminishing yields once the currently cultivated area is depleted after 2-3 years cropping. The household survey results thus do not yet reflect the situation that will prevail once project land acquisition and compensation payments cease. Once this happens, there will be a period during which people reach a new equilibrium between land in use, land in fallow and food production based on a diminished land resource. In some villages where there is already heavy pressure on land, the loss of productive land to the project has the potential to further shorten crop rotation and contribute to a downward spiral of degraded soils, diminishing yields, reduced food security and increasing impoverishment, especially for those households that have limited land resources.

4.5 Project Impacts on Standard of Living

For measuring changes in the standard of living of project affected people along the pipeline in Cameroon, a composite socio-economic index was developed during the baseline study for when no project induced changes had taken place. This revealed very clear differences in living conditions between communities observed along the pipeline.

The same index has been applied in Chad in the socio economic surveys of 2003 and 2006. It shows that the impact of the project has been considerable, at least among the project affected population. This is hardly surprising as amongst the villages surveyed for this Study, 53% of the population has received compensation with an average value of 1.9 million FCFA (almost US\$4,000). In the six months prior to this study, 45% of households had received some money from the project in the form of compensation or training allowances or both.

Figure 4-4 shows the socio-economic index analysis for the different categories of the compensation recipients and non-recipients.

▪ *Summary of results*

Compared to the GEPFE 2003 OFDA study:

1. Control groups have hardly (or not) progressed: their score has only risen from 5.5 to 5.6, indicating that induced development through the spread of wealth in the villages (through income and compensations) has been weaker than expected.
2. In 2003, after the first compensation payments by the project and during its construction phase, the impact linked to of project employment was stronger than the impact due to compensation¹⁴, but people belonging to both categories had already progressed significantly. Since 2003 the average index level of project affected people has risen only slightly, from 9.7 to 10.5 in 2006.

▪ **In the 2006 RAP study**

1. The average index of all project affected people is 10.5, which is almost double the index of the control group (unaffected people), indicating a significant improvement in standard of living for project affected people relative to the non-affected general population.
2. The more heavily people are impacted by the project, the higher is their socio-economic score: their score rises relative to both the absolute "amount of land lost", and the relative amount as indicated by the category "compensation status".
3. People who have recently (less than 2 years ago) been affected had a higher score, partly explained by the impact of direct temporary impact of the project (see below).
4. Households headed by women are more vulnerable than those headed by men (control score 7.3 and 2.8), but as soon as women receive compensation, they show a rise in their score by almost 6 points (compared to 4 points only for men), indicating a higher propensity towards productively investing their money than men.

¹⁴ In 2006, only 7% of the surveyed families (n=434) had project employment, and as these families belonged to all categories, which would confuse a separate analysis, no separate analysis is included. The average score of employed families was: employment only: 16.3 (n=5) and employment + compensation 26.4 (n=17).

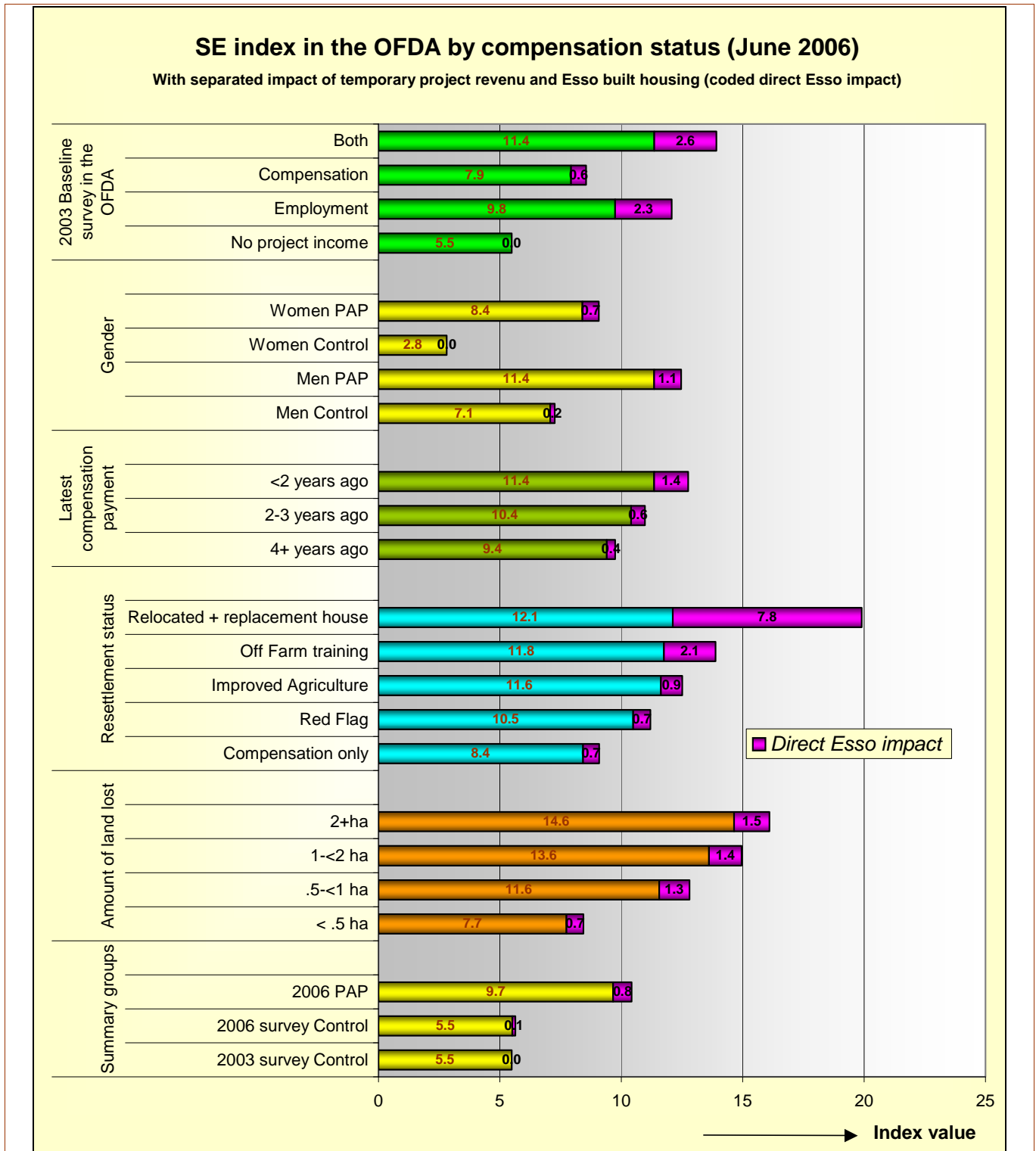


Figure 4-4 – Socio-economic index corrected (in pink) for the direct impact of ESSO through compensation, temporary salaries and housing built by (i) Amount of land lost, (ii) Resettlement status (iii) gender (iv) categories of the 2003 OFDA study¹⁵.

¹⁵ The summary groups compare all the controls of the 2003 OFDA survey, with the controls of 2006 and the compensated weighted by the numbers of each resettlement category. The amount of land lost is based on the information in the project database. Resettlement status includes the categories “compensation only”, who retained more than 0.67 cordes of land per household member and “red flagged”, who lost more than that, but were not eligible for relocation assistance, as were the “improved agriculture”, “off-farm training” and “relocation + replacement house”. The latest compensation payment refers to the date when the household last received compensation: less than or more than 2 years ago. Gender compares separately women and men headed impacted and not impacted households. The categories of the 2003 OFDA study refer to the results of the 2003 socio-economic survey during the construction phase of the project in six villages of the OFDA.

▪ **Direct impact of the project**

The project results in direct impact for households that are sustainable or permanent (e.g. a new house, a permanent job), and others that are temporary or of limited duration (e.g. compensation payments, allowances received during the off-farm training, temporary employment).

Permanent jobs for the project have not been separated from the main index as they are considered a sustainable impact of the project.

About 10% of the value of the index is based on temporary impacts of the project. For 'physically displaced' people, 4 points are awarded specifically for the quality of the replacement house that the project built for them. This is apparent in Figure 4-4. If the housing score is not considered, physically displaced people have only a slightly higher index than people eligible for off-farm training or improved agriculture.

▪ **Limitations of the socio-economic index**

The socio-economic index is based partly on household assets (housing, equipment), partly on social indicators (health, infant mortality, education), and partly on revenue sources. Revenue sources taken into account include regular income (through temporary or permanent wages or money received from other people) and occasional earnings or items sold for more than 100,000 FCFA (presently 2,000 USD).

The items included in the index are an indication of standard of living rather than of livelihood. They do not, for example, take into account whether household daily food requirements are being met. In this context, interviewed PAPs regularly cited the fact that they "...could not eat the walls of their new house". It is thus possible for a household to have a high score in the socio-economic index but not have sustainable income because food production is insufficient.

Apart from diminished access to land, there was evidence of households using compensation to acquire productive assets such as cattle, ploughs, oxcarts, handcarts, and bicycles. Each of these investments helps people improve their productivity and, where sufficient land area is available, may enable them to increase the area they cultivate¹⁶.

The boom experienced by households as a result of receiving compensation for land and the incomes some receive while attending off-farm training may be short-lived. While many have increased their assets and standards of housing, the trade-off for loss of land has been more intensified use of fallow and shorter crop rotation. At a basic subsistence level, households have still not been able to sustainably replace their former food production. When cash flow from project compensation dries up, it remains to be seen whether adequate replacement livelihood is accessible to them. Without access to replacement land, for many households this seems unlikely.

▪ **Project Impacts on Housing and Assets**

The 2006 study has found that the biggest impact of the project has been on quality of housing and household ownership of assets. This confirms observations reported in the 2003 GEPFE survey about the impact of compensation. The most visible use of compensation money is investment in better housing, more farm equipment and more cattle. Besides these items, important sums are invested to acquire new wives (for compensation recipient and for his or her kin: brothers and children). Compensation has also been spent on clothing, food, drinks, educational expenses, health, funerals, and to repay debts¹⁷. Figure 4-5 shows that the third most frequently cited expenditure concerns the percentage of all compensation which has gone in mandatory unofficial payments to local government officers.

Figure 4-5 equally shows that with time, some of the invested items get lost. Those who have recently received compensation report more assets than those who received it some time before. There also seems to be changing trends or patterns in the way compensation money is invested. Among recent

¹⁶ This is one of the positive project impacts that was cited in several villages, which is contrary to the generally stated lack of agricultural land. It indicates that lack of land is not a predicament for all farmers.

¹⁷ Some of whom were contracted because people knew that they would be compensated shortly. In these cases interest rates could be as high as 50% for a loan of a few weeks or months.

beneficiaries, more people than before have built a new improved house as one of the most popular ways to invest in a sustainable way their compensation money. Another example is that within some villages, a cluster of compensation recipients will report having purchased houses in Doba¹⁸, but in other villages there are no reports of this.

One may argue that if the sole purpose of the compensation to indemnify people for the value of their lost crops, that most people have gone beyond such simple replacement and have used the compensation money to improve their living and working conditions and to increase their productivity...

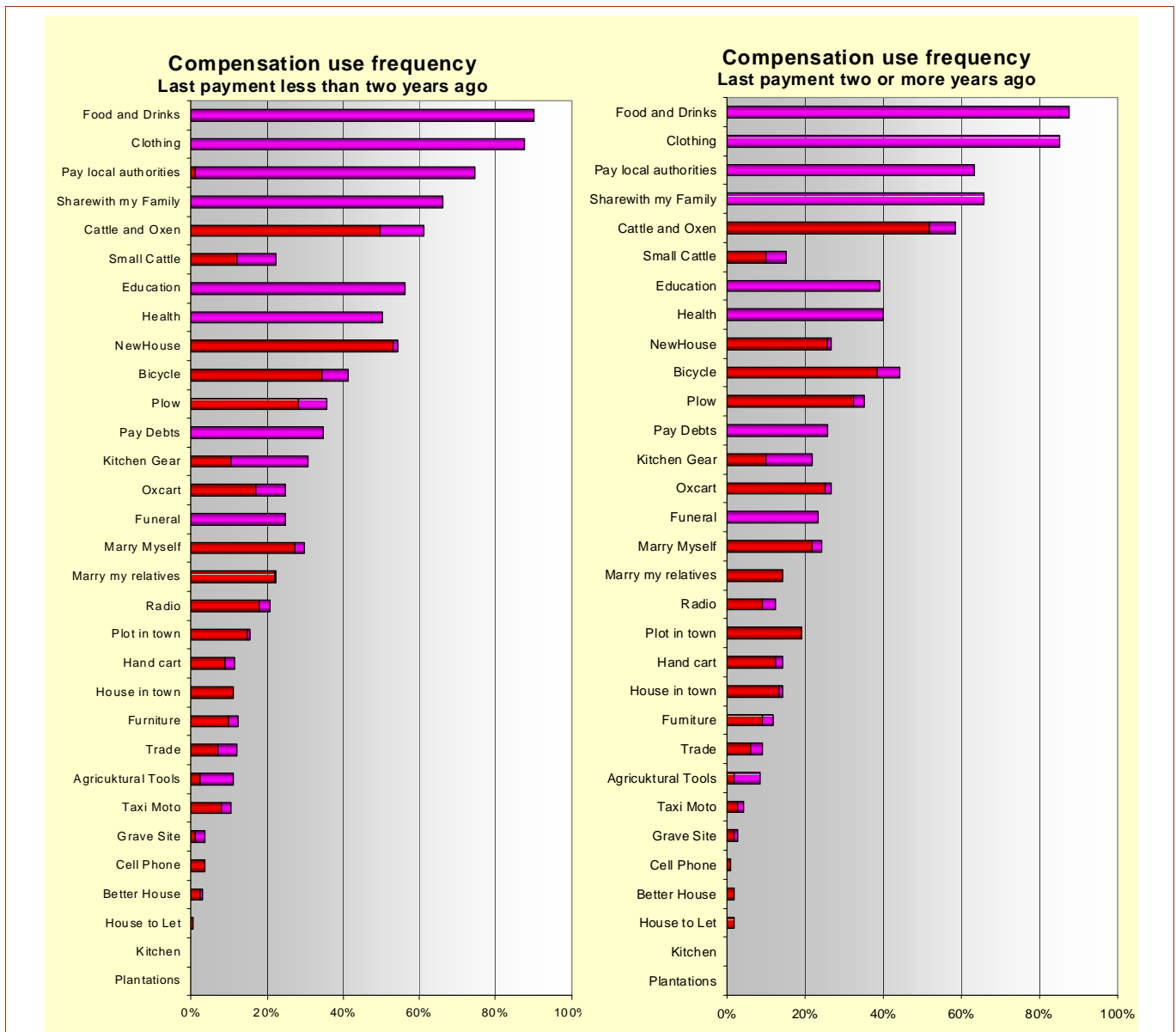


Figure 4-5 – Use of compensation money and assets remaining at the time of survey among those who had received compensation during the last two years (n=201), compared to those who had received it earlier (n=120) (% of households reporting expenditure of compensation on a given article)

¹⁸ One of the principal reasons given for purchasing a house in Doba was to provide children with better access to secondary schooling, or to access better prospects of employment. The investment has social benefits as well as diversifying the household's asset base.

▪ **Improvement in housing**

Housing was the most visible item of improvement through the project. Traditional housing consists of small houses, typically with one room, built with mud bricks and thatched with straw. Roofing of such housing has to be repaired every year, while walls may last for about 5 years.

Not long before the project, missionaries had started promoting the use of fired bricks for building house walls, an idea that was widely accepted. Compensation money from the project has been widely used by households to upgrade to fired brick construction. Before the year 2000, there were almost no houses with fired bricks in the area. Subsequently the number of dwellings with such materials has surged in the OFDA, substantially due to the project.

According to information obtained during the village interviews, people were able to build a new house with two rooms for a sum of about 200 to 300 thousand FCFA. The average amount of compensation money received by affected, surveyed households was 1.9 million FCFA, meaning that a new house was eminently affordable to this group.

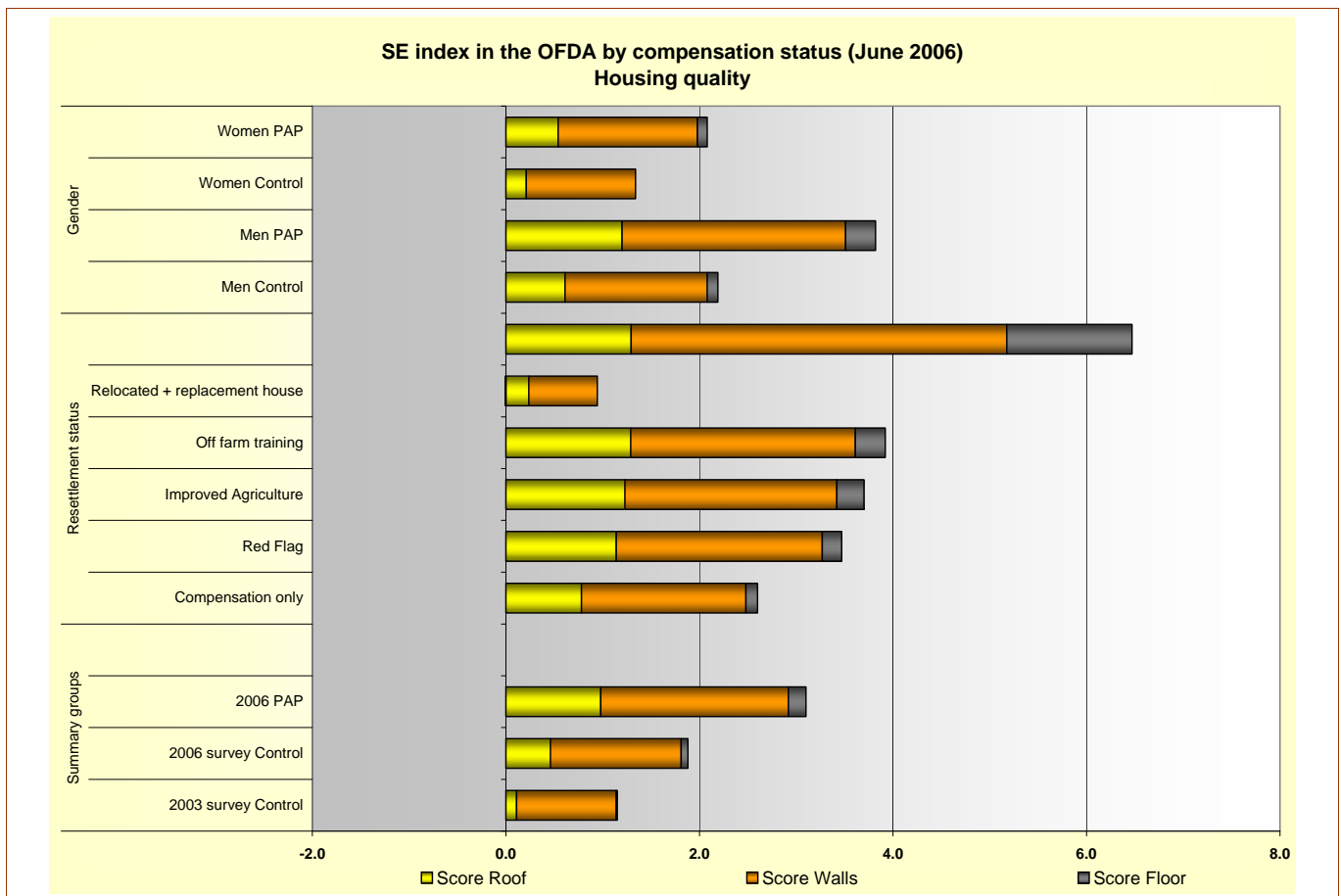


Figure 4-6 – SE index of the housing quality in the OFDA sample during the 2006 study The improved housing of the relocated people is mainly due to replacement housing of high quality built by the project, the index-value of this housing is 6.47.

As people became better used to the fired bricks, the technology for brick making has improved. Initially, fired bricks were produced with the same size as mud bricks, but it was noted that such bricks did not bake well. More recently, the fired bricks have been made thinner, fired more efficiently and have proved to be more durable.

The counting of all homesteads in the surveyed villages shows that 20% of all houses had been built with compensation money and a further 7% using money earned through employment.

Figure 4-6 shows how housing in the OFDA has improved, not only among project affected people, but also in the control groups of 2003 and 2006. Physically displaced people that were provided with a replacement house by the project, automatically got a much better score as such houses have a value

of 10¹⁹. In fact more than 50% of the compensated people now have a house with a tin roof, and walls of fired bricks.

▪ **Increased ownership of household furniture and equipment**

Various assets can improve living conditions for a household. Examples include furniture, typically simple leisure seats made with surplus wood from the project and sold for less than 5,000 FCFA; bedding; as well as radios and mobile phones. The latter keep people in contact with the outside world. Cattle, bicycles, plows, hand and oxcarts, cereal mills and sowing machines help people to produce more or to reduce the effort required for production.

Purchase of such equipment may have been financed through compensation, through grants associated with agricultural and off farm training or wages from employment. Figure 4-7 shows that compensation was a far more important in enabling households to increase material possessions than wages from employment.

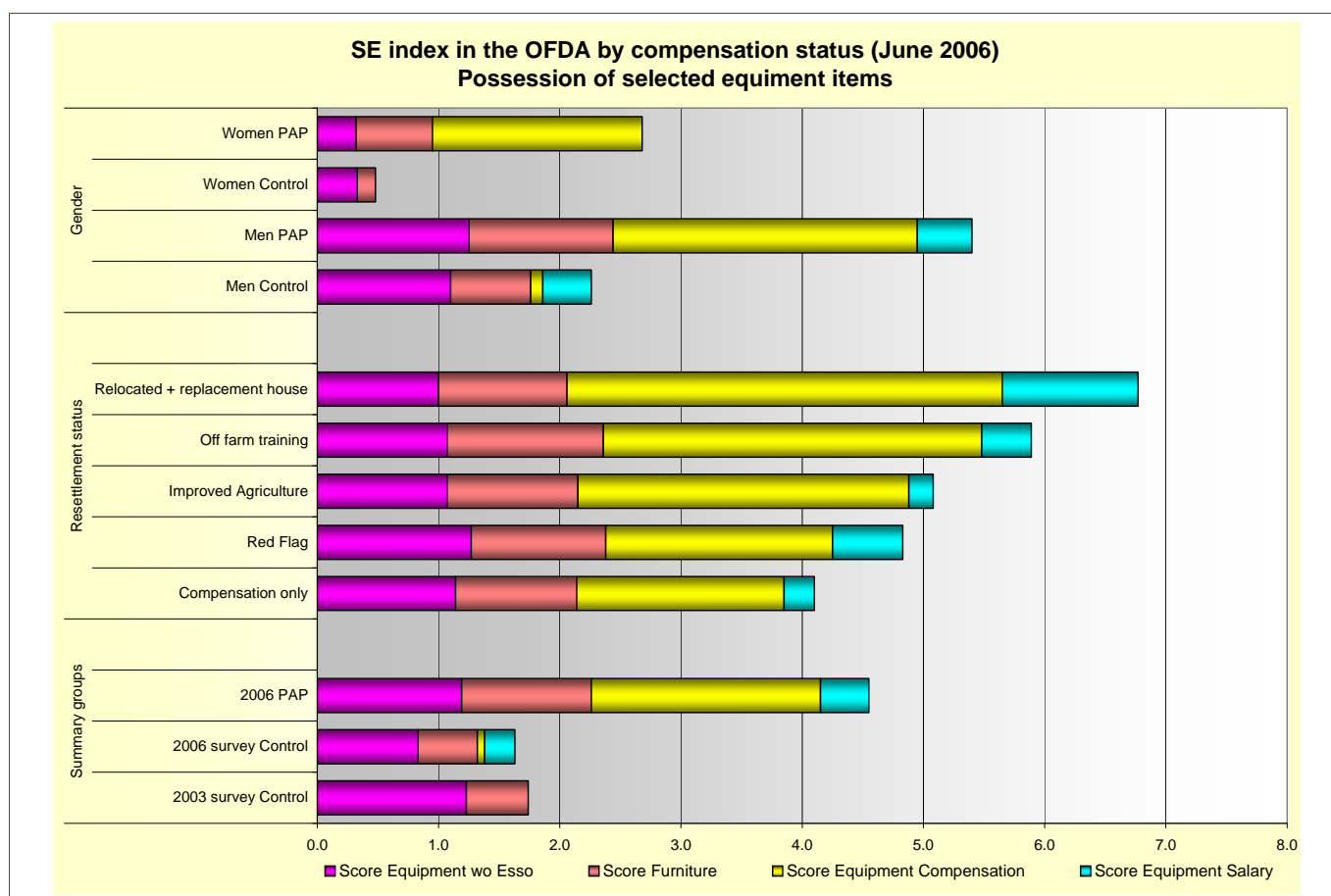


Figure 4-7 – SE index of the equipment divided in three categories: (i) paid without project money, (ii) paid with compensation money or (iii) paid with employment money in the OFDA sample during the 2006 study.

Types of purchases made with compensation money are summarized in Table 4-12. All surveyed categories have improved their equipment. Uncompensated women are revealed as the poorest category, owning little furniture and limited equipment.

	2003 survey employment-compensation	2003 survey Control	2006 survey control	Compensation only	Red Flag	Improved Agriculture	Off farm training	Relocation + replacement house	All compensated
Cattle	67%	38%	28%	66%	65%	81%	77%	77%	67%
Bicycle	39%	29%	32%	58%	59%	72%	75%	65%	60%

¹⁹ The final score is lower than 10, as some people did not use the project provided house as their main house, but preferred living near their fields, and kept the Esso built house as a reserved house for later use.

	2003 survey employment- compensation	2003 survey Control	2006 survey control	Compen- sation only	Red Flag	Improved Agriculture	Off farm training	Relocation + replacement house	All compen- sated
Plow	37%	26%	14%	54%	45%	64%	63%	71%	51%
Radio	32%	15%	17%	33%	41%	39%	62%	53%	37%
Oxcart	19%	8%	3%	24%	27%	35%	27%	53%	26%
Handcart	5%	1%	3%	8%	13%	23%	15%	47%	11%
Motorbike	1%	0%	2%	4%	11%	8%	15%	18%	8%
Mobile Phone	0%	0%	1%	8%	9%	5%	15%	18%	9%
Sewing machine	--	--	4%	1%	7%	5%	19%	18%	4%
Trade or shop	--	--	2%	5%	10%	2%	9%	18%	7%
No items owned	13%	47%	53%	17%	17%	7%	3%	6%	11%
N=	539	630	109	83	71	83	68	17	322

Table 4-12 – Items owned in the 2003 OFDA survey and the 2006 RAP by project affected and unaffected people.

Most affected people already had better and more equipment than the control group, and invested a significant part of their money in productive items. Cattle ownership reported by 38% of the control households in 2003, had fallen to 28% in 2006. Sixty-seven percent of compensated households and 80% of the households receiving training reported owning cattle. The fact that both “improved agriculture” and “off-farm training” groups now have a very high rate of cattle possession shows another benefit of project compensation.

Cattle were already a favored investment item by the time of the 2003 survey. In an environment without banking facilities and where holding large sums of cash is risky, cattle are regarded as form of household saving as well as having other productive uses²⁰. In the OFDA, they have also proved a risky investment. Many villagers reported losing some or all of their cattle due to disease. Survey results for Béro revealed that only 26 out of 44 acquired head of cattle were still alive. This is a 40% loss.

Since 2003, other items have become favorites: for the agricultural work. These include plows, and oxcarts. For personal transport, bicycles and more recently motorbikes²¹ have become a popular investment.



Motorbikes (left) and bicycles (right), usually paid with compensation money, are now increasingly present in the area. Their role as a means of transport or a way of earning money by renting their services as taxis is not negligible.

²⁰ Appendix B “Human Environment” of the project Environmental Assessment indicates that in 1997, the price of an oxcart was about 8 years of average household income, and the value of a plow 2 years of income.

²¹ In the last few years, very cheap Chinese and Korean small motorbikes have become available. These are sometimes bought when compensation is received. They enable some income to be earned as a “motor taxi”, transporting people. A commonly expressed view of consulted people was that most motorbikes are rapidly resold because their owners lack sufficient money to meet recurrent costs such as for petrol and repairs. However, this is not supported by the survey which shows no difference in motorbike ownership between those who had recently been paid compensation (10%) and those who received it more than two years ago (10%).

Cell phones are a new item, popular since the end of 2003. Those who had employment were most likely to own them. These people had acquired their phones either with a project salary, or as a result of their attending off farm training at a regional centre. In the latter case, mobile phones enabled the off-farm trainees to remain in contact with their families.

▪ *Project Impacts on health*

The GEPFE 2003 survey identified health issues are a major problem. The 2006 survey showed that health indicators have not significantly improved. Figure 4-18 shows the data and their impact on the overall index.

▪ **General health**

During the initial phases of the project, Esso had distributed bed nets in communities. In 2003, about 90% of the families reported possessing one. In 2006 only 20% still had bed nets, half of which had been bought with households' own money.

Latrines remained extremely rare, present only in replacement houses constructed by Esso.

More people reported that they had had access to modern health care (61% in 2003, and 72% in 2006). Only uncompensated women had a much lower score because they had rarely visited official health posts.

▪ **Child health**

All indicators of children's health were worse in 2006 than in 2003. Part of the explanation may be that the questions were asked in different ways, or respondents were endeavouring to paint the bleakest picture for the project. This seems unlikely to have been the case. Reported occurrences of diarrhoea (65% in 2006 compared to 42% in 2003), fever (55% compared to 45% in 2003) and skin diseases (57% compared to 17% in 2003) were all higher. Reported respiratory problems had declined - simple coughing by 34% and rapid coughing by 9%.

The 2006 survey revealed a greatly increased prevalence of skin disease compared to 2003.



This beautiful young baby is carried by his elder brother, but unfortunately other young children suffer from malnutrition and infant mortality remains high in the area.

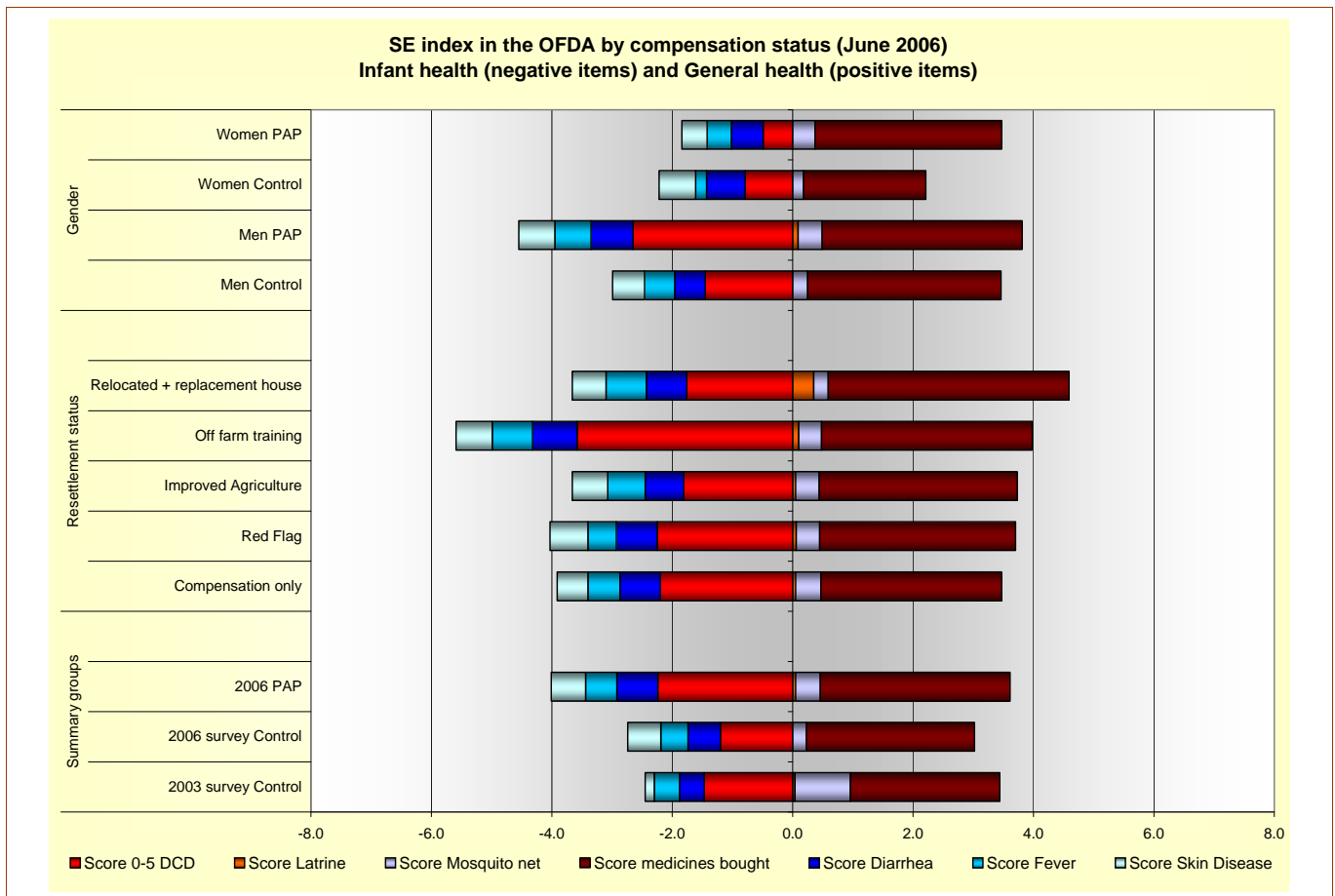


Figure 4-8. – Index of general health related positive indices and infant diseases and mortality (negative impact) in the OFDA sample during the 2006 study.

Child mortality still remains very common in the OFDA. Survey data show that, of the people who died during the 12 months preceding the survey, the average age at death was 11.0 years. 74% of the deceased were infants less than five years old. These results show a deterioration since the 2003 survey, when the average age at death in the OFDA was 13.1 years, and the proportion of infants was 67%.

▪ **Project impact**

The impact of the project on health cannot be discerned from the index. The project constructed a new health clinic in Kome and is refurbishing another in Miandoum. The extra money that compensated individuals have available, can and has been used to access better health care. There was a coincident reported higher attendance for modern health care amongst compensation recipients. Overall, the low scores in the index point to a critical need for ongoing attention to community health in the OFDA.



Modern classroom in one of the schools built by Esso. The children were all on vacation during the survey period.

▪ *Project Impacts on Education*

In the 19 surveyed villages, the project had built 12 schools. None of these schools had enough qualified teachers. Three schools had no qualified teacher. Ten schools had qualified government-paid teachers assisted by 37 local untrained teachers. The latter were paid (irregularly) between 5 and 10 thousand FCFA per month. The presence of “voluntary teachers” is common in Chad. Though they receive once or twice per year some training in the canton capital, but they do usually not have the required level for providing good quality education.

The enrolment of children in education has progressed significantly since 2003. It should be noted, however, that 14% of school-age children (6 to 15 years) (defined as 6-14 years), still don't attend school but households where none of the children attend have become rare. In 2003, 19% of the households reported having no children attending school. In 2006, this figure had reduced to 3.5%. Access to secondary education also improved significantly with the figure of 9% of the households reporting having children attending secondary school in 2003 rising to 23% in 2006.

As a consequence, the education component of the index rose from 0.8 to 1.26 in the 2003-06 period.

▪ *Quality of drinking water and access to fish and meat*

▪ **Water consumption**

Among the items requested by the villages for community compensation, improved water was the most common choice (along with requests for new schools). In the surveyed villages, 28% of the population now drink water from a drilled well, 70% from a traditional well and 5% drink river water. Compared to 2003, when only 4% had access to potentially clean drinking water, some progress has been made.

▪ **Fish and meat consumption**

Access to fish and meat depends mostly on money in the community. These items are only regularly available in the village when vendors know that people have money to buy them, with the exception of locally caught fish. In 2003, during the project construction period, 55% of the households reported consumption of fish and meat, 9% of which was locally caught fish and bush meat. In 2006, 52% of the households reported fish or meat consumption, 5% of which was locally caught bush meat and fish.

One can conclude that, in spite of the end of the construction employment, consumption of bought meat and fish has remained relatively stable, while consumption of locally produced fish and bush meat has diminished.

▪ *Project Impacts on income*

No detailed historical income or expenditures data was available for the OFDA area. The 2003 GEPFE survey of the OFDA measured income through indices that are closely related to the availability of direct income i.e. the presence of regular income through salary, retirement or outside help; the participation in rotating saving groups; and the sale or income of more than 100,000 FCFA or at banks or through agriculture, commerce, crafts, and wages. Problems with estimating the exact amount of income are linked to a common reluctance to give exact numbers (for salaries, compensation), imprecise knowledge about actual income (for regular trade) or of the contributions of small trading to the household revenues. In this context, an income index based on few elements is probably as reliable as other approaches.

The 2006 survey included however a section where interviewees were asked to explain how they earned money and how they spent it. These results are described in the next section.

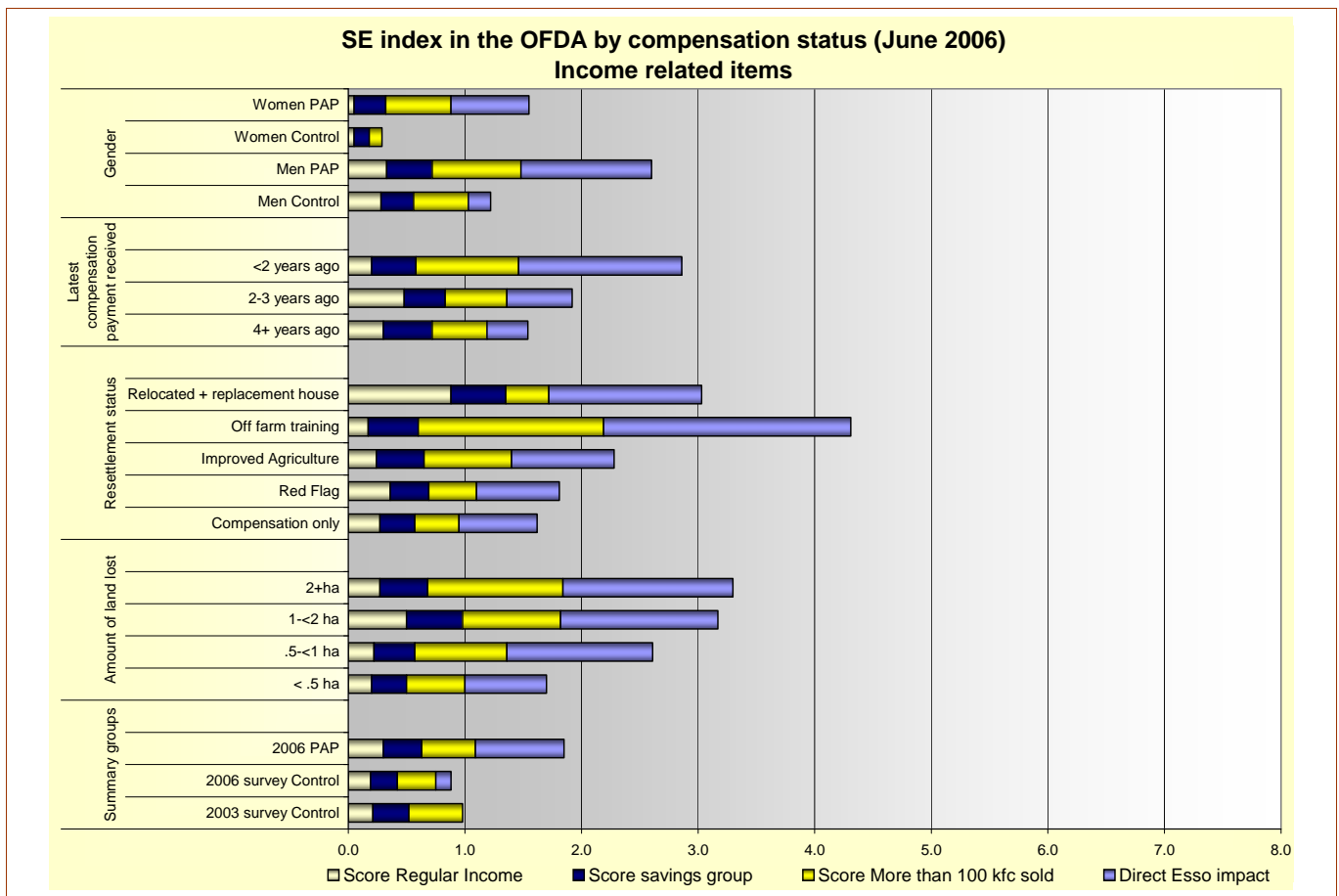


Figure 4-9. – SE index of the income related indices in the OFDA sample during the 2006 study.

Figure 4-9 shows the impact of the various sources of income on the socio-economic index. The impact of direct project income on the index (the outermost light blue section of the bars) is clear. Most of this income is temporary. Without the temporary project income, compensated families, and those who have lost more land, have a higher score from their project-independent income, but it is still very low. In fact, the majority of project affected households do not have a source of project independent income of more than 100 FCFA. Compared to uncompensated male-headed households, the income index based on permanent sources of compensated male headed households is about 40% higher. The non-project related income indices (the lower three sections of the bars) diminishes only slightly with the duration of the last payment.

The conclusion is that, though the compensation has not replaced other sources of monetary income, its sustainable effect on the local community has been limited.

Project employment as a sustainable alternative for monetary income in the village has not been achieved. Few people in the OFDA had project jobs. In the sample population: 4% of the households

in the 19 surveyed villages had a permanent job. 0.5% had a temporary job at the time of survey. For comparison, during the construction period, the 2003 survey found that 15% of surveyed OFDA households had at least one member with a project job.

▪ *Monetary Income and Expenditures*

Income and expenditures in this section concern only cash income. Self-consumed production could not be evaluated in the time available for the study.

In spite of the difficulties encountered in obtaining reliable data about income and expenditures, the survey has made an effort to gather at least some information about the major categories of household income and expenditure. The study focused on the principal cash transactions conducted by households over a year.

Traditionally, in the OFDA, part of the harvest is bagged and sold wholesale, either directly in the period after the harvest, or kept at home for sale when the prices go up during the pre-harvest rainy season. Such wholesale trade is in general carried out by men, and as there are typically a small number of transactions involving relatively large sums by local standards, such income is generally well remembered.

Another part of household trade is the market, which all women attend at least once a week. Women sell one or two *coros*²² in the markets in order to buy salt and smoked fish. They also buy ingredients for brewing beer such as cereals when necessary. Beer brewing and alcohol distillation are another important source of income for women, especially for widows and unmarried women. Incomes and expenditures from these sources are difficult to quantify. The EMP asserts that through these economic and small trading activities, women earn half the families income. Individual trades are small but provide a steady income to meet daily and weekly expenses (EMP, Human Environment Appendix B, Sect. 5.1.1).

Similar difficulties of quantification are encountered with fishermen²³ and slightly less so with traders who easily confuse gross income with net profits.

The survey chose to focus its attention on the most important categories of income and expenditure. Information about agricultural income was asked in two steps: (i) "*Did you grow/buy/sell this crop during the preceding year?*" and (ii) "*How much did you buy/sell during the preceding year?*"

The average total annual income reported, excluding Esso income, was 123,000 FCFA and expenditures were 175,000 FCFA per family. The fact that expenditures exceed income indicates that either income was under-reported or expenditures over-reported²⁴.

Aggregate Income (sum of income of all survey households) – for the total sample, agriculture (including animal husbandry) provides 32% of the cash income, followed by crafts (24%), trade (19%) and drinks (12%). Fishing also provides about 5% of aggregate income.

Aggregate Expenditures (sum of all expenditures of all surveyed households) – clothing appears, quite surprisingly, as the major expenditure item, followed by health, housing and food stuffs. Weddings and social activities take up another 16%. Most expenses for housing and weddings were paid by either compensation or salaries and are not included in the subsequent discussion.

²² Coros are pots of about 2.5 kg that are a standard unit of measure in local markets.

²³ A typical reply may be "When I fish I may get 1,000 FCFA". To find out how many times per year somebody goes fishing and how often he receive 1,000 FCFA is difficult to ascertain.

²⁴ It appears respondents in reporting income were able to distinguish Esso-derived components. Unsurprisingly, in reporting expenditure, it was not possible for them to distinguish whether expenditure came from Esso income or non-Esso income.

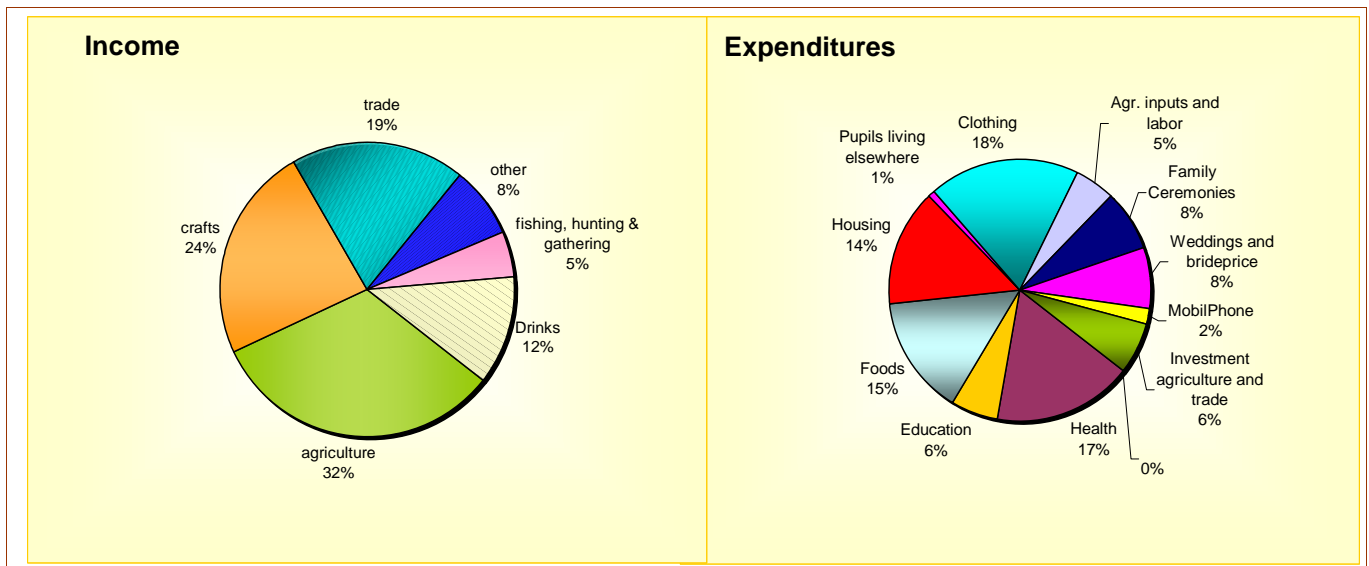


Figure 4-10. – Breakdown of aggregate income and expenditure categories (all households) in the OFDA sample during the 2006 study (excluding direct Esso income). The total aggregate income in the surveyed sample is 123,000 FCFA/household, the aggregate expenditures 175.000 FCFA/household.

▪ **Compensation**

43% of the compensated people interviewed had received compensation during the preceding 12 months for an average amount of 820 KFCFA, or about 7 times the amount of income of all other sources together. These sums have been paid at different times, and probably some of their agricultural production had already been sold by then. Information on project revenue proved to be highly unreliable. 98 people reported during the interview that they had received compensation recently. In fact, project records show that 27 of these 98 had not received compensation, while 53 of those who had not reported compensation, had received compensation. The total of inaccurate responses to this question was thus 80 out of 300 compensated households!

▪ **Expenditures**

Expenses as shown in Figure 4-11 vary in an expected way, in a situation where direct project payment is still responsible for most of the money that circulates in the area.

Control groups and gender – among the control groups, women have only half of the expenses of men, but their expenses increase less when receiving compensation than the other categories.

Compensation category – there exists a gradual rise in expenditure from households receiving compensation only to the group who received off-farm training. It is noted that housing and wedding costs are highest amongst those groups who received most compensation. Except among women, expenditure on clothing is high in all categories.

*Duration since last compensation payment*²⁵ – expenditures diminish rapidly but remain higher than the control group, even after two years. Typical expenditures during the first year include investment in housing, weddings/ payments of 'bride price' and other family ceremonies. During the second year, expenditures for food remain high.

²⁵ For this graph only, as last compensation payment has been split into last year and 1 year ago.

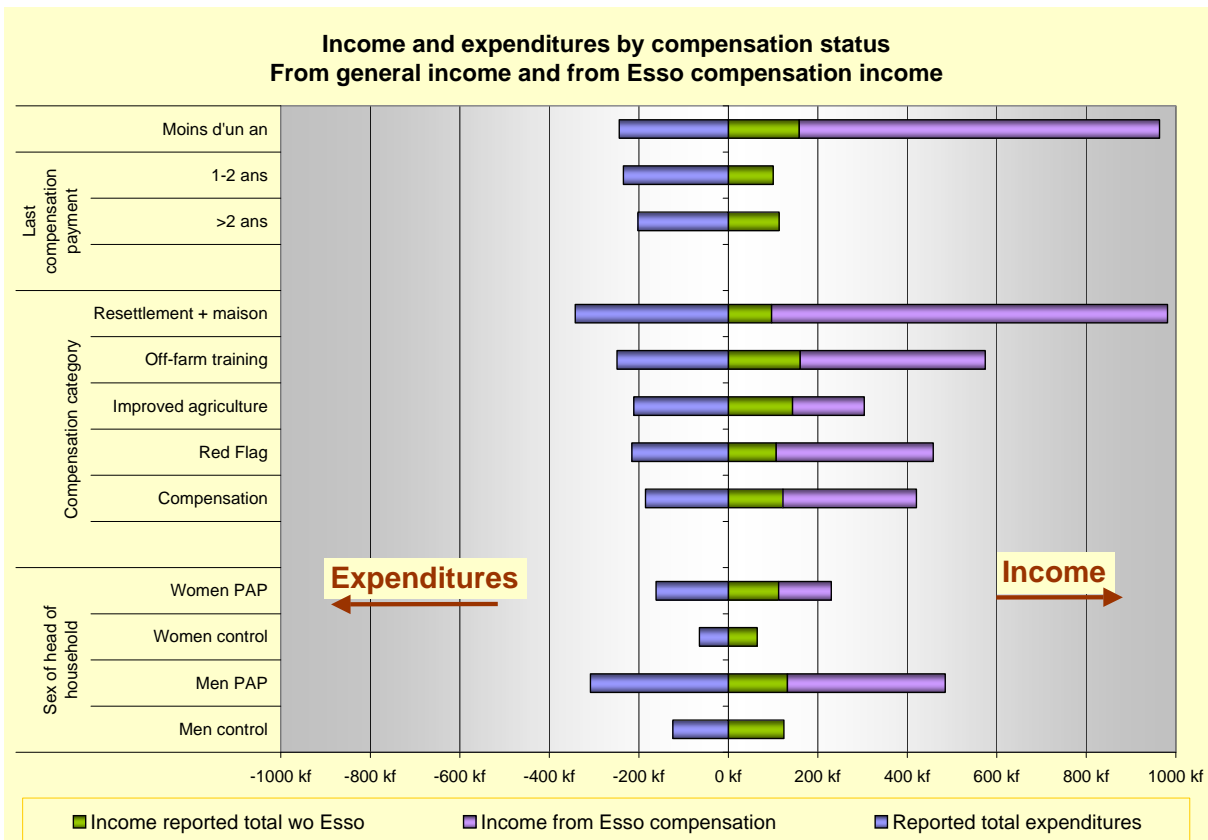


Figure 4-11. – Balance of income and expenditures by compensation status

▪ *Balance of Income and Expenditures*

Income and expenditure levels match for the control groups (Figure 4-11). They are around 120 KF for men and 65 KF for women. For all categories of project affected people, expenditures are much higher than the income drawn from regular non-Esso activities. This indicates Esso paid compensation (and savings based on compensation received from earlier years) supports the increased expenditure.

Gender – reported incomes and expenditures of control households and project affected households are much lower for women-headed households than for men. This is partly explained by the smaller size of women’s households (3.6 and 5.5 for women’s control and project affected households respectively, and 7.6 and 9.9 for men-headed control and project affected households).

Compensation only and red flagged – in these two categories, non-Esso expenditures are much higher than non-Esso income. When compensation is considered, both categories have a clear surplus.

Improved agriculture – non-Esso income and expenditure is quite close for the compensation only categories. Some people who had already received their 500 KFCFA grant for farming had included at least some of this money in their expenditure. In many cases, the grant had not yet been received because the training was not finished, or had only been received recently so that it had not yet been able to generate project-independent income²⁶. More time has to pass to see if those who received agricultural training have effectively improved their agriculture.

Off-farm training – though off-farm trainees had the highest non-Esso revenue of all groups, this income is insufficient to pay for all their expenditures. However, as almost half of the off-farm training beneficiaries were still in training, they had significant Esso income. There are two reasons why recent Esso compensation is high in this group: (i) off-farm training has only recently become the most popular choice, and in this group only recently has the bulk of compensation been paid.

²⁶ Many people had received improved peanut seed, which they had used to grow peanuts and which had boosted their agricultural sales. Only after a few years it can be evaluated if such behavior continues, and leads to higher agricultural sales.

Resettlement – resettlement took mainly place around Béro where most of the new well pads have been drilled. Most compensation was paid within the preceding year.

▪ **Conclusion**

The economy in the area is still very much influenced by the project through compensation payments and allowances paid off-farm training. These are relatively short-term and not sustainable income sources. This money is circulating in the villages, and is used for construction, drinks, family ceremonies, weddings and food. It has multiplier benefits to the local economy that go beyond the initial compensation payment. With perhaps more than half of the money circulating in the area originating from temporary sources, the local economy is likely to significantly contract during the next two years. A positive finding is that on average households are surviving without resorting to increased purchase of food, with only about 15% of household budgets being used to purchase food items.

4.6 Opinions about the Compensation Process

Besides information about use of compensation, opinions were sought about individual’s experience of the compensation process. A summary of the main results is presented in Figure 5-5.

▪ **Cash and in-kind compensation**

Figure 5.5 shows that most people only received compensation as cash. In-kind compensation received in the form of bicycles, ploughs, ox carts, or aluminum roofing sheets were accepted by only 20% of the recipients. Almost half of the respondents (42%) reported that no in-kind compensation had been offered to them. More than 20% regretted the absence of in-kind compensation²⁷, while a few that had chosen in-kind regretted it. During village meetings, problems with delivery delays, price and quality of the project provided materials were raised.

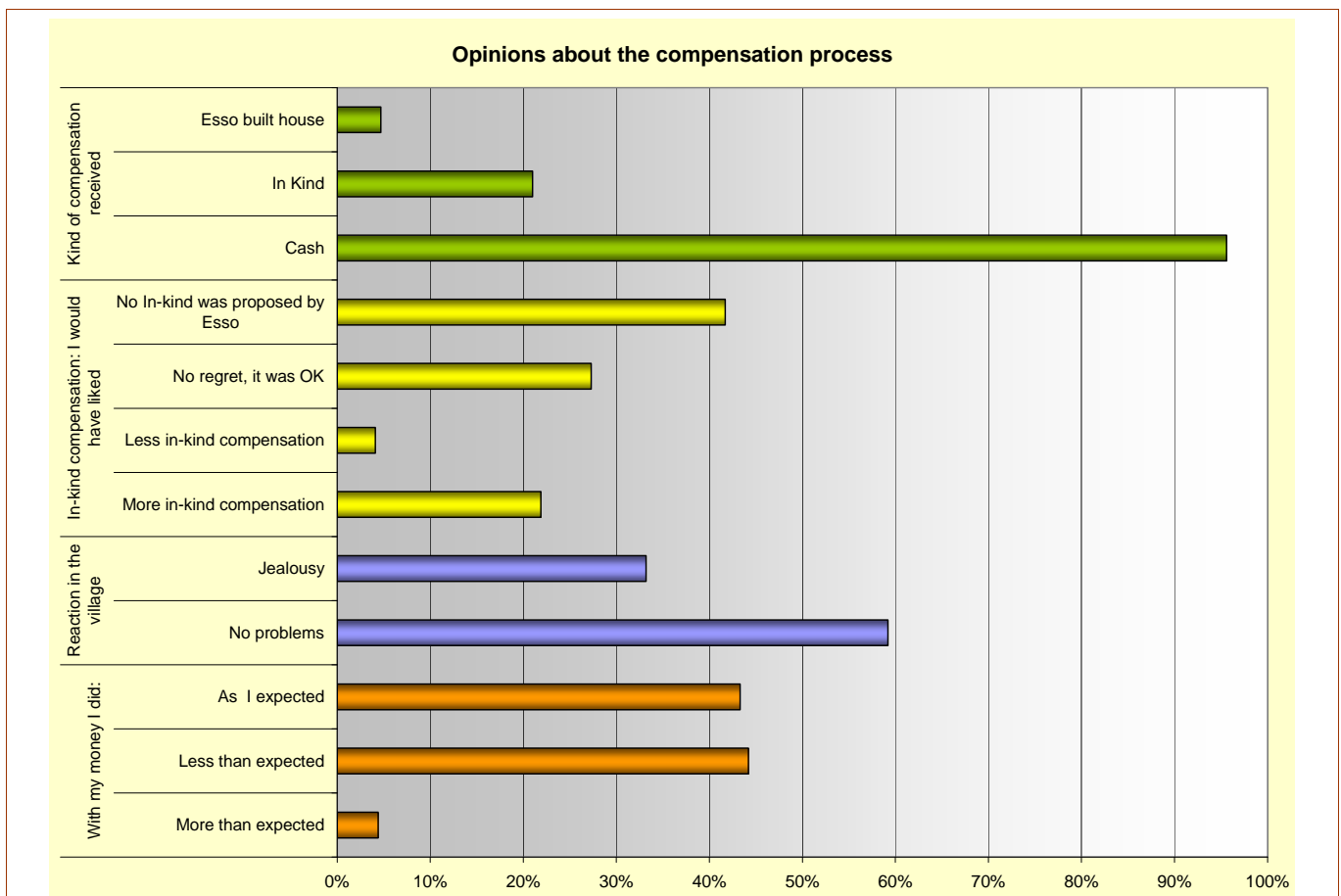


Figure 4-5 – Opinions about the compensation process and its impact on the present economic situation of the household.

²⁷ In-kind compensation is officially part of the CCRP. Section 2.4.3 of the CCRP indicates that “*compensation is available as cash compensation or in-kind compensation*”, and explains how the project has incited people to opt for in-kind compensation.

▪ **Reaction in the village**

One third of the compensation recipients who replied to the questionnaire indicated that they had experienced jealousy from others in the village. For those who reported no such jealousy, the answer may have reflected a politically correct view as often neighbours insisted that they sat in on interviews. This in its self indicated the probable presence of such jealousy.

▪ **Perceived success of use of compensation money**

The respondents that reported having achieved less than what they had thought they could achieve with the compensation money they received were slightly more numerous than those who had been satisfied with the way they had spent their money. Less than 10% said that they had achieved more with the money than they had planned.

4.7 General situation of the household since I received compensation

Since receiving compensation, following the loss of agricultural land, opinions of households were quite divided about how they had fared. About 35% thought that they were better off. About 25% thought they were worse off and 30% reported no change in their circumstances.

A category that more frequently reported their household circumstances had deteriorated were women (34% compared to 23% for men). This confirms the observation that women, who generally started with less land, have more difficulty in finding replacement land than men. A second category that reported their household circumstances had deteriorated were those who participated in off-farm training: (34%, compared to 25% in general). Those who participated in improved agriculture or who had been physically displaced reported in average numbers that their household circumstances had improved or deteriorated.

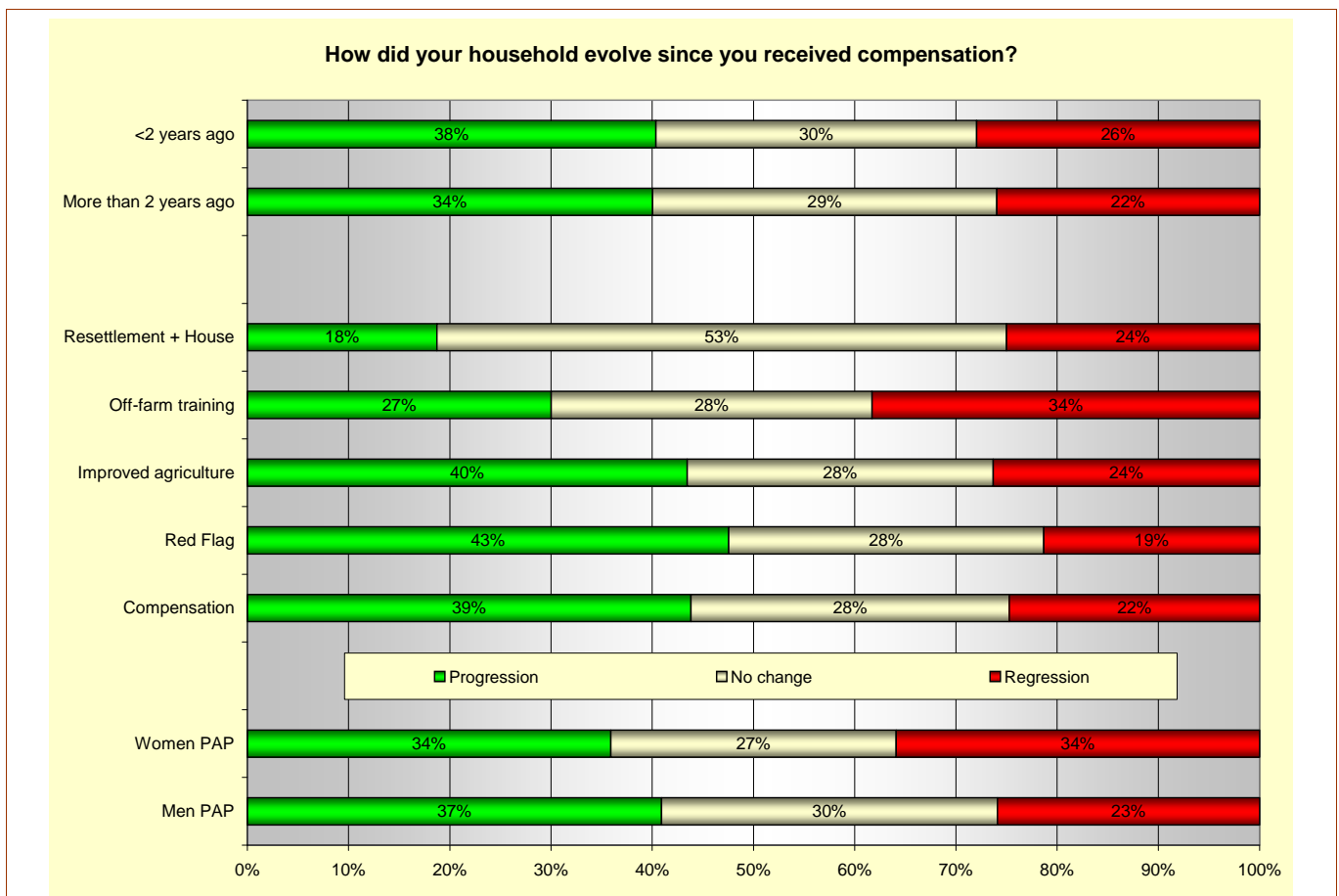


Figure 4-5 – Opinions about the impact of the compensation process on the present economic situation of the household.

- Respondents who considered their household better off purchased on average 7.2 items with their compensation, compared to those who reported “no change” or being “worse off” who purchased 5.3 and 4.3 items respectively. 13% of households reported having nothing left.
- Surprisingly, there was little correlation between whether a respondent considered their household better or worse off and either the amount of money received or the area of land lost.
- Figure 4.5 shows that those who received greatest resettlement assistance (those who were physically relocated, and those who received off-farm training), were more likely to consider that the economic circumstances of their household had stayed the same or deteriorated than other groups. These groups also represent those who experienced the greatest losses (houses, land area) as a result of the project.
- Respondents were more likely to consider their circumstances “better off” if they had used their compensation to purchase a new house, settle debts or buy furniture, agricultural tools, an ox or hand-cart, motor bike or bicycle. Respondents who had married a new wife were equally divided as to whether their household was better off or worse off. On the other hand, if a child had married the respondent was twice as likely as to consider his or her household circumstances as “better off” than not.
- Amongst respondents who considered they were worse off, 64% reported having achieved less with their compensation money than they had planned. Amongst “better off” respondents, only 29% considered they had achieved less with compensation than planned.

Conclusion: A respondent's perception as to whether his or her household was better or worse off was closely related to the way in which they have been able to spend and to invest their compensation money – not by how much compensation or assistance they had received from the project. Cash compensation or compensation and training did not appear to positively affect a household's perception of its wellbeing.

4.8 Vulnerable groups

Multivariate analysis of the socio-economic index data²⁸ shows that predictive factors for poverty are: small families, no polygamy and being a woman. Older men have higher scores and are thus less vulnerable. Older women have a lower score than men and are among the most vulnerable. This is mainly because these characteristics are related to each other. Younger women are generally married and not the head of a household. Most women heads of households are unmarried, elderly, and poor.

This Study's findings are consistent with the CRCP (Appendix B) which identifies the principal vulnerable groups in the project area as the poor, the sick, the aged, and small households with limited agricultural labour.

²⁸ Using a subset of variables related to possessions and income indicators, without taking into account direct Esso revenue.

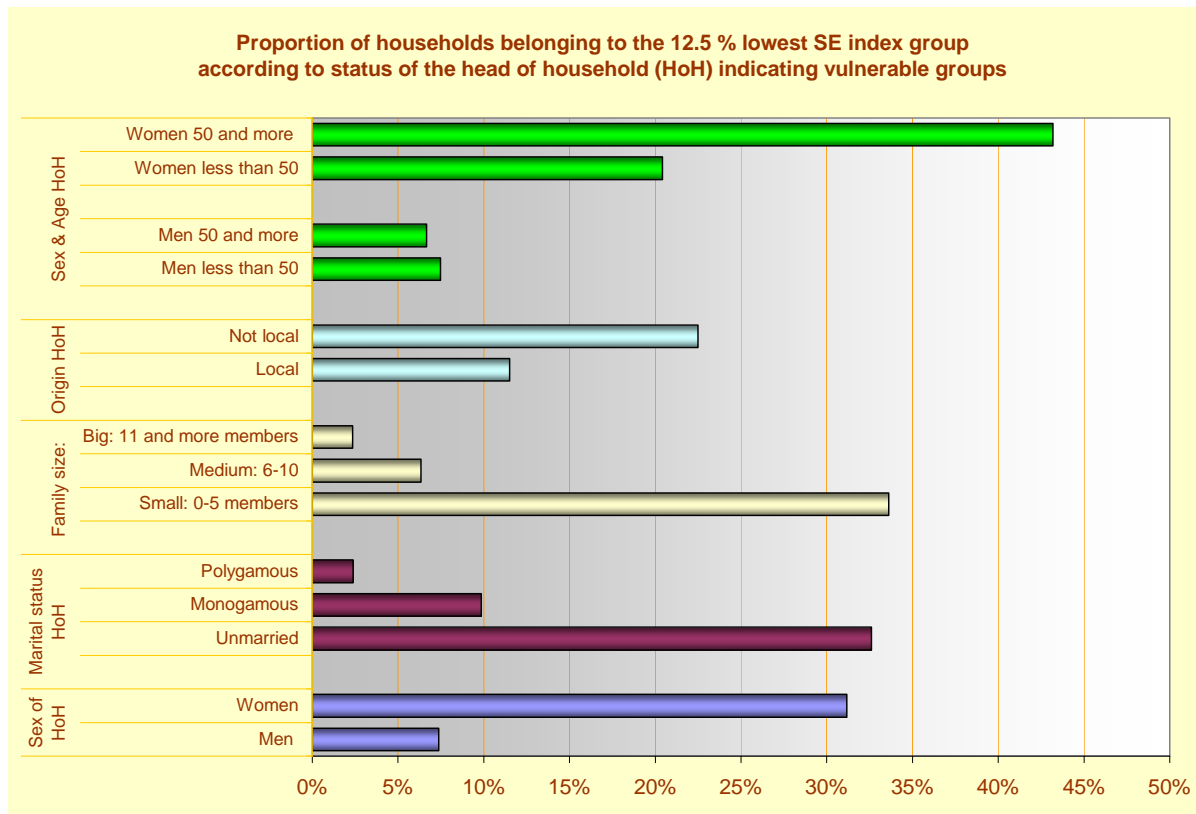


Figure 4-5 – Relative presence of vulnerable groups according to the status of the Head of Household (HoH) and the family size.

1. Women who live independently are vulnerable for multiple reasons:

- Women appear to have received less often compensation than men. This may be because they own less land, but also because other may have introduced themselves as the effective land owners.
- Women own less land to start with, and have limited reserve land. Any loss of land puts them in a situation of unsustainable livelihood. The present flagging system of the project has been adequately identifies such women but there is no effective internal monitoring to check the effectiveness of livelihood restoration measures.
- Women who live in the village of their parents, will continue to have access to land of their family after becoming widows, but women who married into another village will have competition from the husband’s relatives in traditional access to land.

2. People who use land borrowed from others. As compensation is only paid to the traditional land user, who is in charge of sharing the compensation, there is no guarantee that the land user receives money from the traditional “land owner”, or remains in a viable situation.

4.9 Conclusion

PAPs received an average of 1.9 million FCFA in compensation since the project commenced. Some of this money has been invested in housing, other money in agriculture and tools, and the remaining money has mostly been spent on consumer items. The time available for the survey has not permitted to investigate with precision the individual balance of money received from the project and how it was spent. However, some general observations can be made based on the data gathered on housing and possessions:

- More than half of the households spent money on housing, which in the local context means a house of 200-400 thousand FCFA.

- From the above data, the cost of the items invested in cattle, tools and transportation can be estimated as between 200 and 300 thousand FCFA for each project affected person.

The average total invested money based on these items, is probably in the order of 500,000 FCFA or about 25% of the total sum received. This implies that more than half or maybe three quarters of the compensation received has been spent on unproductive uses. This is consistent with anecdotal information that suggest substantial amounts have been spent on alcohol, bride purchase and

1. The analysis of the composite socioeconomic index has also to take into account that an important influx of project money is still taking place through ongoing compensation payments and living allowances associated with training. Without this impact the average index would be about 10% lower.
2. The index has risen through investment of PAPs in housing and various productive assets. This investment is probably in the order of about 25% of the money received.
3. In general terms, access to education and to health care has improved.
4. Infant mortality and infant health have not improved since the 2003 study. There are no discernible differences between the project affected and unaffected populations.
5. All categories of respondents complained about having insufficient land to meet their household needs, although to varying degrees. About 40% of control households (those unaffected by the project) complained about insufficient land. 60-70% of those who received cash compensation only (low to moderately affected households) and 80% of those who received compensation plus training (more seriously affected) said they had insufficient land. The rate of complaint was directly related to the level of land loss experienced as a result of the project.
6. The opinion on the effect of the project on the PAPs was mitigated: globally one third thought they had progressed, one third reported no change, and one third that they had regressed. People who had received resettlement assistance, especially off-farm training were less positive than those who had no received.

The rapidly changing economic and cash situation for the households as shown by loss of land, followed by sums of compensation that are very high compared to pre-project income, and income from off-farm training, intensified use of fallow land may in the longer term appear as a boom which will probably bust. The present survey shows that people can cope so far with the negative impact of the project, but have not yet been able to replace their former food production by a new sustainable replacement model.

5. Agricultural Training and Off-farm Training

The project found a total of 338 persons eligible for improved agriculture and off-farm training. Various intakes of training have occurred in 2001, 2002 and regularly from 2003 onwards. The agricultural training sessions generally took place within villages with sessions lasting one to several days, with regular excursions to other villages in order for villagers to learn from other's experiences.

The aim of the survey of beneficiaries of agricultural training (AA) and off-farm training (off-farm training) was to evaluate the impact of such training on the livelihood of the affected households. Women (81%) predominate in improved agriculture training while a majority of men (55%) attended off-farm training.

Sex	Improved agriculture		Off-farm training		Total	
	%	n=	%	n=	%	n=
Female	81%	47	19%	11	100%	58
Male	45%	45	55%	56	100%	101
Total	58%	92	42%	67	100%	159

Table 5-1 – Gender: Participation of men and women in the “improved agriculture” and “off-farm” training

In total, 147 trainees were interviewed for the present study (see Table 5-2).

5.1 Training schedule

Of the surveyed off-farm trainees, 36% were still in training and another 36% had finished their training within the last year. The situation was similar for improved agriculture trainees. 10% were still in training and 59% had finished less than one year ago. As agricultural training took place within villages through short sessions conducted over an extended period, more people had already put into practice some of their training than those undertaking off-farm training.

The sustainability of benefits resulting from training cannot yet be established. Most trainees who had finished their course had received their off-farm training tools. Many agricultural trainees had yet to receive their grant (22%)¹, or had not yet made their choice of equipment.

Finished Training	Improved agriculture		Off-farm training		Total	
	%	n=	%	n=	%	n=
2001	0%		2%	1	1%	1
2003	8%	7	0%		4%	7
2004	8%	7	23%	15	14%	22
2005	43%	36	28%	18	34%	54
2006	28%	23	9%	6	18%	29
In training	12%	10	38%	24	21%	34
Total	100%	83	100%	64	100%	147

Table 5-2 – Year of completion of the “improved agriculture” and “off-farm” trainings

Both for improved agriculture and for the off-farm training, the trainees were generally satisfied with the quality of the training they received, with only about 10% dissatisfied. The dissatisfied people belonged to three categories: (i) those who had not been able to have the training of their choice; (ii) those persons (n=6), who had chosen ‘welding’ or ‘milling’ on the assumption that they would receive welding equipment or a mill as part of their package, but whom were only given very simple blacksmith tools (the welders) or mill repairing tools; and, (iii) women (n=4) who had opted for ‘catering/domestic arts’ and were

¹ People reported delays of up to 2 years before they had received their tools. Recently the situation had improved, and most trainees had either received or refused their tools: (1) *Improved agriculture*. – Of the 17 farmers who had not received, 6 were still in training, and 5 had finished in 2006, Four people who had finished in 2005 and 1 from 2004 had not yet received their grant. (2) *Off-farm training*. – People had to wait up to two years before receiving their tools. Many had received tools during the last few months. People that had not yet received tools after OFT, were those who had refused tools that they thought did not match their initial expectations.]

given a diploma for a 12 month training course in Sarh, while in reality they received only 3-4 months training in Béro².

Quality of the training	Improved agriculture		Off-farm training		Total	
	%	N=	%	N=	%	N=
Good	72%	62	71%	36	72%	98
Average	17%	15	22%	11	19%	26
Bad	10%	9	8%	4	9%	13
Total	100%	86	100%	51	100%	137

Table 5-3 – Classification of the reported quality of the “improved agriculture” and “off-farm” trainings

The level of educational attainment of the OFDA population is not very high, partly due to the tumultuous conditions and several wars that Chad has experienced during the last 20 years. The level of training has been adapted to the aptitudes of affected people. This level was considered ‘easy’ or ‘acceptable’ by a majority of trainees, but one out of three participants in the improved agriculture courses thought that the training was ‘difficult’ with the standard set too high³. As more men than women participated in the off-farm training, it is possible that the pride of men would not allow such an admission.

Difficulty of the training	Improved agriculture		Off-farm training		Total	
	%	N=	%	N=	%	N=
Easy	39%	33	38%	19	39%	52
Average	30%	25	40%	20	34%	45
Difficult	31%	26	22%	11	28%	37
Total	100%	84	100%	50	100%	134

Table 5-4. – Classification of the reported difficulty of the “improved agriculture” and “off-farm” trainings.

5.2 Income from activities learned during the training

About 60% of the beneficiaries who had finished their agricultural training and off-farm training had been able to earn some money from their chosen activity: on average 29,000 FCFA through improved agriculture, and 45,000 through off-farm training. Such amounts correspond in local terms to the value of 2 to 3 bags of sorghum, at the price of 13,500 FCFA. This is equivalent to the yield of about one corde of poor land or ¼ corde of good land. This income represents only a fraction of what is needed to offset the land lost to the project. For example, those who had received off-farm training had lost on average 0.23 cordes per household member. The average household size of off-farm trainees is 11.5. The additional income achieved as a result of off-farm training would hardly feed one person out of the average household size of 11.5. The income from off-farm training effectively generates less than 10% of the income that would have been earned from the 2.65 cordes lost by an average sized household. Considered in these terms, off-farm training alone is not an adequate measure to restore incomes to pre-project levels.

Earned money though the training	Improved agriculture		Off-farm training		Total	
	%	N=	%	N=	%	N=
Earned money	59%	45	63%	24	60%	69
Average sum	29,000 FCFA	42	45,000 FCFA	23	35,000 FCFA	65
Total	100%	76	100%	38	100%	114

Table 5-5 – Proportion of people who had earned supplementary income and average amount of such income for “improved agriculture” and “off-farm” trainings.

² These women received short-term training in domestic crafts, but were given a training's certificate mentioning a 12-months training in Sarh. Obviously they felt cheated by this. According to Esso, this was caused by an error of the secretaries who established the certificate: the women had received the planned training but the wrong certificate.

³ Most farmers are illiterate and the techniques taught (making compost, kitchen gardens, different sowing techniques) difficult for them to understand and apply. Often they complained about the training being too short. Others that had not exactly received the training that they had asked also generally labeled the training as ‘difficult’ out of protest.



Competition with longtime traditional blacksmiths (as here in Béro) is not easy.

5.3 Use of the training

The table shows that most people use or have attempted to use to some extent the lessons learned during the training courses, especially the agricultural training, but overall the frequency of use is very low.

Off-farm training – among the off-farm training recipients, 10% said that they do not apply their training in any way, and 77% said that they seldom apply their training. However, a few off-farm trainees were already engaged in carpentry, masonry or tailoring before they started their training. These people reported that they were readily able to apply their training.

Improved agriculture – more people applied their training either seasonally or from time to time, but still 53% applied it only occasionally. For many, the reason was that they hadn't yet finished their training or they had not had the opportunity to apply it because the agricultural season was just starting. Some said they had not yet received their equipment. Many people chose to work in the group activities associated with training (gardening, making soap, making wine) rather than having the courage (or as they often explained, the lack of means) to apply the lessons on their own farm.

Applied the training	Improved agriculture		Off-farm training		Total	
	%	N=	%	N=	%	N=
Not applied	6%	5	10%	4	7%	9
Yes unspecified	26%	23	5%	2	19%	25
Seldom	53%	48	77%	30	60%	78
From time to time	3%	3	8%	3	5%	6
Seasonally	8%	7	0%	0	5%	7
Every day	4%	4	0%	0	3%	4
Total	100%	90	100%	39	100%	129

Table 5-6 – Reported frequency of application of the techniques and lessons learnt during the “improved agriculture” and “off-farm” trainings

The conclusion is that affected people are cautious about accepting and applying new knowledge, and that they prefer to experiment with new techniques in a group setting rather than on their own farms. There is a need for further training to give people the confidence to take techniques learnt on demonstration plots and to apply this in their everyday farming. Training needs to be applied over a long a period with regular reinforcement if people are to assimilate new ideas and sustainably change their cultivation practices.

5.4 Activities Undertaken with Improved Agricultural Training

The participants in the improved agricultural training had difficulty distinguishing the activities they performed with their group during and after the training, and also the activities they undertook individually during and after the training. More than two thirds of the respondents said that they had engaged in compost making and ploughing. There was clear interest in vegetable gardening, which was much appreciated in the villages near Doba (where there was an accessible market), and along the main rivers (with there was available water for irrigation), but people in villages not located near a river complained about a lack of water during the dry season.

Market gardening is obviously exposed to damage from marauding cattle. In Madjo, the people had built a sturdy fence around their garden and as a consequence their crops were probably safe. In Danmadja, all the fields had been destroyed by a passing herd of cattle (“without compensation”) and people were very disappointed.

the training	Group wise work	Plowing	Vegetable gardening	Compost making	Use of fertilizer	Use of improved seeds	Making soap	Making wine
% of replies	71%	71%	56%	65%	28%	56%	52%	59%
Number of replies	58	76	81	82	81	40	44	41

Table 5-7 – Reported application of specified farming and household techniques learnt during the “improved agriculture” training

Activities like soap and wine making were often cited as having been applied once or twice, “with the group” but much less individually. Many women complained about the lack of financial means to apply these techniques. Others, especially around Doba, complained about the lack of a market for their production as good soap sourced from Doba was readily available already in these locations.

5.5 Grants

The payment of grants (referred to as ‘credit’ in the CRCP) associated with training remained somewhat unclear. In some villages, people that were still in the middle of their training indicated that they had already received part of their grant and had started purchasing equipment with it. 78% of the participants in agricultural training declared that they had received all or part of their grant. There were still many complaints about late arrival of the grants, delays in delivery, and the insufficiency of the grant to buy the necessary agricultural equipment.

Typically, a complete set of agricultural equipment would mean a pair of oxen (250-300 KF), a plough (40 KF) , an oxcart (250 KF), a bicycle (40 KF), a wheelbarrow (15 KF), a peanut sheller (50KF) and a hand cart (50 KF) and various general agricultural tools. These have a total value of about 750 thousand francs. This is 50% more than the grants agricultural trainees are currently offered.

5.6 Tools

Tools received as part of each type of training were a source of widespread complaints. For the off-farm training, three issues were commonly cited:

(i) Poor quality of the tools provided (often witnessed by the Study team) and the choice of tools. Of 151 tools produced by surveyed households, 31 were found to be not operable. Sewing machines had broken down. Blowers used by black smiths were inefficient and prone to failure. Other tools were not sturdy enough for village daily use.

(ii) For some types of training (e.g. welding/blacksmithing and milling), the tools provided were far below the expectations of the trainees.

(iii) Long delays (up to two years) between the end of the training and the provision of tools which prevented trainees applying their knowledge or deriving any livelihood benefit.

Agricultural tools also suffered from being of poor quality or were insufficiently robust for village use. Numerous broken wheel barrows, spades and cultivation implements were paraded before the Study team. Many of these tools appeared more suitable for domestic gardening rather than commercial use.

Training in improved agriculture and in crafts is designed to provide people with improved and more diversified livelihood. The delays in delivery of tools and their poor quality left many trainees disillusioned and bitter. Trainees should be provided with good quality, industrial-grade tools.

5.7 Economic Opportunities: Presence of a Market

The presence of a market, and people with cash to pay for goods and services, are prerequisites for the success of off-farm training and deriving benefits from increased or more diverse agricultural production. Many disappointed off-farm trainees were encountered during the survey. It is clear that with the current state of economic development in the OFDA villages, off-farm training skills are most likely to enable households to modestly supplement their agricultural income, not fully replace it. That said, for younger and potentially more mobile trainees, their training may give them the opportunity to seek employment in regional centers and N'Djamena, now or in the future. Some other observations are as follows:

- Off-farm training does not appear to have resulted in many (if any) affected people being able to transition to full time off-farm employment. Opportunities for this outside of the project are very limited.
- Village economies need to develop considerably before there is widespread demand or capacity to pay for services thus opportunities even for micro-enterprise development or expansion are very limited. For example, people who received training as mechanics pointed out that there were very few motor cycles in villages and almost no other vehicles for them to service. Business opportunities were limited or near non-existent.
- Other trainees found that they were unable to compete with existing enterprises and craftsmen. Existing blacksmiths in two villages, Miandoum and Bero, had skills, experience and equipment well beyond those of off-farm trainees. Even they reported that with the current demand, they were able to make a living, but revenues were not sufficient for them to employ new trainees.
- Many off-farm trainees (e.g. mechanics and carpenters) were disappointed by the fact that their relatives and friends expected them to perform repairs for free, meaning they derived no income. Customary systems of exchange and obligation often still prevail over cash and market-based systems.
- A number of off-farm trainees took up kinds of training that they believed would help them gain employment with the Project (e.g. in welding, motor mechanics). These individuals were very disappointed and disillusioned when their expectations did not materialize. The project needs to be very careful to manage such expectations at the time training choices are made. In future, the project should pay greater attention to linking training to real demands e.g. project employment needs. This takes lead-time, planning and careful coordination with project recruitment and procurement teams.
- Market gardening in the villages near the town of Doba, where there is a regular market and demand for their crops, showed potential to flourish.
- Carpenters have difficulties finding clients, although they are able to supplement their income by transforming leftover wood from the project into simple furniture - chairs, small tables and improved beds⁴.
- House building will continue as long as the project continues to pay compensation. People are moving away from mud-brick and straw construction that required ongoing maintenance and replacement, to more durable fired-brick and iron roofed houses. However, the mid and long-term prospects of earning a living through these activities, once compensation flows cease, appear limited.
 1. Most of the house construction has reportedly been done by people who did not do training but who have become specialists thanks to the flow of compensation money.

⁴ GK was amazed to observe how much easier it was in 2006 compared with 2003 to find a seat and a table while doing the village interviews.

2. When the compensation payments will stop, the market will crumble
3. New houses are built more durably than the traditional ones, so there will be diminished demand for ongoing maintenance and replacement.

6 Evaluation of Resettlement Implementation

6.1 Resettlement Strategy

▪ Progress towards Achievement of CRCP Objectives

An evaluation of the project's progress towards achievement of the resettlement objectives defined in the EMP, Chad Portion, Volume 3 Chad Resettlement and Compensation Plan (CRCP, Sect. 1.2) is summarized in Table 6-1.

▪ CRCP Resettlement Strategy

The CRCP is premised on project land requirements affecting "...only a minor portion of an individual farmer's fields..." and in most cases, that individual's "...economic viability is not threatened..." (CRCP, Sect. 6.2 para 1). This premise was suitable for a pipeline project that typically only affects small portions of an individual's land holding and only for a relatively short construction period. For these circumstances, the compensation strategy adopted by the CRCP was appropriate. The CRCP strategy is not adequate to address the types of impact that result from permanent land acquisition for large fixed facilities, where individuals lose use of a large proportion or their entire land holding, permanently, such as is the case in the OFDA.

The CRCP does anticipate there will be some cases where project land requirements "...might affect all or a major portion of an individual's or household's holdings..." and, if they do not have enough land to remain economically viable, they will become "...eligible for resettlement as well as for replacement compensation for lost investments..." (CRCP, Sect. 6.2, para. 3). The CRCP estimates 60 – 150 households may become economically non-viable and advocates the primary mitigations in such cases should be (i) training in improved agricultural techniques with credit to buy related materials and equipment; or, (ii) off-farm training to develop trade or craft skills, with loans for tools or materials. Resettlement is proposed by the CRCP only as a last resort

The CRCP postulates that local people are well used to resettling and often do so in significant numbers, particularly where there is a scarcity of fertile land within reasonable distance of their original settlement¹. Accordingly, the CRCP describes a process based on traditional 'self-resettlement', placing much of the onus on affected individuals to decide whether or not to resettle, where to relocate to and to initiate their own negotiations for allocation of replacement land.

▪ Effectiveness of the CRCP Resettlement Strategy

The changed project scope arising from the OFDA well pad infill program has resulted in a far larger permanent land take than that estimated in the CRCP, with a greater number of households experiencing loss of a substantial proportion or all of their productive land. As noted in Section 4.3, of the estimated 1,640 project affected households, about 480 households (29%) lost use of 20-50% of their total land area and about 430 lost use of 50-100% of their total land area. These findings indicate substantially more than the 60-150 seriously affected households originally assumed in the CRCP.

Through interviews with affected people and village leaders, and through the results of the household survey, it is clear that self-resettlement has not occurred. Furthermore, very few households have been able to access replacement land to offset their losses to the project. Possible reasons for this include: (i) envy of those that received compensation by those that did not; (ii) in some cases, retaliation (through withholding replacement land) for failure of compensation recipients to fully share their compensation with their extended families according to custom; (iii) realization that land has monetary value, and that so long as the project is actively acquiring land, a customary rights holder has the prospect of receiving compensation, provided he/she holds tightly to the use of that land; (iv) partial monetarization of the land market, with family members or other villagers only willing to make

¹ About 6-7 kilometres was commonly reported by villagers interviewed during the study as the outer limit for land that could reasonably be accessed and worked from a settlement. Beyond this distance, logistics of travelling to and from the site, carrying materials and equipment, managing security of plantings and harvesting made cultivation marginal.

replacement land available if they receive payment or rental; and in some villages, (v) scarcity of available land.

Other factors not envisioned by the CRCP include the following:

- Prolonged occupation by the project of temporarily used land (> 1 year and sometimes up to 4-5 years)
- The program of rolling land acquisition for well infill program with frequent multiple land takes from individuals – sometimes undertaken within an abbreviated timeframe
- The larger scale and uneven impact of communal land acquisition

Whilst cash compensation and training are sometimes adequate for off-setting losses affecting only a small part of individual land plots², they are not adequate for larger losses in circumstances where the affected population is substantially reliant on agricultural subsistence. While the agricultural techniques being taught as part of the agricultural training program could theoretically achieve increases in productivity of 30-50%, the Director of ORT, the implementing NGO, indicates that actual yield increases to date are in the order of 10-20%. At this level, agricultural training will only offset very small land losses. Where project affected people's livelihoods are substantially land based, as implied by the CRCP and made explicit in World Bank OD 4.30, preference should be given to land-for-land compensation.

A critical challenge for the Chad resettlement program is to facilitate project affected peoples' access to replacement land. Affected people are essentially subsistence agriculturalists that are heavily reliant on land to maintain their standard of living, food security, nutrition and livelihood. While in the past, there was more extensive cash cropping within the OFDA, the failure of purchase arrangements with *Cotonchad* have meant this is no longer the case. There is a limited local cash economy, limited opportunities for off-farm employment and limited capacity in affected communities to pay for goods and services such as may support enterprise growth or development. In this context, for people experiencing greater than 20% losses or whose land is left economically non-viable by the project, access to replacement agricultural land is essential.

As 'self-resettlement' has failed, the project needs to develop a new strategy to provide project affected people with access to replacement land. The problem of scarce land affects all villagers. In many cases, the solution to finding replacement land for PAPs will involve use of communal land that requires the concurrence of villagers, not just PAPs. Strategies that involve further cash compensation or payments for land are likely to exacerbate the existing 'frozen land use' issue. Approaches that involve a package of village development measures are recommended.

"Owners now hold on tightly to their land so there is none available for those of us that lost land to Esso. Land is locked up". Female household head, Madjo

"Nothing is better since Esso came. Esso took my land. Money is not sufficient to compensate for its loss. Life is awful..." Project affected man, Bero II

"If you get money today, it will be gone tomorrow. I would prefer land... we immediately invested our compensation in houses before the money could be dissipated, but even if you have a nice house, you have to get food to eat." Male household head, Bero II

"I think a lot about my lost land. My family has gone into the bush to find food...but there is no fish, no fruit, no animals, even the water is not good. If you go into the bush you will get very little..." Older man, Bero II

"Beforehand, cash compensation had instant appeal, but subsequently, with experience, I realize the benefits of owning land. Cash only lasts about two years. Land is always there." Male household head, Madjo

The strategy needs to address:

- Screening of land supply and land use resources in each affected village to categorize them into villages with suitable replacement land and those without.³
- Identification of technical options village by village for (i) intensification of production (farming techniques, use of fertilizer, improved crop varieties, irrigation); and/or (ii) reallocation of land and/or; (iii) clearing and developing communal land; and/or (iv) relocating some villagers to replacement land outside of their village.
- Where applicable, how compensation will be provided for replacement land.
- Briefing and consultation with village and local government leaders.
- Consultation and achieving consensus on preferred options amongst PAPs/ their extended families/ wider village.
- Documenting village by village execution plans.

Steps for developing a project strategy to facilitate project affected people accessing replacement land are described in Chapter 8.

6.2 Evaluation of Resettlement Implementation

The following sections summarize issues and recommended responses arising from the evaluation of the Chad OFDA resettlement program. These issues and responses were discussed in a workshop with Esso Chad and IFC in August 2006. Issues are organized thematically as follows:

- Avoidance and minimization of resettlement impacts
- Identification and registration of affected people
- Access to land and resources
- Replacement housing
- Compensation
- Livelihood restoration
- Organization and resources
- Consultation and disclosure
- Complaints and grievance management
- Monitoring and evaluation
- Management of Change - Documentation

Reference is made to the relevant requirements of the EMP, Chad Portion, Volume 3 Chad Resettlement and Compensation Plan. Where the CRCP is silent on a particular issue, reference is also made to World Bank OD 4.30 Involuntary Resettlement.

² A commonly used rule of thumb is that it is acceptable to use cash compensation alone for land losses that represent less than 20% of an individual's or household's productive land, provided the residual area remains economically viable. See for example, World Bank OP4.12.

CRCP Objective	Evaluation of Progress towards Meeting Objective
Minimize project land use, reclaim land after construction, and make as much land available as possible to customary users	Objective of minimizing land use has not been achieved. Project land use (temporary and permanent) has very significantly exceeded projections in the CRCP. In terms of reclamation and land return, the objective has been partially achieved. In the last 6 months, the project has made good progress in land reinstatement (89% temporary land reinstated), but is lagging in return of use (16% returned). Land hand-back delays have led to some farmers missing use of land for several seasons. Retrospective compensation for livelihood losses where project temporary occupation of land has extended beyond the 1 year compensation period should be considered. Insufficient attention is being paid to minimizing land use impact during implementation of the well infill program, although there is progress in reducing well pads nearer to CRCP prescribed dimensions. Minimization of the project footprint and land use impacts needs to be mainstreamed into ongoing oil field planning procedures and implementation. Consolidation of access roads, flow lines, and other utilities into corridors to avoid fragmentation of land should be practiced.
Design the project to avoid village relocation	Objective is substantially achieved - while it is considered unlikely that it will be necessary to relocate whole villages, the option to relocate some households from within worst affected villages needs to be carefully re-assessed. The CRCP allows for this possibility, but a more specific process, actions and resources need to be defined to assess the need and, if necessary plan and undertake such resettlement. Village relocation was avoided in initial design for the export pipeline and central facilities. The project presently has insufficient information on its subsequent impacts on village land and resources to determine whether or not groups from within some villages may need relocation. In 1 out of 3 case study villages examined as part of this study, it was found that in all probability there is insufficient land to replace agricultural area lost to the project. It is probable that a small number of other villages face a similar shortage of suitable replacement land.
Meet the intent of the World Bank Group guidelines (OD 4.30) on involuntary resettlement and all local laws	Objective is only partially achieved. Most crucially, PAPs left economically un-viable as a result of the project land acquisition have not been given access to replacement land. Land acquisition/involuntary resettlement for the well infill program is not being "...conceived and executed as development programs..." as required by OD 4.30. Specific actions to meet the intent of OD 4.30 have been identified: (i) implement additional measures to facilitate PAPs' access to replacement land to offset losses caused by project permanent land acquisition; (ii) adjust compensation to reflect villages' actual losses of communal land and resources; (iii) where the project has occupied temporarily acquired land for more than one year, deliver top-up compensation to affected individuals (or to their communities as the case may be) to cover their livelihood losses resulting from the actual period of occupation; and, (iv) adjust procedures and timeframes for 'just-in-time' well pad acquisition to ensure that land and resettlement impacts are minimized, that adequate social assessment to identify impacts is carried out and that PAPs are adequately informed, consulted and have access to legal assistance if required. Compliance with local laws was not assessed.
Minimize potential resettlement estimated to affect approximately 80 households, or a maximum of 150	This objective has not been achieved (see comments in footnote 8 of Chapter 1). Study findings are that resettlement impacts (physical and/or economic displacement) have affected an estimated 1,640 households. With the exception of about 25 households who have been able to lease or access replacement fields, none of the other 1,615 households have been able to access replacement land. None has been offered replacement land or the option of resettlement to access it.
Model resettlement on the existing cultural institution of resettlement, common among ethnic groups in the area	The CRCP was modelled with such resettlement as was required and access to replacement being achieved through using existing cultural institutions and following customary procedures. In reality, this Study concluded that this model has failed. Customary institutions and mechanisms have not been effective and project affected people have been unable to access replacement land as envisaged in the CRCP. As affected people largely practice subsistence agriculture, access to replacement land is essential for achieving livelihood restoration.
Determine compensation values based on extensive data collection and socio-economic analysis in the area	This objective has been achieved. An extensive study of market prices was completed in 1998 to establish project compensation rates. Rates were assessed as adequate by the present study, but should be regularly monitored and adjusted if necessary.
Provide for EEPIC compensation and resettlement at current market values	The objective has been achieved. No complaints were received about compensation rates for trees and crops. 1998 market prices used for setting compensation rates had not been exceeded in the period up until 2006. The Study recommends annual review of compensation rates to ensure they remain current. Relocated households were generally satisfied with size and quality of their house-for-house compensation.
Incorporate preferences voiced during extensive consultation with local peoples, NGOs, and other stakeholders	This objective was initially achieved, but there is no documented ongoing information disclosure and consultation program. Extensive consultation was undertaken as part of CRCP preparation up until 1999. Subsequent information disclosure and consultation appears to have occurred sporadically. A need to better inform and notify customary rights holders about return of use of land was noted. Project consultation and information dissemination to local government and NGOs was assessed as poor.
Provide compensation for both private landowners and customary users	The objective has generally been complied with, except in the area of achieving access to replacement land to offset permanent land losses to the project. This is a critical part of compensation for customary land users. Additional measures to ensure adequate compensation for the following are also recommended: (i) losses experienced by third party users of customary rights holders' land; and, (ii) losses incurred as a result of project temporary use of land, where such use extends beyond one year.

Table 6-1 - Evaluation of Progress towards Achievement of Resettlement Objectives in the OFDA

6.3 Avoidance and Minimization of Resettlement Impacts

Issue

There has been insufficient emphasis on minimizing the project footprint.

Compliance

EMP

"Minimizing project land use, reclaiming land after construction, and making as much land as possible to customary users." ('Key Element' of the resettlement plan, EMP Vol. 3, Sect. 1.2)

"Meeting the intent of World Bank guidelines on resettlement." ('Key Element' of the resettlement plan, EMP Vol. 3, Sect. 1.2).

World Bank

"Involuntary resettlement should be avoided or minimized where feasible, exploring all viable alternative project designs." (World Bank OD 4.30, para. 3(a)).

Discussion

Project land use (temporary and permanent) has very significantly exceeded projections in the CRCP. There has been a major increase in project impacts on land and people. The project clearly has not complied with objective of minimizing its land use. Historically, the project has been slow in reclaiming land, but the Study noted that the project has responded by effectively accelerating its reclamation activities. There remains, however, a bottleneck in 'quitus' (land exit) processing which is delaying customary users' resumption of use. Reasons for the bottleneck need to be identified and addressed.

The Study shows that land in a number of OFDA villages is already scarce and that villagers are practicing agriculture with unsustainably short rotations and too-small areas of fallow. ***In such villages, for the welfare of host communities, it is critical that the project adopt a more conservative approach to acquiring land.***

New land is still being acquired for contractor/ sub-contractor vehicle and construction compounds that might better be incorporated within existing acquired areas e.g. within the Kome 5 compound.

With the shift to relatively ad hoc land acquisition for the well pad in-fill program, there has not been any systematic procedure to ensure that impacts on productive land and assets are minimized. Pad locations, flow line and access road alignments are optimized based on engineering criteria, but often fragment agricultural land, leaving large areas unworkable. It is desirable that siting and orienting well pads, and laying out of roads and flow line corridors, be undertaken overlaid on up to date, large scale (1:2,500 or similar) orthophotos. Small shifts in well pad orientation and roads layout in response to field layouts could significantly reduce the number of affected landowners and degree of plot fragmentation.

At the moment, the characteristics of the oil field are being tested by incrementally drilling additional wells and measuring results. Consideration should be given to using more extensive oil field modelling to avoid drilling on a near trial and error basis. Such modelling might also facilitate forward planning of well locations so that lead times for land identification, notification of affected people, survey and inventory could be extended to reasonable timeframes.

While EEPCI has procedures for environmental baseline assessment (EBA) of proposed new works, it does not presently have a mechanism for assessing the cumulative impacts on village land resources that occur as the result of successive works occurring over time. Such impacts include not only the taking of land, but also its fragmentation and limitations of use that result from construction movements and activities.

Access roads, flow lines and cabling should be organized in clearly defined corridors as is practiced elsewhere in jurisdictions where land values are high and land owners rights are more clearly defined and defensible.

The project advises it has explored the possibility of using directional drilling to minimize impacts on productive land, but found it unfeasible due to geotechnical constraints.

During implementation, the construction contractor frequently causes damage outside of the acquired project land.

Recommendations

- Initiate periodic (possibly six monthly), higher level reviews to be implemented by EMP management and endorsed by EEPCI management to assess cumulative impacts (proposed and actual) of project works on each affected village's land resources and population. The review should take into account such indicators as:

Recommendations cont.

- Percentage of village land resources (agricultural land, fallow, bush land) taken by the project and remaining in the village.
- Per capita available agricultural land
- Area of unallocated land available as replacement for affected people experiencing permanent losses.
- Distribution of project land impacts across ngelka territories and households (Are some ngelka or households being disproportionately impacted? Do households retain adequate cordes for livelihood sustainability?)
- Impacts of fragmentation on use of agricultural land and other village activities
- Attitudes and extent of any hardship in the affected communities as captured by regular internal monitoring.
- Examine ways to improve the forward planning, rationalization of service corridors, and layout of well pads to avoid and minimize impacts on productive land. Measures to be implemented might include some or all of the following:
 - Examine the potential for more extensive oil field modelling to minimize the need for drilling additional new well pads.
 - Review well pad siting and layout approval procedures to ensure that due attention is given to avoiding and minimizing impacts on productive land.
 - Examine potential for orienting well-pads and consolidating well pad access roads, flow lines and services into corridors to reduce fragmentation of adjacent fields.
- Complete a footprint survey around all acquired lands and works areas in the OFDA to identify the actual area of disturbance versus what has been compensated.
- Conduct an audit of a sample of cases where works or damage has extended beyond land covered by agreements to ensure that the affected customary rights holder has been duly compensated. Make any necessary additional payments and expand scope of auditing if such cases appear frequent.
- Reinforce the need for a more disciplined approach by contractors to limiting damage and access to acquired lands only.

6.4 Identification and Registration of Project Affected People

▪ Census and Socioeconomic Assessment

Issue

Project information on the affected population is not systematically recorded. Information about dependents/household members is incomplete. The full resource and income base of households is not being adequately assessed. Ultimately the project team is unable to determine the level of impact on any given household and so judgments about who is eligible for training or resettlement are based on subjective and unreliable information.

Compliance

EMP

"When an individual first loses a piece of land, a compensation dossier will be opened and include information such as the number of people directly dependent on the individual, income, and amount of land:

- *At the individual's disposition at the time,*
- *S/he has in cultivation at the time and the types of crops,*
- *In cultivation last year (significant differences may require further inquiry), and*
- *To which the person has claim but is not using."*

(EMP Vol. 3, Appendix B 'Recording Data on Eligibility)

"The project will maintain a complete database on every individual impacted by the project land use requirements including relocation/resettlement, land impacts or damages." (EMP, Vol. 3, Sect. 8.5.1)

World Bank

"...In addition to describing standard household characteristics, socioeconomic surveys should describe (a) the magnitude of displacement; (b) information on the full resource base of the affected population, including income derived from informal sector and non-farm activities, and from common property; (c) the extent to which groups will experience total or partial loss of assets; (d) public infrastructure and social services that will be affected; Socioeconomic surveys, recording the names of affected families, should be conducted as early as possible to prevent inflows of population ineligible for compensation..." (World Bank OD 4.30, para 11)

Discussion

A key conclusion of this Study is that there has been insufficient attention to census, survey and socio-economic assessment during resettlement planning. The project database is therefore incomplete. Deficiencies in the project database mean that project impacts on households' resource bases are not adequately understood and that assessments about who is eligible for physical resettlement or training are based on self-reported and unreliable data.

Discrepancies noted by the Study include multiple dossiers for the same individual due to spelling inconsistencies, family land transactions being reported under multiple different family members' names (wives, children) and regular over-reporting of family size. These were often the result of affected household's strategies to maximize the likelihood of one or more members receiving training.

Recorded total landholding is based on an individual's declared land area which is often reported differently according to perceptions about which figure will maximise compensation or training entitlements. Even the unit of measure used for reporting land areas was found to be far from uniform.

Database deficiencies mean project staff are left with a difficult and time-consuming task to determine who is eligible for training. They are subsequently vulnerable to accusations from PAPs of being subjective or arbitrary in their judgements.

The project data base is only considering impacts on individuals and not households. Reorganization of the data base to remove multiple entries for the same individual is underway. So far 4,226 different affected people are recognized in the OFDA. Based on Study analysis of the project database, the number of compensated households is estimated at about 1,640.

The project needs to introduce more careful procedures to uniquely identify each compensation beneficiary and his or her dependents. To capture all dependents and so far as possible to avoid double counting, it is recommended that, in future, project compensation dossiers be organized by household. The dossier should still include information about each individual land-use rights holder within the household (husband and wives), together with a description of the area each holds and information about how output from that land is distributed. This socio-economic information should also help determine to whom within the household compensation payments should be made.

Recommendations

For all future transactions:

- Issue an identity or registration card to each compensation recipient at the time of registration⁴. Include GPS coordinates of the recipient's primary dwelling. The registration card must be produced for each and every transaction with the project.
- Record full details of all spouses and dependents of each compensation recipient (full names, birthdates, relationship to compensation recipient, occupation). Wherever possible, sight each family member and record with a household photograph.
- For all future transactions, start by establishing a household dossier.
- Develop a socio-economic data pro-forma to be completed for each household when the first transaction is undertaken, and updated during subsequent transactions. Record all land, income resources and losses on a household basis.
- Verify information about household's and household member's total land use resources (actively cultivated, fallow, bush) by site inspection in the presence of the village head (or by marking on orthophotos, if available). Record boundaries of all the household's land use areas with GPS.
- In future, in densely populated villages, or in areas where project land acquisition is likely to be substantial, very serious consideration should be given to conducting a full land identification survey (plots, customary rights holders, third party users, in-ground crops) based on up to date aerial photography and orthophotos derived from these.

⁴ Many resettlement projects issue project affected people with some form of project registration card. This is not necessarily formal or official identification, but is for project processing purposes. Amongst other things, these cards can assign each affected person with a unique identification number thus helping to overcome confusion about identity, names and the kind of multiple entries experienced to date on the Chad project.

▪ **Attention to Vulnerable Groups**

Issue

The CRCP identifies certain categories of vulnerable household affected by the project. Specific households falling into these categories have not been identified. The project has not offered any particular measures to ensure that vulnerable households have access to acceptable livelihood restoration opportunities.

Compliance

EMP

“Vulnerable households were looked upon as a special subset in considering economic viability. Any particular needs not covered by the definition of economic viability are covered by other provisions of the Compensation and Resettlement Plan.” (EMP Vol. 3, Appendix B, “Vulnerable Households”)

World Bank

“Vulnerable groups at particular risk are indigenous people, the landless and semi-landless, and households headed by females ...the resettlement plan must include land allocation or culturally acceptable alternative income-earning strategies to protect the livelihood of these people.” (OD 4.30, para 16)

“Particular attention should be paid to the needs of the poorest groups to be resettled.” (OD 4.30, para 3b(iii))

Discussion

It is recognized that most households in the OFDA are to some extent vulnerable. Misfortune with crops, family illness, loss of land and many other factors can force even a relatively better-off family into a condition of poverty for a short or long duration. The CRCP identifies five particularly vulnerable kinds of households – unmarried women, non-farming females, elderly, males who farm smaller plots and females who farm smaller plots (CRCP, Appendix B, “Vulnerable Households”).

The project does not seem to have identified specific households falling into the above categories, nor has it undertaken ongoing monitoring to ensure they are not experiencing hardship as a result of the project.

The Study team encountered several very large households that appeared to have been left with little or no land as a result of the project, and which were experiencing hardship. The Study team also found red-flagged households headed by women who, because of child-minding responsibilities, had been rejected for off-farm training. Some of these households did not have a suitable alternative family member to attend training as envisaged by the CRCP. Alternative accessible assistance needs to be offered.

Improved social assessment and database organization would enable the project to straightforwardly identify vulnerable households for monitoring and targeting with special assistance where warranted.

Recommendations

- Implement a more rigorous household social assessment process to identify potentially vulnerable households early in the compensation and resettlement process (see also recommendations for Sect. 6.4 Census and Socioeconomic Assessment).
- Ensure that internal monitoring incorporates household interviews, particularly targeting the vulnerable to ensure they are not experiencing hardship and are able to participate in resettlement programs.
- Look specifically at training measures for project affected women household heads that may be prevented by child minding duties from participating in existing programs.

6.5 Access to Land and Resources

▪ **Access to Replacement Land**

Issue

Households experiencing loss of use of land have not been able to access replacement land. In some instances, this is a result of social envy and a breakdown of customary land sharing mechanisms. In other instances, it is a result of a scarcity of available land. Where possible, families have used fallow to offset some of the land lost to the project, but such households note that without rotation fertility falls off rapidly. Study survey results show that most project affected households now have significantly less total land to use and less land in active cultivation than prior to the project.

Compliance

EMP

"EEPCI and TOTCO will not decide on the place where people will resettle. Instead, the resettlers themselves will access land in the traditional way and on traditional and customary terms." (EMP Vol. 3, Sect. 6.4)

"In some other cases, the Project's land requirements might affect all or a major portion of an individual's or household's holdings. If an individual or household does not have enough farmland to remain economically viable after surrendering fields to the Project, they may need to move to a new area. In these cases, individuals and households will become eligible for resettlement, as well as for replacement compensation for lost investments." (EMP, Vol. 3, Sect. 6-2)

"Economic viability in the present agricultural system requires both:

- *Land in production, and*
- *Access to additional land for replacement fields when current fields with low fertility are put to fallow.*

A farmer who does not have access to enough land to cultivate and leave fallow is not economically viable. For purposes of this Plan, the criterion for determining economic viability has been set so that a farmer becomes eligible for resettlement when s/he has surrendered land to the project and no longer has the minimum amount of land needed for cultivation and fallow." (EMP Vol. 3, Appendix B, 'Economic Viability and Need for Resettlement')

"...the hedge against poverty for small farmers, both male and female, is the amount of fallow land at their disposition. If the project needs too much of their fallow land, small farmers will be without protection..." (EMP Vol. 3, Appendix B 'Vulnerable People').

"If, upon surrendering land for EEPCI use, the individual has less than 2/3 corde of land (cultivated and fallow) per person in his or her household, that person's situation will be closely monitored... .. an individual who meets the criterion can consider resettlement or one of its alternatives..." (EMP Vol. 3, Appendix B 'Recording Data on Eligibility').

World Bank

"Preference should be given to land-based resettlement strategies for people dislocated from agricultural settings." (World Bank OD 4.30, para 14).

Discussion

Project affected villagers are still substantially reliant on subsistence agriculture. As advocated in the CRCP, the preferred option for restoring standards of living and livelihood where land loss is significant is land-for-land compensation.

CRCP eligibility criteria define a 2/3 corde/person threshold for eligibility to resettlement in order to access replacement land. This criterion is considerably narrower than the World Bank Policy (OD 4.30) which requires that all people should be compensated for their losses (irrespective of whether or not they fall below a food sufficiency threshold) and that for "people dislocated from agricultural settings" preference should be given to land-based resettlement strategies.

With the exception of some households whose dwellings had been displaced by the project, none of the large number of compensation beneficiaries interviewed during the course of the Study recalled having been offered the option of resettlement. This option no longer appears to be offered to households that are left economically un-viable. This is not compliant with the CRCP.

The CRCP relied on customary land allocation mechanisms to ensure PAPs received access to replacement land to offset losses caused by the project. This approach may have been plausible in 1998 when it was formulated but the Study found that customary mechanisms for re-distributing family land or allocating vacant village land have ceased functioning. Reasons for this are described in Sect. 6-1.

Many interviewed households reported being left with insufficient land to meet their household's year-round food needs. Working for relatives for wages to purchase foodstuffs or a share of the crop was the most common way reported for making up shortfalls in food sufficiency. The project needs to develop approaches to unlocking land in villages where adequate available land exists. Where land is scarce, a range of options need to be assessed in consultation with affected people. Options might include some combination of the following:

- Improved agricultural techniques including use of mulch, animal manure, improved crop varieties to increase yields and reduce requirement for fallow (long term, land dependent).
- Promoting a shift to mixed agriculture (crops plus livestock) (long term, land dependent)
- Irrigation (long term, land dependent)

Discussion cont.

- Tree crop development (long term, land dependent)
- Possible need for some households to relocate to other villages with available land
- Off-farm employment (although opportunities for this are very limited)
- Assessment and provision of technical assistance to train and equip project affected people to bid for project supply and procurement contracts.

Recommendations

- Make explicit to all eligible PAPs, the option of resettlement as documented in the CRCP.
- Conduct a workshop with a broad range of government and institutional stakeholders, and community representatives to examine possible solutions to facilitating resettlers access to land
- Develop a new strategy to facilitate project affected households with accessing replacement land (see Chapter 8)
- Review the livelihood strategies documented in the CRCP and develop new strategies more applicable to address the much greater levels of livelihood impact that are presently occurring.

▪ **Severance and Fragmentation of Land Parcels**

Issue

The project is not compensating losses caused by fragmentation or severance of fields by project works.

Compliance

EMP

The EMP is silent on losses caused by fragmentation or severance of fields by project works.

World Bank

"Displaced persons should be... compensated for their losses at full replacement cost..." (OD 4.30, para 3b)

"...households that have only partially lost their assets but are no longer economically viable should be entitled to full resettlement..." (OD 4.30, para 14)

Discussion

The CRCP did not make any provision for compensation for severance or fragmentation of land use plots caused by project works, whether temporary or permanent. Project works (especially well pad access roads and associated oil and water flow lines) fragment cultivated fields and leave some areas no longer viable for cultivation. This can be caused by: (i) insufficient remaining plot area to be efficiently ploughed or harvested; (ii) the residual plot area is an irregular shape that cannot be readily cultivated; (iii) ground levels or drainage conditions are changed affecting suitability for agriculture; or (iv) access becomes restricted. Use restrictions can also inhibit use of adjacent areas. These types of loss are not presently recognized or compensated by the project.

Recommendations

- Minimize severance and fragmentation impacts by paying more attention to well pad siting and infrastructure layout, including consolidating well pad access roads, flow lines and services into corridors to reduce fragmentation of adjacent fields.
- When acquiring part of a cultivated plot, survey the entire plot, as well as the part to be acquired.
- Where the residual plot area after acquisition is, say, < 0.125 corde, offer the land user the option of the project acquiring the full plot area. This should apply to both temporarily and permanently acquired land.

▪ **Temporary Use of Land**

Issue

Project land agreements are not explicit about whether or not rights to land are being acquired temporarily or permanently. Affected land users do not know whether or not their land is being temporarily or permanently acquired.

Compliance

“...compensation shall be calculated as follows:

- If occupancy is only temporary and the land may be cultivated after one year in the same fashion as before, the compensation shall be set at least at the annual net yield of the land.
- In other cases, the compensation shall be estimated at a value at least equal to the value of the land prior to the occupation”. (EMP, Vol. 3, Sect. 4.3)

Discussion

The Study revealed a number of problems associated with project's temporary use of land. Compensation for temporary use of land is on the basis of one year's lost production. Actual project temporary use has often extended over several years, in some instances up to 4-5 years. Project affected customary rights holders have therefore experienced losses in subsistence and income beyond the one year for which they were compensated. It is noted that plots are typically cultivated for 2-3 years before being left fallow so dependent on where in the rotation the land was taken, actual income losses could be 2 or 3 times greater than the amount of compensation received.

Project land agreements with land users are not explicit about whether or not land is being acquired temporarily or permanently. Project affected people should be fully informed about the nature of losses that they will experience as a result of the project at the time that they sign land agreements. They should also have information about the expected duration of the 'temporary use' and compensation provisions in the event land use is not returned at the agreed time. There are many compelling reasons why PAPs should be fully informed about the temporary use of their land. These include:

- To enable PAPs to plan crops and economic activities with full knowledge of the land resources that will be available to them in any forthcoming growing season
- To ensure that PAPs have full knowledge of the areas of land that will be returned for their use so that they can monitor and protect their interests, important when there is no cadastral description or formal record of their use rights
- To provide PAPs with assurance of income in the event return of land is delayed
- To enable PAPs to monitor reinstatement of their land

The EMP (cited above) indicates different bases for valuation dependent on whether the land is occupied for less than or more than one year. In the former case, compensation is to be based on the *annual net yield* and in the latter case on the *value of the land*. The EMP does not describe how value of land is to be determined. The actual basis is *annual net yield* plus compensation for labour inputs for clearing – for both temporary and permanent land. While the project is compliant with the EMP with respect to temporary land, it may or may not be compliant for permanent land dependent on what is a reasonable value for land.

Recommendations

- Make it an over-riding principal for all project construction planning and activities that temporary lands must be returned within one year of initial occupation. Utilize the GIS database to track that this occurs.
- Make explicit in all project land agreements which portions of land are being acquired permanently and which will be returned to the community or user.
- Obtain independent valuations for the principal land use types in the OFDA to determine if the rate paid for permanent land reflects “*the value of the land*” as required to comply with the EMP.
- Make explicit in agreements the expected duration of the 'temporary use' and compensation provisions in the event land use is not returned at the agreed time.
- Where project occupation of temporary land has extended beyond one year, consider some sort of compensation adjustment ('in kind', access to training or similar) to offset the additional losses that the customary rights holder may have experienced due to the extended project occupation.

▪ **‘Just-In-Time’ Land Acquisition for Well Pads and Ancillary Infrastructure**

Issue

The Project is sometimes undertaking notification, survey and inventory, agreement signing and occupation all in a period of less than a week.

Compliance

“The land occupation for the oil field development is governed by the Consortium Convention and the Petroleum Code... ...a declaration of land to be occupied for longer than six months must be submitted at least two months before it is needed”. (EMP, Vol. 3, Sect. 4.3).

“This compensation shall be calculated as follows:

- *If occupancy is only temporary and the land may be cultivated after one year in the same fashion as before, the compensation shall be set at least at the annual net yield of the land.*
- *In other cases, the compensation shall be estimated at a value at least equal to the value of the land prior to the occupation”.* (EMP, Vol. 3, Sect. 4.3)

Discussion

The Study team has serious reservations about the practice of just-in-time land acquisition for the well pad in-fill program. These concerns relate to: (i) whether PAPs in this situation are fully informed and consulted; (ii) whether they have adequate opportunities to review the inventory, their compensation entitlements and legal agreements and if necessary, to seek advice; and (iii) whether they have adequate access to legal assistance and advice on their rights and obligations.

A majority of PAPs are illiterate and are unable to understand compensation and agreement documents. When asked why they sign documents that they do not understand, PAPs commonly respond that they are concerned they will not receive compensation if they any way delay project land acquisition.

The present project process has become an exercise in land acquisition. Requirements for socioeconomic assessment to determine standard of living and livelihood impacts are not being met.

The very abbreviated process is open to abuse where a customary rights holder is absent or unable to attend the survey to verify land boundaries, the inventory of trees and crops, or receive compensation. Requirements for socioeconomic survey, obtaining information about the full resource base of the affected household, and the extent to which that household will experience full or partial loss are not being met.

There is no consideration of the cumulative losses on households that have been subject to multiple previous land-takes.

The study did not assess compliance with Chad legislation and project agreements.

Recommendations

- Plan works to avoid the practice of just-in-time land acquisition. It is contrary to good international resettlement practice.
- EEPIC and Contractor to invest more effort in forward planning so that people affected by the in-fill program can be given reasonable notice, and have sufficient time to review compensation calculations and agreements prior to signing.
- The project should adopt minimum timeframes for key land acquisition activities. A minimum period of 30 days from Notification to land entry is recommended to ensure EEPIC obligations under the EMP to fully inform, consult, and assess household socioeconomic conditions are complied with. Within the 30 days, it is recommended that PAPs should have not less than 7 days to review, question and seek advice on inventories, compensation calculations and draft agreements. These timeframes are to ensure compliance with EMP requirements, over and above Chad law.
- The project should give consideration to supporting a legal NGO or other independent legal advisor to be present and advise PAPs to ensure that they are fully informed prior to signing legal agreements.
- Comprehensive procedures for census and social assessment as described in Sect. 6.4 must be completed.
- If they are not already prescribed under Chad law, the project should define clear procedures for cases where a customary rights holder is unable to attend the survey/ inventory or agreement signing. A formal procedure whereby the primary land user can grant power of attorney to another party to act on his or her behalf should be defined and documented.

▪ **Households Affected By Project Multiple Land Takes**

Issue

Many households have experienced multiple land-takes by the project. This is extremely disruptive to a household's agricultural planning and sense of security.

Compliance

"Should an individual give up one piece of land then subsequently give up another, the amounts will be recorded to determine if the person has become eligible for resettlement." (EMP, Vol. 3, 'Recording Data on Eligibility')

Discussion

This is less an issue of compensation than of nuisance and disruption.

Many individuals have experienced multiple land-takes by the project, with several experiencing in excess of 15 transactions over time. Households may in fact be experiencing much higher numbers than this, as transactions may be in the names of several individual household members⁵. This potentially severely destabilizes household agricultural planning and livelihood. It mediates against households being able to make informed choices about their production. It means a household can move progressively from being slightly affected to severely affected.

While a small number of individuals appreciated the compensation 'cash flow' from several compensation transactions spread over time, others were angry and resentful but felt helpless to do anything about it.

Many individuals affected by multiple transactions were unable to say how much land they had lost in total. A substantial number of households were unable to produce any records of their land transactions with the project. Reportedly, a local NGO had collected their records for analysis. Others produced papers in a parlous state or were unable to find all their documentation.

Normally, a resettlement program is conceived to avoid such multiple impacts. In China, in cases where a household is subject to a second resettlement, their losses for the second occurrence are often compensated with an additional 50% premium. On the Chad Export Project, such households also experience a high degree of inconvenience. Some kind of compensatory measure to offset the disruption and inconvenience they have suffered should be considered by the project.

Recommendations

- Complete the project footprint survey so that the aggregate impact of successive land takes on individual households can be assessed.
- Project and Contractor to invest more effort in forward planning to minimize multiple transactions with the same individuals.
- Project to consider a basis for offering special compensation to individuals or households subject to multiple land takes in recognition of the disruption and inconvenience they have suffered.
- Project to provide PAPs with a plastic folder in which they can safely store their resettlement documents.

▪ **Conquered Land**

Issue

Conquered land was briefly promoted by the project as a mitigation strategy. After a management review, it was concluded that this approach was not envisaged in the CRCP and that in reality it did not constitute a satisfactory mitigation for loss of use of land to the project.

Compliance

There is no reference to conquered land as an acceptable mitigation strategy in the CRCP.

Discussion

The Study team affirms the project's own finding. Twenty-three individuals succeeded in negotiating access to some replacement land and registering this with their village chief. Upon inquiry, the Study team found that many of these

⁵ Wives and children do not use their husband/father's surname. It is not possible therefore to distinguish members of the same family by examining their surnames.

Discussion cont.

arrangements were short in duration or short-lived. Individual's fortunate enough to access replacement land in this way must not be precluded from on or off-farm training, or even the option of resettlement.

Recommendations

- Reference to "conquered land" should be dropped. The term is misleading. It does not represent a satisfactory mitigation for land loss.

6.6 Replacement Housing

Issue

Households required to relocate dwellings have been able to negotiate replacement housing plots usually in their original village. Resettlers were generally satisfied with the size and quality of their replacement dwellings and level of assistance that they received from the project.

Compliance

"Buildings, structures, and other improvements will be replaced." (EMP, Vol 3, Sect. 5.4)

Discussion

To date, 47 dwellings have been relocated versus the estimated 23 in the CRCP. There have been some problems with the quality of replacement housing, which the project is rectifying, often by construction of a further new house with superior laterite/cement pressed blocks. Resettlers so affected have in fact benefited by being able to retain the defective structures and receive further new structures. No other significant issues with replacement housing were identified.

Recommendations

Performance is satisfactory

6.7 Compensation

▪ Valuation and Compensation Rates

Issue

Project affected people were generally satisfied with the compensation rates paid by the project.

Compliance

Compensation in accordance with EMP, Vol. 3 Chap. 5

Discussion

Compensation rates paid by the project were not a concern to project affected people. There were almost no complaints about rates.

Rates were based on 1998 market data. Prices for staple and cash crops at this time were high due to drought in the preceding season. 1998 prices have not generally been exceeded in subsequent seasons. Furthermore, the compensation rates were based on gross market prices (without deduction of input costs), so they are generous in favour of PAPs.

The Study recommends, however, that a process be established for periodic review of all rates with updating if necessary. This should be undertaken annually by a respected third party organization.

Recommendations

- A respected third party organization should be commissioned to undertake an annual review of all project compensation rates at the end of each growing season so long as compensation payments are continuing.
- Formalize three-yearly third party review of all compensation assumptions to take into account longer term trends in agricultural practices, crop types and achieved yields.

▪ **Effectiveness of Individual Compensation**

Issue

Compensation has generally been effective in restoring or enhancing PAP's standard of housing, ownership of assets and access to available social services. Until PAPs are able to access replacement agricultural land, there must be concern about their capacity to maintain their standard of living.

Compliance

Compensation in accordance with EMP, Vol. 3 Chap. 5

Discussion

This Study's socioeconomic index shows that individual compensation has been very effective in restoring (and in most cases enhancing) PAP's standard of housing, ownership of certain household goods and productive assets, utilization of community services and the like. The survey showed a proportion of compensation has been used by beneficiaries to make improvements in housing, purchases of cattle and farm equipment, bicycles, motorcycles, as well as spending on health, education and settlement of debts. Other compensation was distributed and shared to meet customary obligations to relatives and extended family. Interviewed villagers and local NGOs also report that some compensation has been dissipated in less productive uses – alcohol, bride purchase and local prostitution. Overall, 65% of surveyed PAPs considered they were better off or that there had been no change in their standard of living as a result of their compensation.

There is some indication that the benefits of compensation diminish with time, with household standard of living trending towards pre-project levels as more time elapses after receiving compensation. This is to be expected as standard of living has been bolstered by a one-off event (the payment of compensation) rather than gradually increased by sustained improvements in household income.

The major concern about individual compensation is that it has not resulted in households being able to access replacement agricultural land or sufficient income from other sources to replace that lost due to land acquisition by the project. As households are significantly reliant on subsistence production, their failure to date to access replacement agricultural land for that lost to the project is an issue that needs to be addressed or, in the medium term, some households are likely to experience decreased food security and increasing impoverishment – the classic resettlement downward spiral. It is apparent that, as a short term measure to offset losses in agricultural land, affected households have used their fallow. In each of the three case study villages, about half of all households reported having no fallow or reserve land. Households are aware that this will quickly deplete soil fertility and is not sustainable.

On average, project affected household income presently remains higher than non-affected households, but much this income is of a temporary nature consisting of periodic compensation payments and training allowances paid by the project. This situation will eventually reverse as temporary project income ceases and the impacts of affected households' smaller landholdings become evident.

Recommendations

Please see specific recommendations on individual compensation in the following sections:

- Sect. 6.5, Access to Replacement Land
- Sect. 6.5, Temporary Use of Land
- Sect. 6.8, Compensation for Fallow Land

▪ **Effectiveness of Community Compensation**

Issue

In kind community facilities had been delivered in most (but not all) villages affected by the project. Level of compensation received by villages bears no relation to the magnitude of loss they have experienced. The basis for determining community compensation is not transparent.

Compliance

“The project will pay in-kind community compensation for two types of impacts on communities. First, compensation will be paid as a result of permanent project land needs which will decrease the overall amount of community farmland and shared bush resources... ..In the second case compensation will be paid to communities experiencing changes as a result of resettlement of some community members. The purpose of this community compensation is to offset the loss or gain of people in communities with assets that add to the quality of life in the community.” (EMP, Vol. 3, Sect. 7.1).

Discussion

The CRCP provided for in-kind compensation to offset village losses of communal land or losses of population exceeding 10 percent (which has not eventuated). Villages chose their compensation from a list of facilities including a school building, well or pump, market place, road, or a storage building.

The CRCP does not explain how community compensation entitlements were related to the differing losses experienced by each village and in reality, there does not appear to be any connection. For example, Mbanga lost about 14 ha of bush land and received a school building and two drilled wells, while Ngalaba lost about 157 ha of bush land and received a school building and one well. Mouarom lost about 40 ha⁶ and received nothing⁷. Compensation should be reviewed for all villages and where necessary adjusted to reflect their differing levels of communal land loss.

The CRCP indicates that compensation will also be variously distributed to canton and sub-prefectures. The amounts and basis for such distribution are not defined. In the Chad environment such lack of clarity is an invitation for misappropriation. The basis for such payments should be clarified and publicized.

The in-kind facilities provided as compensation have been successful to varying degrees. School buildings were utilized, often staffed with village volunteers rather than trained teachers. The Department of Education had not officially recognized several of the new schools as it did have the staff to resource them⁸. Village wells were often heavily utilized. Several were observed to have basic design problems. Others had failed. Elements of other systems had been stolen (e.g. solar panels for water pumps in Bero 1). In only a few instances, villagers had organized systems of charging to pay for ongoing repairs and maintenance.

More sophisticated approaches to delivering community compensation, promoting community ownership and ensuring it is sustainable should be examined.

For the future, the Study team advocates greater emphasis on community mobilization and assisting each village to make decisions about its needs and priorities, and to prepare proposals for how compensation funds are invested. Properly conceived, this kind of approach develops skills and capacity within the village to make decisions and develop projects. It also promotes greater community ownership of facilities and commitment to their maintenance. This reduces dependence and blame being directed towards the project when failures occur.

Recommendations

- Using satellite or air photos, measure for each village the amount of communal land acquired either temporarily or permanently by the project.
- Develop a valuation basis for communal land that takes into account economic uses such as for firewood, building and roofing materials, foodstuffs, medicinal plants, forage etc, and that accounts for opportunity cost for vegetation to re-establish (for temporary use).
- Review value of in-kind compensation delivered to each village to date and assess the need for top-up compensation (to be delivered in-kind) for villages that have been more seriously impacted by the project.
- All settlements, whether officially recognized as a village or not, that are directly impacted by the project should receive community compensation.
- Define the proportion of compensation to be used to directly by affected villages versus that to be offered to cantons and the sub-prefecture. Publicize the amounts of all such payments.

⁶ All community areas are Study team estimates based on measurements from satellite imagery. If compensation was not paid to an individual land user, land was assumed to be communally owned. Actual areas need to be confirmed by measurement on the ground.

⁷ Mouarom is not an official village and is not recognized by the Kome sub-prefect. It was established in 1970 and has a population of 109 households (study count). It is geographically discrete, has its own chief, a strong community and defined customary territory. Mouarom has been heavily impacted by well field development, but due to its unofficial status, its community entitlements have been directed elsewhere. See also Appendix B.

⁸ Information from the Sub-Prefect of Kome.

Recommendations cont.

- Move towards community mobilization and assisting each village to make decisions about its needs and priorities, and to prepare proposals for how compensation funds are invested.

▪ **Use of In-Kind Compensation**

Issue

During early land acquisition, the project offered compensation in kind as described in the CRCP. Later PAPs indicate that they were not given this option.

Compliance

"...providing in-kind compensation is to reduce inflationary pressures on the costs of goods and services. The EEPCI and/or TOTCO Designated Representative (EDR) can distribute procurement over a wide area, such that inflationary pressure on local markets is limited." (EMP, Vol. 3, Sect. 5.2.1)

Discussion

21% of PAPs surveyed as part of this Study indicated they had received some of their compensation 'in-kind'. About a quarter of these (27%) were satisfied and would accept in-kind compensation again. 42% of survey respondents would have liked to have received in-kind compensation but were not offered it by the project. In-kind compensation was not offered by the project after the initial 2-3 years, as the project struggled with the logistical and quality problems referred to below.

Recipients of in kind compensation interviewed during the Study expressed a number of complaints relating to: (i) the quality of in-kind goods supplied; (ii) their valuation compared to local market prices; and, (iii) the often significant delays in their delivery. Benefits mentioned by in-kind recipients were that in-kind compensation was less susceptible to pressures for sharing from relatives and it was more secure than keeping "cash in the bed".

If logistical difficulties in supplying quality in-kind goods cannot be overcome, the Study recommends that in future the project look to offer in-kind compensation in the form of cereals/cash crops for lost crops or fertilizer and improved seed. In kind compensation is not an OD 4.30 requirement.

Recommendations

- Examine alternative forms of in-kind compensation such as cereals or cash crops for lost crops, or, fertilizer and improved seed.

▪ **Compensation for Replacement Land**

Issue

The CRCP did not address the need to compensate those losing rights to land (communal or individual) to provide replacement area to project affected people. Replacement land has also been omitted from tabulations of project affected land and presumably from project land acquisition budgets. Villages and individuals are effectively expected to subsidize project operations by relinquishing rights to land at no cost.

Compliance

EMP

The EMP is silent on the need to compensate for replacement land. Possible relocation sites were not identified.

World Bank

"The identification of several possible relocation sites and the demarcation of selected sites is a critical step for both rural and urban resettlement... The Bank encourages "land for land" approaches, providing replacement land at least equivalent to the lost land." (OD 4.30, para 13)

Discussion

The CRCP assumes that affected land users will be able to access suitable replacement land from the "village land pool". No attempt was made to quantify the areas of land that might need to be taken from such land pools, nor what

value might be attributed to it. In some villages the replacement land requirement is significant (>100 ha) and there is an insufficient communal "land pool" to accommodate this.

The lack of compensation to either individuals or villages for supplying replacement area to PAPs may have been a contributing factor as to why families and village heads have refused to make land available.

It is standard practice that a project acquires and compensates for replacement land for displaced people. In the OFDA, primary customary rights holders are sometimes able to rent their land for cash or crop share, so customary rights do have economic value. Individuals or villages expected to relinquish land to PAPs should receive some consideration.

As a minimum, where a village allocates replacement land from village communal land to a project affected person, that village should receive in-kind compensation for the area provided.

Consideration should also be given to providing training, cereals, fertilizer or other in-kind assistance as an inducement for host families to distribute some land to PAPs within the framework of a carefully considered land replacement cum village development program.

Recommendations

In villages where suitable vacant communal land exists:

- Examine mechanisms for compensating villages where communal land is relinquished to PAPs.

In villages where suitable vacant communal land does not exist:

- Develop a land replacement cum village development program to induce distribution of land to PAPs and/or communities
- Identify possible relocation sites for groups of PAPs willing to relocate.

▪ **Compensation for Temporary Use of Land**

Issue

Compensation for temporary use of land is on the basis of one year's lost production. Actual project temporary use has often extended over several years.

Compliance

"...compensation shall be calculated as follows:

- *If occupancy is only temporary and the land may be cultivated after one year in the same fashion as before, the compensation shall be set at least at the annual net yield of the land.*
- *In other cases, the compensation shall be estimated at a value at least equal to the value of the land prior to the occupation."* (EMP, Vol. 3, Sect. 4.3)

Discussion

The project has been slow in returning temporary land to its original users. Land has often been held for longer than the one-year period for which crop income was compensated. Land users have not generally been able to access replacement land as envisaged by the CRCP. Land users have therefore experienced losses of subsistence and income for which they have not been compensated.

Recommendations

- Project to review reasons for the delays in signing 'quitus' agreements following completion of reinstatement, and take measures to address any impediments.
- For all project temporary lands, project to review the actual period that elapsed between signing of land agreements and signing of 'quitus'.
- Where the period of project occupation exceeds one growing season, the land user should be compensated for the lost income for each growing season where he or she was unable to use the land. In-kind compensation (in mix of cereal and cash grains, with small cash component) should be considered.
- For future projects, consider renting temporarily used lands from the customary owner or community for the construction period.

▪ **Compensation for Fallow Land**

Issue

CRCP criteria for compensation for fallow land are not consistent with *Ngambay* customary patterns of fallow usage and inheritance.

Compliance

"Compensation for fields is aimed at providing a farmer whose field is used for project purposes with compensation for field labour and crop loss. For this reason, and for transparency's sake, a "field" is defined as an area... ..cultivated during the last agricultural season (March-November of previous year)". (EMP, Vol. 3, Sect. 6.8)

"Ethnic groups differ as to how long bush must be in fallow before it returns to the community land pool and any villager can use it freely... ..The Ngambay are the strictest; cleared land left to fallow can be inherited by one's descendants. This land, also called ndouba, will, nevertheless, revert to the village land pool if the direct descendants die." (EMP, Vol. 3, Sect. 4.5.3)

"...the hedge against poverty for small farmers, both male and female, is the amount of fallow land at their disposition. If the project needs too much of their fallow land, small farmers will be without protection..." (EMP Vol 3, Appendix B 'Vulnerable People')

Discussion

The CRCP makes a strong case for the importance of fallow as a hedge against poverty for small farmers. It also indicates that for the *Ngambay*, the majority ethnic group in the OFDA, *ndouba* or fallow land is passed down through inheritance, i.e. customary rights to fallow are enduring, and not extinguished after one year. The project practice as defined in the CRCP of only compensating for fallow when it has been cultivated during the last agricultural season appears to overlook that individuals may be losing enduring customary rights to land without compensation. Numerous complaints were received by the Study team about the project taking their fallow land and not paying compensation. Clearly there is a gap between how the project has interpreted fallow land and people's perception of their customary rights.

At the moment, loss of fallow (other than that used in the last year) is a hidden loss. Household land losses being recorded in project records are less than the real losses experienced by households because they do not account for loss of all a household's fallow land. Many people complained to the Study team about not being compensated for fallow. Because of the way the CRCP defines 'fallow', their complaints appear groundless, but this Study found them to be quite justified.

The study survey indicated that 55% of households in *Ngalaba*, 44% of households in *Mouarom* and 61% of households in *Mbanga* now have no fallow. The risk of impoverishment for these households as reported in the CRCP must be very high. The best form of compensation for lost fallow is land-for-land – access to replacement fallow.

Villagers interviewed during the present study noted that historically when land was tired, it was typically left fallow for 4-5 years before being re-cropped. Nowadays, the land is typically used for 2-3 years then left fallow for 3-4 years (where sufficient land is still available). Survey data shows on average, prior to the project, households retained approximately equal areas of fallow and actively cultivated land. This indicates that in actual practice fallow periods must be shorter than interviewees indicated.

When 3-4 years fallow is an integral part of villager's agricultural rotation, it seems inconsistent that the CRCP provides for compensation for fallow land only when it is less than one year after cultivation. Fallow land that is 2-4 years after cultivation is just as significant to households overall production as a loss of recently cultivated fallow.

There was some anecdotal information from villagers suggesting that clearing of fallow had occurred ahead of project land acquisition as a strategy to maximize compensation. Measures to avert this for future projects might entail (i) publicizing a clear cut-off date with aerial photos of the project area taken on that date to establish the condition of the land; (ii) a more extensive approach to compensating for project affected fallow land.

Recommendations

It would be difficult to identify individual fallow land after it has been occupied by the project. It would also be difficult to change the compensation policy relating to fallow land as applied in the OFDA. For future land acquisition outside the OFDA, the compensation basis for fallow land should be revised taking into account different ethnic group's customary

Recommendations cont.

patterns of use, inheritance and individual retention or relinquishment of fallow.

- For future Operations, the project should compensate all individually allocated fallow for up to five years since last cultivation, or alternatively provide access to equivalent replacement fallow area.
- A specific compensation rate should be adopted for fallow land recognizing the loss of customary rights when *fallow* is taken by the project.
- Fallow land should be part of the area eligible for land for land compensation.

▪ **Compensation for Third Party Users**

Issue

The project is not ensuring that compensation for losses is reaching third party land users.

Compliance

“EEPCI and/or TOTCO will not compensate holders of secondary rights [Third Party Users]. They must arrange for compensation directly with the holder of primary rights.” (EMP, Vol. 3, Glossary)

Discussion

This is an issue about ensuring fair distribution of compensation between a customary rights holder and any user of his land. During interviews, complaints were received by the Study team from both the primary rights holders and users about the distribution of compensation.

Primary customary rights holders sometimes rent or lend their land on a short term basis, for cash or a share of the harvest or for free, to third parties. These third parties are also potentially losing investment in labour (clearing), loss of in-ground crops and income when the project acquires land.

The CRCP presently indicates that compensation is only payable to the primary customary rights holder, and that the primary holder is responsible to pass on any compensation to third parties. Resettlement experience from around the world indicates this is unlikely to happen.

Some third party users encountered during this Study, indicated they received nothing or were dissatisfied with their entitlement. Third party users are in a very weak position. The project obligation is to ensure that all parties experiencing losses are compensated at full replacement value.

It is difficult to envisage now how the project could retrospectively identify third party users and ensure they were effectively compensated. The issue can straightforwardly be addressed in future transactions.

Recommendations

For future land transactions:

- As part of the land and user identification process, the project should establish whether any third party users are utilizing the subject land. Nearly all these agreements will be informal, based on verbal agreement. A small number may have been recorded with the Village Chief.
- During the land identification and inventory, both the primary customary rights holder and the third party user should be present. Responsibility for clearing and ownership of any trees and crops should be clarified between the owner and third party user. The agreed basis for land use (rental, share of harvest) should also be clearly established as well as the agreed period of use. The village chief, judge or elders could be consulted in the event of any disagreement.
- At time of agreement signing, a tri-partite discussion (project officer, primary rights holder, third party user) witnessed by the village head should be conducted to agree a division of compensation based on respective losses.
- The project should pay compensation directly to the primary rights holder and third party user in accordance with the agreed division of compensation.
- Third party users should be treated as PAPs. They should be recorded in the census with details of dependents. They should be included in project monitoring.

▪ **Compensation for Restrictions of Use**

Issue

Some project temporary land is returned to customary users with restrictions of use. To date, customary users have not been compensated for such restrictions.

Compliance

EMP

"Both holders of legal title to land and traditional land users are compensated." (EMP, Vol. 3, Sect. 1.1)

The EMP is silent on compensation for restrictions of use.

World Bank

"Resettlement plans should review the main land tenure and transfer systems, including common property and nontitle-based usufruct systems governed by locally recognized land allocation mechanisms. The objective is to treat customary and formal rights as equally as possible in devising compensation rules and procedures." (World Bank OD 4.30, para 17)

Discussion

The project is applying some use restrictions to a 15-metre strip over the main export pipeline, around well pads and possibly under transmission lines. In many jurisdictions, owners and in some cases users or occupiers of land which become subject to restrictions are entitled to compensation for the limitation of their rights. Compensation may take the form of an annual rental payment or one-off lump sum.

The World Bank Group typically requires compensation for way leaves under transmission lines. Under IFC financing, the BTC pipeline developers compensated landowners affected by restrictions applied over oil and gas pipelines in Azerbaijan.

In Chad, it can be argued that project affected people are customary rights holders, that their rights are being restricted and that such restrictions might limit their economic return from the land (e.g. limitation on tree crops, restriction on burning). Burning is an important part of slash and burn agriculture as it releases phosphates that are critical to later crop development. Without burning, PAPs will need to invest additional labour or use artificial fertilizers to avoid reduced yields.

The ECMG is recommending compensation for land subject to restrictions. This Study endorses that recommendation. As a minimum, the Project should check (i) whether there is any requirements for compensating for wayleaves or restriction of rights under Chadian law; and if there is, (ii) whether such restriction is applicable in cases of customary ownership.

Recommendations

- The project should define entitlements and provide compensation to owners and communities affected by restrictions of use.
- As a minimum, the Project should check (i) whether there is any requirements for compensating for wayleaves or restriction of rights under Chadian law; and if there is, (ii) whether such restriction is applicable in cases of customary ownership.

▪ **Illegal Deductions from Compensation**

Issue

Nearly every project affected person interviewed during the Study confirmed that they had been forced to make payment to their village chief equivalent to 10% of their compensation amount.

Compliance

"Compensation is as transparent as possible." (EMP, Vol. 3, Sect. 1.1)

"Meeting the intent of... ..all local laws." (EMP, Vol. 3, Sect. 1.1)

Discussion

Chad has recently reiterated the law against illegal payment of gratuities to village officials. This notwithstanding, nearly every PAP indicated that they had been made by their village chief or his henchmen to handover 10% or more of their compensation. Nearly all indicated this was done unwillingly.

Unfortunately the precedent has been allowed to occur in the OFDA. It would be difficult to change this culture for the relatively small number of remaining land transactions in the OFDA. Future compensation should include provision to cover such deductions so that the cost is not borne by PAPs.

As a result of these deductions, several interviewed villagers suggested that the village chiefs can no longer be considered as unbiased brokers in dealing with land issues. *"The village chiefs always take Esso's view because they benefit from this..."* was how one Miandom resident expressed it. This needs to be borne in mind when village chiefs are called on to witness or arbitrate on land issues.

A more concerted approach towards stamping out such corrupt practices should be implemented for future projects outside of the OFDA. Concerted action by high level government can have a powerful demonstration effect. Esso advises that the issue has been raised with the Government and the project's International Advisory Group. Recently two canton chiefs (Krim Krim and Kome) have been forced to resign over governance issues. This is some small progress and may send a cautionary message to other local government officers.

Recommendations

- For future projects, make a concerted effort to stamp out illegal taxes being extorted from compensation beneficiaries through measures such as:
 - Seek ministerial or higher level government assistance to publicize to all levels of government and the public that parties found involved in corruption will be prosecuted.
 - Widely publicize ahead of disbursement that compensation payments are not subject to deductions or unofficial taxes.
 - Provide confidential avenues / phone hotlines for people to contact if they experience coercion.
 - Pursue vigorously prosecution in cases where corruption is uncovered.
 - Consider disbursement of compensation through bank accounts or credit societies so it can less readily be extorted.
- Consider more widespread compensation in kind (land-for-land, payment in cereals, etc) to reduce cash payments and liquidity.

6.8 Livelihood Restoration

▪ Livelihood Restoration Strategy

Issue

Displaced persons should be assisted in their efforts to improve income earning capacity and production levels.

Compliance

EMP

"Affected people's standard of living will not be less than their current conditions when compensation is complete." (EMP, Vol. 3, Sect. 1-2)

"Affected people have adequate time and resources to re-establish themselves." (EMP, Vol. 3, Sect. 1-2)

"In some other cases, the Project's land requirements might affect all or a major portion of an individual's or household's holdings. If an individual or household does not have enough farmland to remain economically viable after surrendering fields to the Project, they may need to move to a new area. In these cases, individuals and households will become eligible for resettlement, as well as for replacement compensation for lost investments." (EMP, Vol. 3, Sect. 6-2)

World Bank

"Displaced persons should be... assisted in their efforts to improve their former living standards, income earning capacity, and production levels, or at least to restore them." (World Bank OD 4.30, para. 3(b))

Discussion

The CRCP describes a livelihood restoration strategy based on (i) cash compensation to offset short-term losses in crop production; (ii) reinstatement and hand-back of land to original users for temporary use; (iii) on- and off-farm training to diversify/increase household earnings, or create alternative off-farm employment; and, (iv) replacement land through customary mechanisms to offset permanent losses.

The CRCP also identifies the option of resettlement for households that are left un-economically viable. As noted elsewhere, this option is not being offered to red-flagged households. This is a non-compliance that must be addressed.

Measures (i) and (iv) are discussed in foregoing sections. Comment on measures (ii) and (iii) are provided below.

While it is difficult to draw firm conclusions about household income and expenditure patterns as they are still very much influenced by compensation payments and training subsidies, the Study team observes that agricultural training and off-farm training have only supplemented household income so far. The Study team conjectures that the improvement in average household income attributable to training to date is probably less than 10%, although greater improvements (say 30-40%) may result from agricultural training if current programs are extended for 5 or more years.

Off-farm training is also found to augment agricultural income rather than lead to off-farm employment. Study estimates indicate that for the average sized household receiving off-farm training (11.5 members), income from off-farm training is providing less than 10 percent of the income lost as a result of project land take. If income of such households is to be restored, other strategies need to be developed by the project to achieve this. Where possible, this Study considers the most straight forward and reliable means to achieve this is access to replacement land.

In the short-mid term, training may assist with covering livelihood impacts from small losses of land (<10-20% of holding), but other strategies are required to address larger losses. As advocated by OD 4.30, facilitating access to replacement land should be the primary strategy.

Other strategies such as introducing irrigation based on produced water, improved agricultural techniques and introduction or re-introduction of cash crops also have potential in the longer term. These latter strategies have many short term risks, will require a large cultural shift in farming practices and organization, will involve trial and error, and considerable time before they result in sustainable improvements in household income.

In short the magnitude and severity of project impacts in the OFDA are far greater than envisaged in the CRCP. The livelihood restoration strategies proposed in the CRCP are not adequate to address the impacts of households left economically non-viable as a result of land losses to the project. The overall role of training in livelihood restoration model needs to be revised. Training is supplementing traditional agricultural activities for some households, but it is not an alternative to land replacement programs.

Recommendations

- Develop new strategies to facilitate PAPs access to replacement land (see Sect. 6.5 Access to Replacement Land).

▪ Land Reinstatement and Hand-back

Issue

Physical reinstatement of land is now progressing well. Return of use is still lagging. In some cases, affected farmers seem unclear as to when they can resume use of their customary land.

Compliance

"Key elements [of the CRCP] include... minimizing Project land use, reclaiming land after construction, and making as much land available as possible to customary users." (EMP, Vol. 3, Sect. 1.1)

Discussion

The Study was not able to determine the reasons for why there was such a backlog of reinstated land not yet returned to users. The project indicates land is handed back to communities, not individual users, and community members need to decide who will use the land. Whatever the mechanism, it is clearly not working very effectively as at the time of the study, which coincided with the start of the planting season, there were 1,247 reinstated hectares not being utilized. There was often confusion amongst villagers about whether or not their land had been handed back and

Discussion cont.

whether they were allowed to resume use. Part of this confusion stems from the quitus being signed with the village chief and not the displaced person, even when the land was previously individually used. The project needs to review its approach and devise a better procedure for ensuring that users are notified about when they can resume use of their land.

It strikes the Study team as curious that individually used land at least is not returned to its traditional users. There would appear to be potential for conflict if land to which a household has a close attachment is allocated to someone else.

The Study team physically tested reinstatement on a number of sites (well pads, borrow site) and generally found there had been satisfactory sub-grade ripping and top soil replacement. In response to complaints from villagers in Madjo, two well pads were tested there and it was found that topsoil had been placed directly over un-ripped laterite. Two nearby borrow pits sites were found to have deep cover of top soil.

Several complaints were received by the Study team specifically about reinstatement over flow lines. "The soil was put back upside down" according to one complainant. In flowline works observed by the Study team, topsoil was not being stripped separately from subsoil. It was noted however that the construction footprint would have had to have been several meters wider to accommodate separate top soil stockpiling so the contractors approach did minimize the aerial extent of damage, at the expense of topsoil replacement over the relatively narrow trench.

Locals in several villages indicated that they did not want to use land on restored borrow pits because of its slope. It was sometimes unclear whether slope was the real issue or whether villages were aggrieved that they did not receive compensation for the borrow material that came out of the ground.

Recommendations

- Review measures to streamline "quitus signing" and land hand-back.
- Set a target for land hand-back to be achieved prior to the next growing season (e.g. 90 percent of currently occupied temporary lands). Closely monitor performance against this target.

▪ **Effectiveness of the 'Red Flagging' System**

Issue

Process of screening so-called red-flagged households for eligibility is not transparent and is failing to identify a large number of very seriously affected households.

Compliance

Red flagging is a resettlement team procedure, not referred to in the CRCP.

Discussion

Of the 1,575 people who have been red-flagged⁹ to date, 338 or 21% have been assessed as eligible for training.

Red-flagging is based on a household's self-reported total land use area and household size. Both self-reported area and household size have proved to be very subjective measures, sometimes overstated or understated according to a household's perception of which will most favor its chances of being eligible for resettlement assistance. They are, therefore, a very unreliable basis for determining which households should receive additional livelihood restoration measures.

Criteria used to assess eligibility training are unclear. Some households severely affected by loss of use of land appear not to have been detected by the screening process or reportedly have been disqualified on grounds that often seem arbitrary to PAPs. This gives rise to claims by PAPs that they were disqualified for off-farm training "...because they were illiterate", or "...because they had lied about their total land resources". These claims may be exaggerated, but they certainly arise from the lack of transparent and definitive criteria for determining who does or does not receive training, and who receives the highly sought after off-farm training versus those who receive agricultural training.

The Study team considers 0.67 cordes per person is an important threshold for ensuring that households are not left with insufficient land to meet their minimum food requirements. It is a criterion for avoiding households becoming

⁹ See the explanation of 'red flagging' in Sect. 4.3, p. 7-6.

vulnerable due to food insufficiency. But under OD 4.30, the project has a wider obligation to “restore livelihood” for all landowners who have experienced losses of productive resources. The standard adopted by the CRCP is less extensive than is required by OD 4.30.

The policy requires that all households which experience losses must be given the opportunity to have their livelihood restored, not just those that fall below a minimum threshold. To this extent, a fairer test, and certainly one more consistent with OD 4.30, would be to make all households losing more than 20% of their land eligible for resettlement assistance as well as those left with less than 0.67 ha. The project database is not, however, sufficiently robust for such a test to be reliably applied.

The project needs (i) review the rationale for red flagging with reference to obligations under OD 4.30; and (ii) clarify eligibility criteria and assessment procedures. These should be incorporated in any amendment of the CRCP.

Recommendations

For ongoing land acquisition in the OFDA:

- Physically verify the total area of customary land reported by a household in the field or by reference to orthophotos. Consult the village chief or elders as well as the affected person to verify the land area.
- Rigorously apply the 2/3 cordes/person standard. If a household falls below the criterion, they must be offered the option of training or physical relocation with replacement land.
- Clarify and publicize the criteria used to distinguish eligibility for agricultural training versus off-farm training.
- Prepare a clear and comprehensive entitlement matrix to be used by project staff and to clearly communicate to PAPs their entitlements.
- Consider engaging an NGO to provide counselling and provide an independent recommendation on the type of training each eligible individual should receive.

For future land acquisition outside of the OFDA:

- Establish new eligibility criteria based on the magnitude of land lost by a household as well as applying the minimum 2/3 corde/person standard. For example, any household or individual losing > 1 corde of land, or any household losing more than 20% of its customary lands should also be red flagged and eligible for training, or resettlement and replacement land.

▪ **Criteria for Non-Viable Households**

Issue

Has the 2/3 corde/person standard adopted as the threshold for eligibility for training or resettlement proved reasonable?

Discussion

0.67 cordes per person was the threshold adopted by the CRCP for individuals to be eligible for training. Experts from ORT (the NGO providing agricultural training) confirmed this was a suitable rule of thumb in the OFDA, but noted that on poorer soils a larger area might be desirable. Respondents of the Study household survey were also asked to recommend what they thought was the minimum area to support their household. Results averaged at exactly 0.67 cordes/person.

On the balance of evidence gathered by the Study, the 0.67 cordes/ person criterion is an appropriate standard for ensuring that households are not left with insufficient land to meet their minimum food requirements in an average growing season.

Please read in conjunction with comments in Section 6.9 Effectiveness of the ‘Red Flagging’ System

Recommendations

- The 0.67 cordes/ person criterion is confirmed as an appropriate threshold for ensuring that households are not left with insufficient land to meet their food requirements in an average growing season.

▪ **Effectiveness of Off-Farm Training**

Issue

Has off-farm training proved an effective livelihood restoration measure?

Compliance

“Off-Farm Income: Individuals who have some off-farm skills or realistic business opportunities may choose to receive a year’s tuition for approved local skills-training programs, and low-interest loans for tools or materials needed.” (EMP, Vol. 3, Section 6.7).

Discussion

Off-farm training is highly sought after, in most cases because of the generous living allowances associated with attending training, but sometimes because it enables an individual to develop skills or education that he or she already has. The short term impact of off-farm training allowances is clearly apparent in income data collected during this Study.

76% of respondents felt the courses that they attended were of good or average quality. About 24% assessed their course as “difficult”. Of the 38 surveyed people who had completed off-farm training, 63% indicated that they had been able to generate at least some income with the skills they had learnt. The average additional income reported was 43,400 FCFA/year.

Complaints about the tools and equipment received as part of the off-farm training package were very widespread. Complaints that tools had not arrived until 2-3 years after training had been completed were not uncommon. The poor quality of equipment was another frequent complaint. These issues have substantially undermined any livelihood restoration function of the training and often left trainees embittered and disillusioned. These difficulties must be overcome as a high priority.

Examples of broken sewing machines, broken and poor quality carpentry tools and black smithing equipment were exhibited to the study team. Four trainees who had completed training in welding had refused to accept their package of tools because they said, the tools were for blacksmithing, not welding.

A number of individuals have selected and completed training in trades which they had expected would enable them to obtain employment with the project or its contractors. They have subsequently been disappointed when such opportunities did not materialize. Others found that there was little demand for their services in the village (e.g. mechanics, masons), or too much competition from established trades people (e.g. blacksmiths, some carpenters, tailors).

In some instances, child allowances paid to off-farm trainees families had allegedly been subject to deductions by the people responsible for payments with villages.

Off-farm training does not appear to have resulted in many (if any) affected people being able to transition to full time off-farm employment. Opportunities for this outside of the project are very limited. Village economies need to develop considerably before there is widespread demand or capacity to pay for services. Enterprise opportunities are very limited. Nonetheless, off-farm training has enabled about half of the participants to supplement their agricultural income. The living allowances received by off farm trainees have undoubtedly provided an important short-term source of income for more seriously affected households.

As reported in Sect. 6.8, Livelihood Restoration Strategy, for an average household supplementary income resulting from off-farm training is accounting for less than 10 percent of the income lost as a result of reduced land holding.

For future projects, greater analysis needs to be undertaken of the potential downstream demand for skills and services in villages, before training is provided. Alternatively, training needs to be directed to skilling people to meet specific long term needs of the project.

In future, for projects in rural settings it is recommended that off-farm training should make up a smaller component of any livelihood restoration program. The project needs to carefully consider downstream opportunities for people completing courses and linkage of training to real needs and opportunities.

Recommendations

For the ongoing program in the OFDA

- Off-farm training as a livelihood restoration/enhancement measure has failed. Off-farm training can assist as a supplement to traditional household agricultural income, but it cannot adequately replace it. Off-farm training should be retained only as a complement to land replacement programs.
- Off-farm training should be used very selectively in (i) cases where an individual can demonstrate that the skill sets they will obtain will enhance their future livelihood; and (ii) where they train villagers in activities that will supplement and diversify household earnings.
- The project (and its contractors) should undertake a careful review of their activities to identify small opportunities for people who have completed off-farm training to provide semi-skilled services to the project.

For future resettlement programs outside of the OFDA:

- In future, for projects in rural settings, undertake more careful analysis of downstream opportunities for people completing off-farm training courses. Plan training and in-takes accordingly.
- Earlier in the project cycle assess micro-procurement opportunities (e.g. laundry, landscape restoration, security, painting, printing and sign-writing, fencing, leather glove fabrication, transportation, uniform production, etc) that local people provided with training and equipment might be able to fulfil. Provide assistance with establishing small cooperatives, training and equipment
- Identify skill sets that might be useful either for the construction phase or during operations, for which suitable local candidates could be recruited and trained.

▪ Effectiveness of On-Farm Training

Issue

Beneficiaries of agricultural training were generally appreciative of its quality and value but reported impact on agricultural earnings was low.

Discussion

62% of beneficiaries assessed the quality of agricultural training they received as good and 15% as average. Most found the training straightforward, but 31% rated it as "difficult". 92% of beneficiaries indicated that they applied their training at least some of the time and 59% considered the training had contributed to some improvement (generally small) in household income. Of this latter group, the average additional income/person reported was 25,000 FCFA/year. Several people wished for more training and were disappointed that their current course was over.

The 500,000 FCFA /trainee grants offered with the agricultural training were found to have been used on productive assets – oxen or cattle, ploughs, yokes, ox carts, hand carts, bicycles, peanut grinders/ shellers were commonly mentioned as items purchased. Numerous complaints were made about the quality of wheel barrows and hand tools provided to trainees as part of their package. These need to be heavy duty to survive village conditions.

Numerous households observed that their livestock had become sick or died. (See also recommendations for Implications of Increased Livestock). A poultry program had also proved unsuccessful as the introduced poultry had all succumbed to disease. It would seem prudent to coordinate with government vaccination programs or provide vaccination using private vets as an extension of the grant program.

Market gardens, run by purpose-formed cooperatives, have resulted in supplemental household income. They are successful when (1) the village is located near a river and there is abundant water during the dry season; (2) there is a market to sell the products (especially near Doba). Other programs, principally targeting women, such as courses in soap making, batik production, and food processing (tomato concentrates and preserves, sorghum biscuits, beer and wine making) were also reported to have contributed to household earnings. They had often been implemented only once or twice as women complained about a lack of money to make the necessary initial investment, and the difficulties to find a market.

The Study team observed that the 12-month agricultural programs have predominantly focussed on teaching techniques on 0.5 ha demonstration plots. Ongoing training will be required if farmers are going to be able to transfer skills learned from demonstration areas to their full size operations. 12 months training is insufficient to change traditional practices.

Discussion cont.

Overall the agricultural training is assessed as very worthwhile, but it needs to be sustained for at least another 2 years (3 years total) if techniques learned are to result in changed agricultural practices and improved productivity. In the short to medium term, its impacts on productivity and earnings will be useful for increasing income, but not for offsetting the income losses of households losing more than 10-20% of their land.

Recommendations

- Reassess the role of agricultural training as a livelihood restoration measure.
- Consider widening the beneficiaries to include:
 - All households that have lost land to the project (as agricultural training's real effectiveness for restoring livelihoods is with those who lost small amounts of land (<20% of their total area)
 - Households, extended families, or ngelka that are prepared to make available replacement land to project affected people as part of any future village land replacement strategy.
- Extend the agricultural training period to three years to enable the techniques learned on demonstration areas to be transferred to working fields.
- See also recommendations in Implications of Increased Livestock Ownership section below.

▪ **Implications of Increased Livestock Ownership**

Issue

Many households have invested their compensation and training grants in cattle. Cattle mortality is high, but could be straightforwardly reduced with vaccination. Increased cattle numbers will increase pressures on natural forage.

Discussion

One very significant benefit of the project is increased cattle ownership by households. Cattle represent a form of household saving. Coupled with the ploughs many PAPs received as part of their agricultural training package, households are able to cultivate larger areas and more effectively. The Study obtained qualitative information about the presence/absence of cattle owned by each household¹⁰.

The increased number of cattle presents new risks. Increased cattle numbers will increase pressures on natural forage which may or may not be adequate all year round to support elevated cattle numbers. Unless vaccinated, cattle are subject to numerous diseases and high mortality. Many interviewed affected people reported that some or all of their cattle had died¹¹.

A government vaccination program was observed to be active in some parts of the OFDA. Vaccination costs were affordable for local people. Experience elsewhere is that once people are aware of the economic benefits of vaccination, they are willing to pay for ongoing vaccination services.

Recommendations

- Given the widespread investment of compensation money in cattle, consider giving support to subsidizing a vaccination program.
- Consider a livestock component as part of any extension to the agricultural training program, including forage production.

¹⁰ Presence or absence of cattle was recorded to obtain comparable data with the 2003 study. Cattle ownership rose from 38% among the 2003 control group to more than 2/3 of the PAPs in 2006.s

¹¹ 41% in a sample of 17 PAPs of Béro.

6.9 Organization and Resources

▪ Human Resources

Issue

The project resettlement and socio-economic teams are small with a heavy workload. They are managing resettlement planning for the Moundouli Oil Field in addition to the Three Fields OFDA. There are still substantial land acquisition and resettlement activities to be completed in the Three Fields OFDA.

Discussion

The project land, socio-economic and resettlement teams are small with a heavy workload. The nature of their work requires extensive field time and access to vehicles. The team is managing resettlement planning for the Moundouli Oil Field in addition to the Three Fields OFDA. Team managers are on month-on month-off rotations so there is a further cost in efficiency as a result of mobilization and demobilization. As revealed in Chapter 2, there is still very significant land acquisition to be undertaken in OFDA.

In addition, the task of facilitating affected peoples' access to replacement land, as recommended by this Study, is a very substantial one that will be resource intensive. This latter task is likely to require multidisciplinary expertise – GIS systems and database management, rural land use planning and rural development skills, agricultural/soil science, community consultation specialist in addition to land, resettlement and socio-economic expertise. While the project team has some of this expertise in-house, those resources are already heavily utilized. It would make sense to either increase in-house resources or package some of these activities and look at partnering with experienced NGOs or development specialists, or both.

The Study identified two specialist areas where staff resources need to be strengthened. These are as follows:

GIS/database management – two local specialists needs to be trained and mentored to take over the operation of the GIS and database management. Ideally this should occur over a 12-18 month period during which the current expatriate specialists would transfer skills and systems to local incumbents.

Social development advisor – the socio-economic and resettlement teams presently lack capacity in social development / rural sociology. Under time pressures to acquire land and without social development guidance, there is very real risk that the project operation will revert to an exercise in land acquisition and compensation. The CRCP prerogatives of restoring standards of living, restoring people's livelihoods and giving people the opportunity to benefit from the project need to be better integrated into land acquisition operations. This is a critical risk management function. It is recommended that an experienced social development specialist be engaged to strengthen the capacity of the socio-economic team. Key functions would be (i) providing advice to managers on delivery of the land acquisition and resettlement programs; (ii) compliance and quality assurance of social aspects of that delivery; (iii) delivering training and assisting in systems development in areas such as social assessment, monitoring, ongoing consultation and information dissemination, NGO and stakeholder engagement and social risk assessment; and, (iv) oversight of the design and implementation of the program to facilitate affected people's access to replacement land.

The Study noted that the LCCs generally have good skills and rapport with communities, but they are isolated from the mainstream functions of the socio-economic team. With training, they could potentially play a far wider role in social assessment and data gathering, monitoring and evaluation, and grievance processing. They are a useful resource whose skills should be strengthened.

Recommendations

- Review pending workload requirements of the project socio-economic team including for continuation of the OFDA well infield program, possible program to facilitate affected people's access to replacement land and Moundouli Oil Field development. Assess which activities are best undertaken in-house and which might be procured through outsourcing to development NGOs or contractors. Conduct any necessary recruitment early.
- Recruit local graduates to be trained and mentored to take over management of the GIS and compensation data bases within 18 months to 2 years.
- Recruit an experienced social development adviser to provide compliance/ quality assurance on delivery of social aspects of the land acquisition and resettlement programs, and to provide training for the socio-economic team.
- Provide training and expand roles of the LCCS.

6.10 Consultation and Disclosure

▪ Community Preparation

Issue
Insufficient attention to preparing compensation recipients to receive cash compensation.
Discussion
<p>Some local government officers and NGOs were very critical of the project for its failure to prepare people for receipt of compensation monies and that as a consequence, much compensation money was dissipated on un-productive uses.</p> <p>Most project affected households have limited experience of managing large amounts of cash. Workshops to provide guidance to households on options for managing their compensation are desirable. These might cover use of bank accounts, strategies for budgeting and investment. Greater emphasis on non-cash payment (e.g. land for land, in-kind compensation) is also desirable.</p>
Recommendations
<ul style="list-style-type: none">• For communities still experiencing compensation programs, and for future fields development, develop a seminar or workshop series for providing guidance to households on options and pitfalls for managing their compensation. These might cover use of bank accounts, strategies for budgeting and investment and risks of dissipating compensation monies.• The workshops might be outsourced to an NGO. They might incorporate inputs from representatives of local banks, credit associations, and from other affected people who have had good or bad experiences with managing compensation.• Individual consultation and counseling on compensation use in line with the expressed priorities of the PAPs when the initial compensation file is presented (and the SE interview done).

▪ Engagement with Local Government

Issue
Local government offices at village, canton and sub-prefect level complained that there was no regular dialogue with the project
Discussion
<p>Local government officers visited during the Study complained about a lack of regular dialogue or communication with senior management of the project. Officers were unable to have face to face meetings with project staff because they could not enter the project's secure compounds. Local government officers only contact with the project was when they were summonsed to deal with the project's crises or problems.</p> <p>There are very real social and security risks where a project becomes disengaged from its neighboring communities. There are also many problems and opportunities that can best be addressed through a united approach between the project and local leaders. Well briefed community leaders are able to dispel rumors and harmful misinformation. Regular community forums can discuss specific problems, alert communities to forthcoming project activities and lead to exchange of information about employment, procurement opportunities, community tensions and concerns.</p>
Recommendations
<ul style="list-style-type: none">• Initiate quarterly or six monthly community forums, where a senior Esso manager meets with community leaders to brief them on project developments and activities, and to hear community leaders' feedback and concerns.• Prepare a schedule of stakeholder meetings with local government and NGOs.

▪ **Engagement with NGOs**

Issue
The project has limited engagement with local NGOs.
Compliance
The EMP does not include any ongoing commitment to NGO engagement.
Discussion
<p>The Study team met with a cross-section of local NGOs including the Association de Développement des Villages Piste Allemande (ADEPAL), Association Pour le Développement et la Défense des Intérêts du Canton Miandoum (ADICAM) and Bureau d'Etude et de Liaison des Actions Caritatives et de Développement (BELACD). While sometimes critical of aspects of the project's performance, representatives of each of these organizations had constructive observations and suggestions about how the project could improve the way it interacted with communities. It is strongly recommended that the project renew efforts to engage with local and national NGOs, and consider partnering with some of them in implementing its social development programs. The EEPCI EMP Manager reported having made a concerted effort to engage with local NGOs and reports that these efforts will continue.</p> <p>Several areas where project interests were potentially complementary to local NGOs activities were noted during the study. These include: providing information to affected people about how to use compensation money and promotion of household saving; provision of credit; implementation of agricultural development activities; third party review of grievance process; undertaking some kinds of community consultation and monitoring and so on.</p>
Recommendations
<ul style="list-style-type: none">• Initiate regular meetings with representatives of local NGOs to brief them on project activities and to gather feedback on project social performance.• Examine opportunities to partner directly with local or national NGOs or give them the opportunity to work with ORT or GMN in delivering aspects of the agricultural and off-farm training programs.• Look at finding a national legal NGO to provide advice and support people involved in transactions with the project.• Consider using respected local NGOs to undertake third party monitoring of the Grievance system and to develop programs for community preparation ahead of project land acquisition and construction activities.• Prepare a schedule of stakeholder meetings with local government and NGOs.

▪ **Engagement with Project Affected People and Local Communities**

Issue
The project socio-economic team does not spend enough time in the field unrelated to transactions to engage with local people and listen to their concerns.
Compliance
The CRCP describes historical consultation and engagement activities completed as part of the resettlement plan preparation. It does not describe the kinds of ongoing consultation activities to be undertaken during resettlement implementation.
Discussion
<p>During the Study, the views of many ordinary villagers and project affected people were heard during informal village meetings and in one-on-one discussions. Key concerns that were heard from villagers throughout the OFDA included the following:</p> <ul style="list-style-type: none">- Opportunities for local employment- Access to replacement land (amongst project affected people)- Allegations or suspicions that people who received jobs with the project did so through bribery or buying their job.

Discussion cont.

- Complaints about rough treatment by security forces (project security during daylight hours, army at night).
- Concern about health and infant health in particular

LCCs are in an excellent position to play a more extensive role in gathering views, monitoring and interacting with local communities. To date, LCCs have not received any particular training in community consultation or monitoring techniques.

One group that the project should pay particular attention to regularly consulting are the semi-sedentary and transhumant pastoralists that regularly move cattle through the OFDA. Many are based at the Ferik of Kome "Hambassadna", established 9 years ago in part to enable the pastoralists to try and gain employment with the project. While the pastoralists confirmed that Esso installations had not interfered with their activities, consultations with the pastoralists and other villagers revealed that there is considerable tension between the two groups and quite frequent conflict, most commonly arising from the pastoralist's livestock causing damage or grazing on sedentary villagers' crops. Relations between the pastoralists and sedentary villagers are a potential flashpoint for social unrest in the OFDA. As part of its social risk management, EEPCI should ensure that it has well established avenues for dialogue with the Ferik.

Recommendations

- Provide training to LCCs on basic techniques for community consultation and monitoring (see also Sect. 6.12 Internal Monitoring).
- Look at recruiting one or more community development specialists to more actively engage with communities for implementation and monitoring of community development programs.
- Incorporate regular consultations with the leaders of the Ferik of Kome as part of project consultation and stakeholder engagement programs.

6.11 Complaints and Grievances

▪ Consolidation of Complaints and Grievances

Issue

Grievances are being satisfactorily logged and tracked. The system is fragmented along departmental lines, so it is difficult to obtain an overview of all the complaints that the project receives and its performance in addressing them. The grievance system is not presently subject to any detailed independent audit.

Compliance

The primary channel through which people can state grievances concerning non-fulfilment of contracts, levels of compensation, or seizure of assets without compensation, will be the EDR. (EMP, Vol. 3, Sect. 8.7.2).

Discussion

Grievances are being satisfactorily logged and recorded within departments (e.g. Land, Resettlement, Employment, etc). With movement towards Operations, it would be constructive to consolidate all departments' grievances into one tracking system. This would provide Management with an overview of project performance in managing community relations and closing out complaints. Grievances are an important indicator of potential problematic issues or practices.

Closing out of grievances is presently based on internal judgment. Grievance actions and outcomes as recorded in the log should periodically be checked by someone outside of the responsible department. This should occur in the field with reference to the original complainant.

The grievance system is not presently subject to any detailed third party review. The ECMG frequently comments on systemic and management issues, but does not undertake a formal audit of the grievance system. The system would have much greater credibility to outside stakeholders if it were subject to third party review.

Recommendations

- Engage a respected NGO or educational institution to undertake periodic independent audits of grievance processing and outcomes.
- Look at consolidating all grievance logging and tracking so that the Management team has an overview of project performance in addressing and closing out complaints.

6.12 Monitoring and Evaluation

▪ Internal Monitoring

Issue

There is no internal consolidated report or synthesis of resettlement progress and strategic issues to inform the project management team. Internal monitoring does not presently involve any gathering of feedback from project affected people.

Compliance

EMP Vol. 3 Sect. 3.5.1 identifies verifiable indicators for monitoring. The EDR is nominated as being responsible for providing data.

Discussion

Like other aspects of resettlement operations, internal resettlement monitoring is occurring within, rather than across, project departments. Progress reports are produced on numerous aspects of the resettlement program (e.g. land acquisition, off-farm training, on-farm training, replacement housing) but there is no consolidated reporting or synthesis of resettlement progress and strategic issues.

The most important source of feedback on project resettlement performance is the views of project affected people. With the possible exception of the Local Community Contacts (LCCs), no one from the project is regularly engaging with local people outside of formal land and compensation transactions. Informal discussions and semi-structured interviews with a cross-section of affected people should form a part of regular monitoring and reporting.

The LCCs are the eyes and ears of the project in the community, but they appear to have become divorced from the mainstream Socio-Economic Team. They should be provided with training to take a more important role in community monitoring.

Recommendations

- EEPCI to develop an internal monitoring program (to be included in CRCP amendments) expanding on the very basic framework provided in the CRCP. This should describe with some specificity the following:
 - Objectives
 - Resettlement performance indicators to be utilized for internal monitoring
 - Activities and techniques to be utilized
 - Roles and responsibilities
 - Reporting requirements
 - Schedule of reviews
- Prepare a brief quarterly internal resettlement monitoring report (5 pages) as a discipline to force the Socio-Economic Team to take a global view of the resettlement program, its achievement against objectives, strategic challenges and risks.
- Provide training to the Socio-Economic team (including the Local Community Contacts (LCCs)) on social monitoring techniques and reporting.

▪ **External Monitoring**

Issue
The ECMG has provided sound and practical advice.
Discussion
The ECMG has provided sound and practical recommendations throughout resettlement implementation. They have a continuity of knowledge about the project and its impacts which should be retained. Some frustration with the project's lack of response on some key issues is detected. There is still considerable land acquisition and livelihood restoration to be completed. The external monitoring role should be extended.
Recommendations
<ul style="list-style-type: none">• Current external monitoring provisions are assessed as adequate (i.e. annual reviews by the ECMG, with provision for a second visit at the discretion of the Lenders Group).

6.13 Management of Change – Documentation Requirements

Issue
The scope of project impacts on land and people have expanded very significantly since the CRCP was prepared in 1999. New procedures that elaborate on those outlined in the CRCP have been developed by the EMP team. Various changes to procedures, livelihood strategy and facilitating access to replacement land will occur as a result of this evaluation. All these changes need to be consolidated and documented to ensure there is a common understanding amongst project parties (EEPCI, Government of Chad, Lenders, project affected people) and as the basis for ongoing monitoring of project performance and compliance.
Compliance
<p><i>"It is normal that some compensation procedures and rates may require revision at some time during the program. EEPCI and /or TOTCO and the EDR will implement any changes through their Change Management Process."</i> (EMP, Vol. 3, Sec 8.7.1)</p> <p><i>"EEPCI ...will use the same procedure for implementing changes agreed upon with monitoring organizations such as CTNSC, the World Bank, and independent monitors."</i> (EMP, Vol. 3, Sec 8.7.4)</p> <p><i>"... the means specified to achieve certain levels of protection might be subject to correction or amendment via the process specified above" (i.e., the Change Management System). "Changes that would materially adversely affect the level of protection afforded by this EMP will be reviewed and approved in collaboration with the Republic of Chad."</i> (EMP, Vol. 1, Sec 3.5.2, page 3-31)</p>
Recommendations
<ul style="list-style-type: none">• Prepare an addendum to the CRCP, or undertake revision of the CRCP itself, in accordance with the provisions of the project Change Management System to address (but not be limited to) the following matters:<ul style="list-style-type: none">- Changes in resettlement scope (affected land and affected population) that have already occurred since the CRCP was prepared and that will occur between now and land acquisition completion in late 2007 (see Chapter 2)- Findings of the village land resources assessment (see Sect. 8.1, Table item A.1) and procedures for predicting, avoiding and minimizing, and monitoring cumulative impacts on land.- Strategy for achieving access to replacement land in each project affected village in the OFDA- Clarified eligibility criteria for each category of project affected household or person- Provision of a comprehensive entitlement matrix (incorporating any changes arising from this report)- Updated procedures for census, socio-economic assessment, consultation and acquisition of land- Updated livelihood restoration strategies adjusted to take into account the increased magnitude of land-related impacts and lessons learnt to date- Measures to strengthen internal monitoring- Update community consultation and stakeholder engagement plan

6.14 Recommendations into Actions

The issues and recommendations directly relating to the land acquisition and resettlement program currently underway in the Three Fields OFDA are translated into a corrective action plan in Chapter 7. Issues and responses applicable to future oil field development outside of the Three Fields OFDA are addressed in Chapter 8.

7. Corrective Action Plan for Three Fields OFDA

7.1 Introduction

The Corrective Action Plan is organized into five parts:

- Facilitating access to replacement land
- Addressing unmitigated or partially mitigated losses
- Strengthening land acquisition and resettlement procedures
- Review of agricultural and off-farm training
- Strengthening resettlement resources
- Change management documentation

For each part, a matrix has been prepared summarizing objectives, actions and deliverables. The matrices are intended to provide a framework only. The frameworks need to be developed into comprehensive work plans. Where these require actions involving communities, processes should incorporate broad consultation and consensus building.

The Study team recognizes that it is often extremely difficult to top-up or retrospectively adjust compensation once a land acquisition and resettlement program is well advanced. Attempts to do so can create new counterproductive expectations and give rise to further dissatisfaction and envy. Study recommendations are therefore cautious in this regard. Further, it is recognized that there is abundant cash compensation circulating within the OFDA, some of it used constructively and some less so. Study recommendations, therefore, steer away from further cash payments.

No	Objective	Actions	Targeted Outcome	Priority
A. FACILITATING ACCESS TO REPLACEMENT LAND				
A.1	<p>Screen all OFDA villages using technical criteria to initially identify:</p> <p>(i) villages with access to sufficient available land to provide replacement land to PAPs; &</p> <p>(ii) villages without sufficient land.</p> <p>Identify feasible technical options for offsetting project land impacts as preparation for future village consultations.</p>	<p>Brief prefects, sub-prefects, canton & village chiefs on the need to identify & allocate replacement land to project affected people.</p> <p>Organize 1:2,500 or 1:5,000 scale colour orthophotos to cover the OFDA.</p> <p>In close consultation with canton & village chiefs, map approximate village boundaries for all villages in the OFDA.</p> <p>Through orthophoto interpretation, ground truthing & consultation with village chiefs & villagers, map each village's land use resources (bush/communal lands, fallow land, active agricultural land, settlements).</p> <p>With multidisciplinary input (rural land use planning, rural development, agriculture/soils, rural sociology) determine screening criteria to assess whether or not a village has sufficient resources to be able to provide replacement land to project affected people. Criteria will need to take into account:</p> <ul style="list-style-type: none"> - village population & growth rate - existing patterns of land distribution & pressures on land - extent of available communal land suitable for agriculture - minimum agricultural & fallow land requirements/person to ensure food & nutritional needs can be met - minimum desirable retained bush land <p>Screen each village & determine whether or not there is sufficient land to enable replacement land to be allocated to project affected households from this resource.</p> <p>Review feasible alternatives for offsetting project impacts such as (i) intensification of production (farming techniques, use of compost, manure & mulches, improved crop varieties, irrigation, mixed cropping with livestock, etc); (ii) land re-adjustment; (iii) clearing & development of communal bush land; &/or (iv) relocating some villagers to replacement land outside of their village.</p> <p>Categorize villages into those with sufficient available replacement land & villages without.</p> <p>Prepare a schedule indicating the project land take (agricultural land, fallow, bush land) within each village and summarizing remaining land. The schedule should be regularly updated and available for inspection by the ECMG on their annual visits.</p>	Knowledge of project impacts on OFDA villages' land resources	High
A.2	For villages with sufficient replacement land (communal):	<p>Brief Sub-prefects, canton chiefs & respective village heads on project land impacts in each village & the need to provide access to replacement land.</p> <p>Agree with local government officers an approach & procedures to ensure thorough consultation & consensus building to cover replacement land allocation to project affected people.</p> <p>Prepare a brief replacement land execution plan for a lightly impacted pilot village to address:</p>	Secure access to replacement land for PAPs. Tested procedure for preparing	High

No	Objective	Actions	Targeted Outcome	Priority
		<ul style="list-style-type: none"> - Area of replacement land required within the specific village - Eligible individuals & households & their respective land losses - Procedure for identifying replacement land - Nature of agreements to cover the land allocation - Compensation basis & procedures (see also C.1-C.3 below) - Complaints & grievance mechanism - Monitoring arrangement - Budget & schedule for execution <p>With canton head & village head, implement a pilot program in a lightly impacted village to test approach & procedures. Adjust as necessary.</p> <p>Hold public consultation meetings in each village to explain the objectives & broad strategy for providing replacement land relevant to each village. Gather feedback & adjust strategies if necessary.</p> <p>Prepare brief replacement land execution plans for all villages with replacement land.</p> <p>Facilitate canton chiefs & village chiefs in execution of the plans.</p> <p>Manage community compensation through the measures described in C.3 & C.4 below.</p> <p>Monitor affected households' adjustment to the replacement land & effectiveness of livelihood restoration.</p>	replacement land execution plans.	
A.3	For villages without sufficient replacement land	<p>Engage a rural planning specialist to undertake a community driven village land use planning process in the more seriously impacted villages – those with insufficient communal land.</p> <p>The specialist should conduct a series of workshops with each seriously affected community to achieve the following:</p> <ul style="list-style-type: none"> - mobilize each community to participate in the planning process - reach consensus on land use management objectives - participate in a community-led inventory of village land & resources - identify development (& market) opportunities & constraints - examine different alternatives for village land management with associated benefits & costs (including do nothing, population control, land adjustment, options for agricultural intensification, mixed livestock/cropping, cash cropping, enterprise development & where warranted, the option of some households relocating outside of the village) - reach consensus & document a preferred plan - identify potential resources to assist with plan implementation (village resources, government, project) <p>Working closely with government to identify suitable replacement sites, prepare village specific resettlement plans for villages where physical relocation is the agreed strategy for accessing replacement land.</p>	Secure access to replacement land for PAPs. Time-bound & budgeted village-specific resettlement action plans - where needed.	High

No	Objective	Actions	Targeted Outcome	Priority
B. MINIMIZING THE PROJECT FOOTPRINT				
B.1	To establish mechanisms to assess and manage cumulative impacts (actual and proposed)	<p>Prepare an updated schedule of project land use summarizing temporary and permanent lands acquired to date, and projected land use up until completion of well development in the OFDA.</p> <p>Initiate periodic (six monthly), higher level reviews to be implemented by EMP management and endorsed by EEPCL management to assess cumulative impacts (proposed and actual) of project works on each affected village's land resources and population. The review should take into account such indicators as:</p> <ul style="list-style-type: none"> - Percentage of village land resources (agricultural land, fallow, bush land) taken by the project and remaining in the village. - Per capita available agricultural land - Area of unallocated land available as replacement for affected people experiencing permanent losses. - Distribution of project land impacts across ngelka territories and households (Are some ngelka or households being disproportionately impacted? Do households retain adequate cordes for livelihood sustainability?) - Impacts of fragmentation on use of agricultural land and other village activities - Attitudes and extent of any hardship in the affected communities as captured by regular internal monitoring <p>Findings of each review should be recorded so that the project can demonstrate compliance with its EMP obligations to avoid and minimize resettlement impacts have been complied with.</p> <p>Prepare an updated land replacement execution plan for each affected village in the OFDA to demonstrate how affected land users (actual and projected) will be provided with access to replacement land.</p>	<p>Established mechanism to assess and manage cumulative impacts.</p> <p>Records to demonstrate compliance with obligation to avoid & minimize resettlement impacts.</p>	High
B.2	<p>To operationalize measures to minimize the project footprint and avoid fragmentation of land.</p> <p>To complete a footprint survey and pay compensation where project disturbance extends beyond the compensated area.</p>	<p>Examine ways to improve the forward planning, rationalization of service corridors, and layout of well pads to avoid and minimize impacts on productive land. Measures to be implemented might include some or all of the following:</p> <ul style="list-style-type: none"> - Examine the potential for more extensive oil field modelling to minimize the need for drilling additional new well pads. - Review well pad siting and layout approval procedures to ensure that due attention is given to avoiding and minimizing impacts on productive land. - Examine potential for orienting well-pads and consolidating well pad access roads, flow lines and services into corridors to reduce fragmentation of adjacent fields. <p>Complete a footprint survey around all acquired lands and works areas in the OFDA to identify the actual area of disturbance versus what has been compensated.</p> <p>Conduct an audit of a sample of cases where works or damage has extended beyond land covered by agreements to ensure that the affected customary rights holder has been duly compensated. Make</p>	<p>Minimized project footprint.</p> <p>More disciplined disturbance limitation by Contractors.</p> <p>Compensation paid to individuals or the community (whichever is applicable) in cases where</p>	High

No	Objective	Actions	Targeted Outcome	Priority
		<p>any necessary additional payments and expand scope of auditing if such cases appear frequent.</p> <p>Reinforce the need for a more disciplined approach by contractors to limiting damage and access to acquired lands only.</p>	<p>project disturbance extends beyond the compensated area.</p>	
C. ADDRESSING UNMITIGATED OR PARTIALLY MITIGATED LOSSES				
C.1	<p>Clarify compensation entitlements & eligibility for each kind of loss caused by the project.</p> <p>Address losses not foreseen by the CRCP.</p> <p>Where warranted & feasible without causing conflict, provide top-up compensation where losses</p>	<p>Prepare an entitlement matrix to provide clear guidance to the project team & affected people on entitlements with respect to each type of loss caused by the Project. For each type of loss, the entitlement matrix should clearly define the compensation entitlements for (i) titled land owners; (ii) individual customary rights holders; (iii) communal customary rights holders; &, (iv) third party users of customary lands who may have a formal or informal agreement to work on a customary rights holders land.</p> <p>The entitlement matrix should specifically address:</p> <ul style="list-style-type: none"> - community entitlements for loss of communal land & resources (based on actual losses) - entitlements for land plots affected by severance & fragmentation (for future transactions only) 	<p>Clarity regarding eligibility for compensation & compensation entitlements.</p>	High
C.2	<p>To compensate project affected villages for their actual losses to the project.</p>	<p>Using orthophotos, village land use plans & information on the project footprint, measure the area of communal land affected by the project in each OFDA village.</p> <p>Determine the value of in-kind infrastructure provided to each village as compensation for loss of communal land up until the present time.</p> <p>Engage a respected rural valuation institution to develop a compensation rate or rates for communal land & bush¹.</p> <p>The value of communal land affected by the project less the value of compensation delivered to date should be calculated.</p> <p>Where warranted top-up compensation should be delivered through the mechanism described in C.4 below.</p>	<p>Compensation (in the form of development assistance) delivered to communities based on the full value of their losses.</p>	High

¹ The institution should apply multiple techniques to determine a compensation rate for communal land based on one or more of the following: present value based on economic benefits derived by villagers from bush land; present value based on potential yields of bush land/communal land developed to its highest use (e.g. agriculture); and possibly, contingent valuation approaches (based on Willingness to Accept).

No	Objective	Actions	Targeted Outcome	Priority
C.3	To deliver communal compensation in the form of development assistance.	Engage one or more development NGOs to mobilize communities, to successfully utilize communal compensation & to provide them with skills: <ul style="list-style-type: none"> - To make decisions about their development needs & priorities - To plan, design, budget & implement small community projects using community & outside resources - To take responsibility for ongoing operations & maintenance - To promote community "ownership" of projects & avoid ongoing demands of the project. 	Development assistance delivered to communities to address community defined needs & priorities.	High
C.4	To fairly compensate for loss of income resulting from severance & fragmentation of land plots.	For all future land transactions, apply the principle: <i>where the residual plot area after land acquisition is less than 0.5 corde (0.25 ha), or is otherwise left un-useable, the customary rights holder will be offered the option of compensation for the full plot area. This applies to both temporarily & permanently acquired land.</i>	Fair compensation delivered to users experiencing losses caused due to severance & fragmentation of their land plots.	High
D. REVIEW OF AGRICULTURAL & OFF-FARM TRAINING				
D.1	Refocus the livelihood restoration strategy on providing PAPs with access to replacement land.	Formulate an updated strategy for livelihood restoration/enhancement that is based primarily on programs for providing access to replacement land.	Effective livelihood development & enhancement.	High
D.1	Clarify eligibility criteria for agricultural & off farm training. Ensure verifiable data about household size & customary land holding is gathered as the basis for assessing eligibility.	Review & update the rules for determining eligibility for training. Disclose the rules to affected people at the time of evaluation. Introduce more rigorous investigation of household membership & actual customary land controlled by the household & household members to provide an objective baseline for assessing training eligibility. Clarify whether training is offered on an household or individual basis. Make explicit to project affected people that attempts to manipulate or misrepresent their household circumstances may disqualify them for training.	Eligible people/ households are correctly identified & receive training in accordance with the CRCP.	High
D.2	Strengthen the delivery & content of on-farm training based on lessons learned to date	In designing the extension of the agricultural training, conceive the agricultural training program as an outcomes based program. Define targeted outcomes & verifiable indicators of performance. Monitor the implementer's delivery against performance indicators. In designing the extension of the program, develop a three year program to cover: (i) learning &	Improved delivery of agricultural training	High

No	Objective	Actions	Targeted Outcome	Priority
		<p>applying principles on demonstration plots; (ii) transferring skills to actual working plots; (iii) providing technical support & reinforcement to maintain use of improved practices.</p> <p>Extend the program to incorporate a livestock component & promote mixed livestock/cropping.</p> <p>Coordinate project affected people's acquisition of livestock with government vaccination programs.</p> <p>Review tool packages. Consider providing a smaller number of heavier duty tools, or if the project cannot provide more robust tools, enable trainees to select & purchase tools from existing local suppliers using project provided credit.</p>		
D.3	Test the feasibility of utilizing produced water for agricultural irrigation.	<p>Carry out a detailed feasibility study for use of produced water for irrigation to examine land requirements & models for land adjustment, organization/business models, scope of required technical assistance, potential crops & markets, transportation & storage requirements, access to markets.</p> <p>Conduct a pilot irrigation program within the OFDA</p>	Tried & tested model as basis for wider implementation of irrigation-based agriculture using produced water.	Moderate
D.4	Strengthen the delivery & targeting of off-farm training based on lessons learned to date. Seek to better match training to opportunities.	<p>Use off-farm training more selectively.</p> <p>Review criteria for selecting candidates for off-farm training to achieve better match between types of training provided and real employment or enterprise opportunities upon training completion.</p> <p>Provide very clear information to candidates about their prospects or lack of prospects for employment upon training completion.</p> <p>Identify measures to overcome procurement and quality problems in tools supplied to off-farm trainees. Tools should be available prior to the end of their training.</p> <p>Review payment procedures for allowances to ensure they are not subject to deductions.</p> <p>Undertake a careful review of project and contractor activities to identify opportunities for people who have completed off-farm training to provide short or long term semi-skilled services to the project.</p>	<p>More targeted off-farm training that better matches trainees to income earning opportunities.</p> <p>Trainees with more realistic understanding of potential prospects upon completion.</p>	High
E. STRENGTHENING LAND ACQUISITION & RESETTLEMENT PROCEDURES				
E.1	Option of physical relocation	<p>Review project procedures to ensure that in all cases where project land acquisition leaves a household with less than 0.67 cordes/ person, that household receives an offer of assistance with physical relocation.</p> <p>The offer should be made in writing & include commitment to:</p> <ul style="list-style-type: none"> - Facilitate access to replacement land of equivalent area & quality to the household's 	All seriously affected households are offered the option of relocation.	High

No	Objective	Actions	Targeted Outcome	Priority
		<p>original land holding.</p> <ul style="list-style-type: none"> - Provide replacement housing of at least equivalent size & standard to that lost to the project - Assistance with relocating - Transitional support while the household re-establishes at the new location - Assistance with livelihood restoration. 		
E.2	<p>Improve procedures for registering & gathering socio-economic information from project affected households.</p>	<p>Introduce more rigorous procedures for registering & recording details of project affected households.</p> <p>Issue a project registration card to each compensation recipient at the time of registration. Include GPS coordinates of the recipient's primary dwelling. The identity card must be produced for each & every transaction with the project.</p> <p>Record full details of all spouses & dependents of each compensation recipient (full names, birthdates, relationship to compensation recipient, occupation). Wherever possible, sight each family member & record with a household photograph.</p> <p>Develop a socio-economic data pro-forma to be completed for each household when the first transaction is undertaken, & updated during subsequent transactions. Record all land, income resources & losses on a household basis.</p> <p>Verify information about a household's & household member's total land use resources (actively cultivated, fallow, bush) by site inspection in the presence of the village head (or by marking on orthophotos, if prepared). Record boundaries of all the household's land use areas with GPS.</p>	<p>Database that provides objective and verifiable information for assessing project impacts and determining eligibility for assistance.</p>	High
E.3	<p>Improve project identification & monitoring of vulnerable households.</p>	<p>Identify potentially vulnerable households as part of the improved social assessment process.</p> <p>Ensure that internal monitoring incorporates household interviews, particularly targeting the vulnerable to ensure they are not experiencing hardship & are able to participate in resettlement programs.</p> <p>Look specifically at training measures for project affected women household heads whom may be limited by child minding duties to participate in existing programs.</p>	<p>Improved tracking of vulnerable households to ensure they are able to benefit from compensation measures.</p>	High
E.4	<p>Provide reasonable time and access to legal advice for land users affected by just-in-time well acquisition to enable them to review and understand their losses and compensation entitlements prior to agreement signing.</p>	<p>Plan works to avoid the practice of just-in-time land acquisition.</p> <p>Conduct forward planning so that people affected by the well in-fill program can be given reasonable notice, and have sufficient time to review compensation calculations and agreements prior to signing.</p> <p>Adopt a minimum period of 30 days from Notification to land entry to ensure EEPIC obligations under the EMP to fully inform, consult, and assess household socioeconomic conditions are complied with. Within that 30 days, PAPs should have not less than 7 days to review, question and seek advice on inventories, compensation calculations and draft agreements.</p>	<p>Land users that are fully informed and have access to legal advice prior to signing of agreements.</p>	High

No	Objective	Actions	Targeted Outcome	Priority
		<p>Support a legal NGO or other independent legal advisor to be present and advise PAPs to ensure that they are fully informed prior to signing legal agreements.</p> <p>Carry out procedures for census and social assessment as for other project affected households.</p> <p>If they are not already prescribed under Chad law, define clear procedures for cases where a customary rights holder is unable to attend the survey/ inventory or agreement signing. A formal procedure whereby the primary land user can grant power of attorney to another party to act on his or her behalf should be defined and documented.</p>		
E.5	Reduce the time taken to hand back land to communities following reinstatement.	<p>Review measures to streamline “quitus signing” and land hand-back.</p> <p>Set a target for land hand-back to be achieved prior to the next growing season (e.g. return 90 percent of currently occupied temporary lands by June 2007). Closely monitor performance against this target.</p>	Timely return of land to communities upon completion of reinstatement.	High
E.6	Engage more widely with national & local civil society including NGOs	<p>Pro-actively identify opportunities to partner with local & national civil society including NGOs in delivering resettlement programs e.g. for community preparation ahead of project land acquisition & payment; for third party monitoring of the project grievance management system; for providing legal advice & assistance to project affected people; &, for delivering aspects of agricultural & other training.</p> <p>Prepare updated community consultation and stakeholder engagement plans.</p>	One or more partnerships with civil society groups.	Moderate
E.7	Establish regular dialogue between the project & local government/ community leaders.	Establish a regular six monthly community leaders forums where a senior Esso manager meets with community leaders to brief them on project developments & to hear community leaders feedback & concerns.	Clear exchange of information, issues and concerns between the project & host communities.	High
E.8	Increase accountability of the project's grievance management system	Engage a respected NGO or educational institution to undertake periodic independent audits of grievance processing & outcomes.	Credible grievance system	High

No	Objective	Actions	Targeted Outcome	Priority
E.9	Extend monitoring to cover the full period of the well infill program & subsequent standard of living & livelihood restoration.	<p>Continue external monitoring of OFDA activities on a 12 monthly basis with provision for a second monitoring visit at Lenders Group discretion.</p> <p>Provide training to the Socio-Economic team (including the Local Community Contacts (LCCs)) on social monitoring techniques & reporting. As part of internal monitoring, obtain more feedback on project performance directly from project affected communities.</p> <p>Prepare a brief quarterly internal resettlement monitoring report (5 pages) as a discipline to force the Socio-Economic Team to take a global view of the resettlement program, its achievement against objectives, strategic challenges & risks.</p> <p>Prepare an updated internal monitoring plan and incorporate in CRCP amendments. The plan should cover:</p> <ul style="list-style-type: none"> - Objectives - Resettlement performance indicators to be utilized for internal monitoring - Activities and techniques to be utilized - Roles and responsibilities - Reporting requirements - Schedule of reviews 	Confirmation that standard of living & livelihood restoration objectives are achieved.	High
F. STRENGTHENING RESETTLEMENT RESOURCES				
F.1	Ensure there are sufficient human resources to adequately undertake project resettlement planning & implementation.	Review the pending workload of the project socio-economic team including for continuation of the OFDA well infield program, possible program to facilitate affected people's access to replacement land & Moundouli Oil Field development. Assess the necessary human resources & determine which activities are best undertaken in-house & which might more efficiently be procured through outsourcing to development NGOs or contractors.	Adequate resources for the efficient operation of project resettlement & compensation.	High
		Recruit local graduates to be trained & mentored to take over management of the GIS & compensation data bases within 18 months to 2 years.	Nationalized & effective project land & socio-economic data management	High
		Utilize experienced social development adviser(s) on short term assignments (1-3 months) to provide compliance/ quality assurance on delivery of social aspects of the land acquisition & resettlement programs, & to provide training for the socio-economic team.	Experienced oversight of the replacement land access program. Training	High

No	Objective	Actions	Targeted Outcome	Priority
			resource to develop the capacity of the socio-economic team.	
G. MANAGEMENT OF CHANGE DOCUMENTATION				
G.1	Consolidate and document the changes in the CRCP to reflect the changed scope and procedures that have occurred since the 1999 CRCP was issued, and in response to this evaluation.	<p>Prepare an amendment to the CRCP, in accordance with the provisions of the project Change Management System to address (but not be limited to) the following matters:</p> <ul style="list-style-type: none"> - Changes in resettlement scope (affected land and affected population) that have already occurred since the CRCP was prepared and that will occur between now and land acquisition completion in late 2007 (see Chapter 2) - Findings of the village land resources assessment (see Sect. 8.1, Table item A.1) and procedures for predicting, avoiding and minimizing, and monitoring cumulative impacts on land. - Strategy for achieving access to replacement land in each project affected village in the OFDA - Clarified eligibility criteria for each category of project affected household or person - Provision of a comprehensive entitlement matrix (incorporating any changes arising from this report) - Updated procedures for census, socio-economic assessment, consultation and acquisition of land - Updated livelihood restoration strategies adjusted to take into account the increased magnitude of land-related impacts and lessons learnt to date - Measures to strengthen internal monitoring 	Amended CRCP (EMP Vol. 3)	High

8. Lessons for Future Oil Fields Development in Chad

8.1 General

This section summarises recommendations for land acquisition and resettlement planning for any future oil field development in southern Chad, outside of the present Three Fields OFDA. The Chad Cameroon Pipeline Project's Loan and Project Agreements stipulate that "*The Borrower [Government of Chad] shall ensure that any oil developed outside the Doba Basin Oil Fields which is proposed to be transported through any part of the Transportation System in Chad is developed in accordance with the principles set forth in the EMP [Environmental Management Plan] with respect to environmental analysis and protection, consultation, information disclosure, resettlement and compensation and with the equivalent legal and administrative approval processes and information disclosure as applied with respect to the oil developed in the Doba Basin Oil Fields.*"

Because resettlement plans and mitigations need to be specific to location, land use context and affected population, a new resettlement action plan should be prepared to cover each new oil field development area. These plans should draw on experience and lessons learned from the CRCP (1999).

8.2 Conceive and Execute Land/Resettlement Expansions as Separable Development Programs

It is important that the scope of project land acquisition and related social impacts are clearly defined at the outset of any new field development. This enables impacts on village land resources and individual livelihoods to be quantified so that adequate mitigations, including access to replacement land, can be planned and budgeted for. So far as possible, the project should avoid ad hoc and open-ended land acquisition programs such as that for the OFDA well infill program.

Recommendations:

- Invest in more detailed investigation and modelling of any new oil fields so that land acquisition and resettlement can be planned well ahead of acquisition and field work commencing.
- Conceive and execute future land acquisition and resettlement as development programs with clearly defined scope (affected land and population).
- Prepare a new resettlement action plan for each new field development that draws on the principles and lessons learned from the Three Fields Development, but which responds to the specific location, land use context, affected population and nature of project impacts.

8.3 Avoidance and Minimization of Resettlement

All international resettlement policies emphasise the need to avoid or minimize involuntary resettlement impacts.

Recommendations:

- Establish clear principles for siting project works not only to avoid dwellings, but wherever possible to avoid productive land (actively cultivated, fallow).
- Conduct facilities siting and design over orthophotos so that every effort can be made to minimize the number of affected land plots through careful siting and orientation.
- Incorporate in construction contracts penalties or performance bonds to encourage construction contractors to keep construction activities strictly within boundaries of project acquired land.
- As part of impact minimization, minimize the period of time that temporary sites are occupied and have efficient procedures for returning land to its original users.

8.4 Mapping of Village Land Use and Resources

For new field development, greater attention needs to be directed to understanding and mitigating project impacts on finite village resources. Use of orthophotos is recommended as a tool for mapping and inventory of village land resources.

Orthophotos are preferred because they can be used to accurately discriminate structures, trees, crops, drains, roads, fences, field boundaries and other features for inventory and land plot identification. They also have many other uses and will become an integral part of engineering design and design development. Uses include: (i) to establish a cut-off record of all crops, trees and structures existent at the time of the survey, so that any fraudulent attempts to belatedly clear land or plant crops, or move into an area to claim compensation can be rebutted; (ii) as a consultation tool during inventory and user identification as many villagers are able to recognize features on the photos and clearly delineate their land boundaries and ownership of trees, buildings and improvements; (iii) for presentations and public meetings as villagers can relate project plans to features on photos that they are able to recognize; and, (iv) as a base for survey and engineering design to facilitate detailed siting and layout to minimize resettlement impacts.

In more densely populated villages, or where project land acquisition is likely to be extensive, it is recommended that orthophotos be used as a basis for preparing customary user maps, at least to *ngelka* level, but preferably identifying individual or family customary users of all land plots. This should occur prior to any specific information about the project footprint being made known.

While the CRCP noted that traditional land use has relatively vague boundaries, experience shows that once compensation is paid, the extent of land and its users rapidly become fixed and clearly defined. Project understanding of impacts on village land and individual households would be greatly enhanced if such a user identification survey were completed early in the development process.

Recommendations:

- As part of resettlement planning, the project should use orthophotos (based on air photos) or satellite imagery as a basis for mapping all affected village land uses and resources (bush land, communal land, actively cultivated land, fallow)
- In more densely populated villages, or where project land acquisition is likely to be extensive, it is recommended that orthophotos be used as a basis for preparing customary user maps, at least to *ngelka* level, but preferably identifying customary users of all land plots. This should occur prior to any specific information about the project footprint being made known.
- Carry out an inventory of village land uses and resources (using orthophotos) – see process defined in Section 7.
- Identify villages where land (or bush land) may be scarce or where population densities are high and seek to avoid these villages in planning project facilities and development.
- Assess impact of the project footprint on available land resources (cultivated land, fallow land, communal land and bush) within each village.
- For each affected village, in close consultation with affected people, develop a strategy for providing replacement land - where sustainable, through land readjustment or allocation of communal land within the village, or otherwise through identification of

8.5 Census, PAP Registration and Socioeconomic Surveys

A lot of confusion and extra work resulted in the Three Fields OFDA due to a failure to register each unique household and all its members at the project outset. This situation was manipulated by project affected households in an attempt to maximize their compensation households. Efforts to carefully register project affected households and record all household members at the outset of the resettlement process will reduce workload later and ensure that there is an objective basis for determining compensation entitlements.

Recommendations

- The project data base should be integrated with GIS information. For each land agreement, the corresponding land parcel should be identifiable in the GIS information system.
- Issue a project registration card to each compensation recipient at the time of registration. Include GPS coordinates of the recipient's primary dwelling. The registration card must be produced for each and every transaction with the project.
- Record full details of all spouses and dependents of each compensation recipient (full names, birthdates, relationship to compensation recipient, occupation). Wherever possible, sight each family member and record with a household photograph.
- For all future transactions, start by establishing a household dossier.
- Develop a socio-economic data pro-forma to be completed for each household when the first transaction is undertaken, and updated during subsequent transactions. Record all land, income resources and losses on a household basis.
- Verify information about a household's and household member's total land use resources (actively cultivated, fallow, bush) by site inspection in the presence of the village head (or by marking on orthophotos, if prepared). Record boundaries of all the household's land use areas with GPS.

8.6 Entitlement Matrix

A weakness in the current CRCP is the lack of a clear entitlement matrix that (i) identifies all the types of possible loss caused by the project; and that, (ii) clearly distinguishes the compensation entitlements of each different type of user (titled owner, communal customary rights holder, individual customary rights holder and third party users). Careful development of the entitlement matrix will ensure that types of loss experienced by groups or individuals are not overlooked.

Recommendation:

- Prepare a comprehensive compensation entitlement matrix that systematically explains the compensation entitlements for each kind of loss and each category of affected owner or user affected by the project.

8.7 Land for Land Compensation

A key recommendation of this Study is that where the project impacts on rural communities that are reliant on agriculture for subsistence and livelihood, unless land impacts are small, the primary livelihood restoration measure must be provision of replacement agricultural land. Land for land compensation for agricultural communities is a key tenet of all internationally accepted involuntary resettlement policies, including World Bank OD 4.30 Involuntary Resettlement and the IFC's new Sustainability Policy.

The circumstances that make offering of land for land compensation particularly critical in the project area are described in Section 6.1. These circumstances will apply to most rural areas in southern Chad, although more developed cash economies may exist in rural villages adjacent to larger urban centres. Some of the potential future oil field development areas have higher population densities than those in the Bero, Kome and Miandoum fields. The pressures on land and impacts of land losses are therefore likely to be even more severe. As part of resettlement planning, there will be a need to identify replacement land sites, and very possibly a need for some affected people to relocate to take advantage of these.

For future programs, it is recommended that the assistance of sub-prefects and canton chiefs be enlisted to assist with the process of identifying and negotiating access to suitable replacement sites. This should be initiated proactively by the project, prior to land acquisition commencing. The OFDA experience is that traditional land allocation mechanisms cannot be relied on once cash compensation is introduced.

Recommendations:

- Adopt as a project principle: *where a household loses more than 20% of its total land holding, or where a household is left with less than 2/3 corde per person as a result of the project permanently acquiring land, wherever possible the project will facilitate access to equivalent replacement land.*
- As part of resettlement planning, for each project affected village, the project should work with sub-prefect and canton chiefs to identify replacement sites equivalent in size and quality to areas permanently occupied by the project. Replacement land may either be available within a project affected village or additional land may need to be found elsewhere.
- Where necessary, community consensus on the allocation of replacement should be obtained prior to any land acquisition commencing with the participation of sub-prefects, canton chiefs and village chiefs.
- Replacement land should be included in all schedules of project affected land.
- The project should budget for and provide compensation to all parties (village or individual) making available replacement land.
- If there is insufficient land in an affected village, then the project must develop a program for physical relocation, replacement housing and infrastructure as well as livelihood restoration. Affected people should be widely consulted about their preferences as part of resettlement planning and prior to any project land acquisition commencing.

8.8 Severance and Fragmentation of Land Parcels

As noted in Section 6.5, the CRCP did not make any provision for mitigating impacts of severance or fragmentation of land plots caused by project works. These impacts are most evident in well field development areas. The primary mitigation should be focus on avoidance and minimization.

Recommendations

- Detailed siting of facilities and alignment of access roads, flow lines and cabling should be undertaken over orthophotos with attention to (i) minimizing the number of land plots affected; and, (ii) aligning footprints to minimize fragmentation of land plots.
- Access roads, flow lines and cabling for well pads should be consolidated into corridors to minimize project footprint.
- Project design review procedures should include a check to confirm that severance and plot fragmentation are minimized.
- Adopt as a project principle: *where the residual plot area after land acquisition is less than 0.5 corde (0.25 ha), or is otherwise left un-useable, the customary rights holder will be offered the option of compensation for the full plot area. This applies to both temporarily and permanently acquired land.*

8.9 Managing Temporary Use of Land

Under the existing CRCP, there is no distinction made in compensation entitlements paid by the project for land that is temporarily used versus that which is permanently acquired. This is partly a consequence of the way the national Land Law is framed. In the future, the project should give consideration to entering into a lease or rental arrangement with the customary rights holder to cover temporary use. The lease or rental arrangement should be based on providing the customary rights holder with income equivalent to that which he or she will lose as a result of not being able to cultivate the subject land, in addition to compensation for loss of any land improvements, perennial trees or crops and fixed assets.

Customary land users have a right to be fully informed about the nature of the project use of their land and to be given sufficient information to enable them to plan their future crop planting and rotation.

They should be provided with information about when the land will be returned and any additional payments that will be made in the event that return of use is delayed.

The current OFDA practice of returning temporarily used land to the communal land pool, rather than to original land users, appears inconsistent with recognizing customary user's rights to land. This procedure should be avoided in future land hand-back arrangements.

Recommendations:

- Land agreements with users should explicitly define whether land is being acquired temporarily or permanently.
- Where land is being acquired temporarily, the agreement should define:
 - Condition of the land prior to occupation
 - Description of land improvements and any assets to be lost to the project, together with related compensation payable
 - Description of the lease or rental basis (at least equivalent to lost crop income from the subject land)
 - Condition in which the land will be handed back
 - Duration of the project's use of the land
 - Compensation terms that will apply in the event the project does not return the land within the prescribed period.
- Where temporary lands are individually used prior to acquisition, the land should be returned to the original user (and not the communal land pool, as is currently the practice in the OFDA) unless the latter practice is consistent with the prevailing ethnic groups land customs.
- Consideration should be given to cash payment for any asset or crop losses with in-kind payment in grains or cereals to offset loss of production.

8.10 Compensation for Communal Land

Given the finite communal land resources within each village, it is not reasonable to expect communities to subsidize the project by making available land from their communal 'land pool' without compensating them for their losses. This applies to communal land acquired for direct use by the project or for replacement land allocated to project affected people to offset losses caused by the project.

A rural land evaluation specialist should be used to develop compensation rates for loss of use of communal / bush land. A variety of approaches are available to do this including:

Recommendations:

- Engage a respected rural valuation institution to develop a compensation rate or rates for communal land & bush.
- Provide compensation to communities in the form of development assistance, administered by experienced development NGOs.
- Support community mobilization. Foster community decision making and 'ownership' of projects to minimize dependence and ongoing demands against the project.

8.11 Compensation for Fallow Land

Fallow is an integral part of villagers' agricultural rotation and households' land resources. Households should be compensated for loss of fallow land. Fallow land can be rented therefore customary rights over fallow do have economic value over and above crops income. The loss of customary rights over fallow should be compensated, preferably through land for land arrangements.

Recommendations:

- For future Operations, the project should compensate all individually or family controlled fallow, or alternatively provide access to equivalent replacement fallow area.

- A specific compensation rate should be adopted for fallow land recognizing the loss of customary rights when *ndouba* is taken by the project
- Individual fallow land lost to the project should be included in calculations for determining land for land compensation.

8.12 Community Preparation

As noted in Section 6.10, community leaders and NGOs were critical of the project in the Three Fields OFDA for its failure to prepare people for receipt of compensation and to provide them with advice and strategies for its productive use and investment.

Recommendation:

- Engage a local or national NGO to develop and run a series of workshops and provide individual counselling to give guidance to households on the options and pitfalls for effectively utilizing their compensation receipts.

8.13 Engagement with NGOs

There are several large NGOs in Chad that have well established rural networks and capacity to undertake a variety of tasks including delivering training, information dissemination and consultation, providing advice and assistance to project affected people and undertaking social development projects.. In future developments, the project should look at partnering with one or more local NGOs for resettlement planning, implementation and monitoring. Bids to international NGOs for provision of training and the like should include a requirement to involve local NGO partners so there is skills transfer and capacity building.

Recommendation:

- Identify opportunities to partner with local & national civil society including NGOs in delivering resettlement programs e.g. for community consultation, information dissemination, community training and preparation ahead of project land acquisition, for monitoring and delivering training.

8.14 Livelihood Restoration

▪ **Land for Land**

As noted in the previous section, the project principle should be that where a household loses more than 20% of its total land holding, or where a household is left with less than 2/3 corde per person as a result of the project permanently acquiring land, the primary livelihood restoration measure should be access to equivalent replacement land.

For smaller impacts, say where less than 20% of a households land use area is impacted, and provided the balance land is economically viable, cash compensation plus training may be sufficient to address impacts.

▪ **Agricultural Intensification**

Throughout southern Chad, population growth is imposing increasing pressures on land use. As noted in the CRCP, even without project impacts, in many rural areas agriculture as practiced is not sustainable. Training to promote improved agricultural techniques and soil management can therefore make an important contribution to slowing agricultural decline. Training programs need to be sustained for a minimum of three years if benefits and changes in agricultural practices are to be sustainable.

Other strategies such as introducing irrigation based on produced water, improved agricultural techniques and introduction or re-introduction of cash crops also have potential to benefit communities in the longer term. These strategies require a large cultural shift in farming practices, organization and allocation of land. While potentially highly worthwhile, these strategies require much more significant capital investment and sustained longer term technical assistance (5-7 years). They also need more sophisticated analysis of market opportunities and risk.

Recommendation:

- Plan to provide agricultural training in minimum three year programs. Build in annual opportunities for review so that programs can be adjusted based on lessons learned.

▪ **Linkages between Training and Project Employment Opportunities**

Considerable forward planning is required for project affected people to be able to benefit through employment opportunities with the project. The project needs to start identifying potential opportunities for local involvement before any procurement contracts are let. This applies to both construction phase contracts and longer term contracts. Rural dwellers have limited experience with wages based employment. There needs to be substantial investment in basic training and mentoring if local people are to survive and benefit from construction employment. These difficulties notwithstanding, the economic benefits and multiplier effects flowing to rural communities from project employment can be very significant in terms of development impact and for creating a reservoir of goodwill towards the project.

Recommendations:

- In future, for projects in rural settings, undertake more careful analysis of downstream opportunities for people completing off-farm training courses. Plan training and in-take accordingly.
- Earlier in the project cycle assess micro-procurement opportunities (e.g. laundry, landscape restoration, security, painting, printing and sign-writing, fencing, leather glove fabrication, transport services, uniform production, etc) that local people provided with training and equipment might be able to fulfill. Provide assistance with establishing small cooperatives, training and equipment
- Identify skill sets that might be useful either for the construction phase or during operations, for which suitable local candidates could be carefully recruited and trained.
- Assess carefully potential linkages between off-farm training and realistic opportunities for employment and enterprise creation. It is counter productive to produce trainees who have no realistic prospect of using their acquired skills.

8.15 Managing Corruption and Extortion

Recipients of Three Fields OFDA compensation were uniformly subject to claims for illegal payments to local government officials. Measures that have been incorporated in other resettlement projects to minimize risks of corruption and coercive practices are listed below.

Recommendations:

- For future projects, make a concerted effort to stamp out illegal taxes being extorted from compensation beneficiaries through measures such as:
- Seek ministerial or higher level government assistance to publicize to all levels of government and the public that parties found involved in corruption will be prosecuted.
- Widely publicize ahead of disbursement that compensation payments are not subject to deductions or unofficial taxes.
- Provide confidential avenues / phone hotlines for people to contact the project if they experience any kind of coercion.
- Pursue vigorously prosecution in cases where corruption is uncovered.
- Consider disbursement of compensation through bank accounts or credit societies so it can less readily be extorted.
- Consider more widespread compensation in kind (land-for-land, payment in cereals, etc) to reduce cash payments and liquidity.

8.16 Lessons for the Lenders

▪ Citing IFC Policy in Loan Agreements

In future, project loan agreements should specifically cite the prevailing IFC involuntary resettlement policy in addition to any project-specific resettlement documents. The Chad resettlement documents are drafted in very general terms and in many areas it is difficult to distinguish clear commitments or the obligations of the Sponsor. In several areas, the resettlement objectives expressed in the CRCP are less extensive than those required under World Bank OD 4.30. The CRCP is silent in several areas where IFC has defined policy requirements.

▪ Change Management

Resettlement planning documents or social provisions of loan agreements should define what is an acceptable level of change in the resettlement program. If changes go beyond defined limits, a requirement for additional social assessment and risk analysis should be triggered to determine whether the prevailing resettlement plans are sufficient, or, whether they need to be augmented. The kinds of limits that might be considered should include some or all of the following:

- Change in the overall area of land to be acquired exceeding say 10-15% of that defined in any RAP (more or less stringent dependent on the project context and level of design information on which project land-takes are estimated).
- Change in the project affected population exceeding say 10% of that defined in any RAP (more or less stringent dependent on the project context and level of design information on which PAPs are estimated)
- Change in a project site or route corridor
- Significant change in land acquisition or resettlement procedures or timeframes

A pre-requisite for prescribing change management procedures in this way is reasonably definitive information about affected land and populations. If this is not available at the time of RAP disclosure or loan agreement signing, conditions should be incorporated into loan agreements to ensure the necessary information is compiled either for the overall project, or for specific project stages, once detailed design and/or project survey has been completed.

Project internal and external monitoring should include tracking project land acquisition and affected population against RAP land and census data.

9. Conclusion

9.1 Adequacy of the CRCP

The CRCP was assessed to be a generally adequate resettlement framework for the OFDA and export pipeline as originally conceived in 1999. Since 1999, the scope of project land acquisition and resultant impacts on some villages' land resources have significantly exceeded those envisaged and documented in the CRCP. This has arisen partly because of omissions and underestimates in the CRCP, but also because of a later need to implement a well pad infill program in the OFDA due to the lower than anticipated oil flows from the originally designed well field.

The CRCP was not revised to take into account the change in well field scope, nor was this a requirement under the CRCP's 'change management' provisions. The project has continued a program of rolling, 'just-in-time' land acquisition to meet the needs of contractors implementing the OFDA well infill program. While compensation and other mitigations have continued to be delivered generally in accordance with the CRCP, the cumulative impacts of project land acquisition on overall village land resources have been poorly understood. In at least one of three villages examined as part of the Study, project land acquisition has significantly exacerbated land shortages and reduced the capacity of some households to meet their annual food requirements through agricultural production.

The Study identified some shortcomings or inconsistencies in project approaches to compensation for some types of losses. These include in the areas of communal land, fallow land and land used temporarily by the project. Where appropriate and feasible, corrective actions are recommended.

The study outlines a corrective action plan to address impacts on village land use resources unforeseen by the original CRCP, and to facilitate project affected peoples access to replacement land. Some of the key recommendations include the following:

- (i) Review and redesign the project livelihood strategy to place the primary focus on providing project affected people with replacement land. Training programs should be continued to provide supplementary income.
- (ii) Undertake mapping and an inventory of the land use resources of each project affected villages in the OFDA to quantify project impacts on village resources to date and to assess the availability of suitable replacement land for project affected households.
- (iii) On the basis of the findings of the land use inventory, prepare land replacement execution plans for each village to describe how seriously affected households will be provided with access to replacement land.
- (iv) Undertake a 'footprint' survey of all project works areas to measure the actual area of disturbance versus that which has been compensated for. Pay top-up compensation where indicated by the survey.
- (v) Implement more systematic and rigorous socioeconomic assessment of households prior to their experiencing land acquisition so that project impacts on their land and livelihood resources can be more clearly understood, and appropriate mitigations provided.
- (vi) Develop a clear and comprehensive entitlement matrix so that project affected people and project staff have a clear and transparent framework for understanding project compensation and mitigations.
- (vii) Strengthen internal resettlement monitoring and reporting procedures.
- (viii) Amend and update the CRCP to reflect the corrective actions recommended by this evaluation and in accordance with the Management of Change provisions of the EMP.

9.2 Restoration of Standard of Living

This Study's socioeconomic index shows that individual compensation has been very effective in restoring (and in most cases enhancing) PAP's standard of housing, ownership of certain household goods and productive assets, utilization of community services and the like. This is reflected in

improvements in housing, purchases of cattle, farm equipment, bicycles and motorcycles, as well as in increased spending on health, education and settlement of debts. 65% of surveyed project affected people considered they were better off or that their standard of living was unchanged as a result of their compensation. In the villages surveyed for this Study, 53% of the population had received compensation with an average value of 1.9 million FCFA (almost US\$4,000).

To ensure that improvements in standard of living are sustainable, it is critical that project affected households are facilitated to access replacement land so that household livelihoods can also be restored to pre-project levels. Access to replacement land is critical to ensure that the standard of living of project affected households does not fall relative to others in the longer term.

9.3 Livelihood Restoration

The critical livelihood restoration challenge for the Chad resettlement program is to facilitate project affected peoples' access to replacement land. Affected people are essentially subsistence agriculturalists that are heavily reliant on land to maintain their standard of living, food security, nutrition and livelihood. While in the past, there was more extensive cash cropping within the OFDA, the failure of purchase arrangements with *Cotonchad* have meant this is no longer the case. There is a limited local cash economy, limited opportunities for off-farm employment and limited capacity in affected communities to pay for goods and services such as might support enterprise growth or development. In this context, for people experiencing greater than 20% losses or whose land is left economically non-viable by the project, access to replacement agricultural land is essential.

The CRCP estimated that 60 – 150 households might become economically non-viable as a result of project land acquisition. It advocated the primary mitigations in such cases should be (i) training in improved agricultural techniques with credit to buy related materials and equipment; or, (ii) off-farm training to develop trade or craft skills, with loans for tools or materials. Physical relocation to access replacement land is advocated by the CRCP only as a last resort. The CRCP postulated that local people are well used to resettling and often do so in significant numbers, particularly where there is a scarcity of fertile land within reasonable distance of their original settlement. Accordingly, the CRCP prescribes a process based on traditional 'self-resettlement', placing much of the onus on affected individuals to decide whether or not to resettle, where to relocate to and to negotiate allocation of replacement land.

The Study found that the changed project scope arising from the OFDA well pad infill program has resulted in a far larger permanent land take than that estimated in the CRCP, with a greater number of households experiencing loss of a substantial proportion or all of their productive land. This Study estimates that perhaps 480 households lost use of 20-50% of their total land area and a further 430 lost 50-100% of their total land use area. These findings indicate that as many as 900 households might have been seriously affected by project land acquisition (temporary or permanent), substantially more than the 60-150 households assumed in the CRCP.

The agricultural training and off-farm training provided by the project to more seriously effected households were found to be providing some supplemental income for households, but this fell far short of being a replacement for traditional agricultural-based subsistence and cash generating production. While the agricultural techniques being taught as part of the agricultural training program could theoretically achieve rises in productivity of 30-50%, the Director of ORT, the agricultural training implementing NGO, indicates that actual yield increases to date are in the order of 10-20%. At this level, agricultural training will only offset very small land losses. For livelihood restoration in the OFDA, priority must be given to achieving land-for-land compensation. This will involve a significant change from the approach advocated by the CRCP. Additional resources will be required to implement the necessary programs. Payment of compensation for any communal land made available to project affected people is also recommended.

The Study found that only a very small number of project affected households have been able to access any replacement land, often less than that lost to the project and then often only for a season or short duration. Customary mechanisms for allocating replacement land were assessed to have failed. As a short term, but unsustainable strategy, the Study found that project affected households have made up for losses of land to the project by utilizing their fallow land. Many households now

report having no fallow. Unless these households are able to access replacement land, their current plots will be quickly depleted of nutrients leading to a downward spiral of diminished crop yields and reduced food security.

9.4 Need for Future Resettlement Evaluation

The Study concluded that there is still significant land acquisition yet to occur. Delivery of compensation and training programs is still ongoing. Taking this into account, as well as the fact that project affected people have not yet been able to access replacement land, it is recommended that a further "final evaluation" of resettlement implementation should be undertaken not less than 24 months after last land acquisition for the OFDA well-infill program has been completed.

Appendix A Terms of Reference

Consultant to conduct evaluation of Chad Resettlement and Compensation Plan

A. Project description

A full description of the Chad Cameroon pipeline project can be found at the following site:

http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_00102111244720

B. Objectives/Purpose of Assignment

The development of the Oil Fields Development Area in Southern Chad has entailed the acquisition of large amounts of cultivated and fallow land from traditional farmers. The land acquisition activities have been articulated in the Chad Resettlement and Compensation Plan that was compiled in May 1999 as part of the Environmental Management Plan (EMP hereinafter).

The full text of the EMP and the Environmental assessment are available for the use of the consultant at the following website:

http://www.essochad.com/Chad/Library/Documentation/Chad_Documentation.asp

The EMP presents the Consortium's monitoring and evaluation obligations. Specifically, it provides for an evaluation of resettlement and compensation activities « *at the end of the first agricultural cycle after the construction of the fixed facilities has been completed* ».

This evaluation is of key importance in light of the increase in the magnitude of land-related impacts in the OFDA, as well as the current plan by the Project to increase the total number of wells ("infilling"), and the number of access roads and flowlines in 2006 and 2007.

In accordance with the provisions set forth in the Chad EMP volume 3, section 8, the consultant will conduct a comprehensive evaluation of the Chad Resettlement and Compensation Plan for the OFDA zone. Such evaluation will determine whether the objectives of the Chad Resettlement and Compensation Plan are being met. Such objectives are illustrated in the EMP volume 3, section 1.2 and are reported hereunder for ease of the reader:

- Minimize Project land use, reclaim land after construction, and make as much land available as possible to customary users;

- Design the Project to avoid village relocation;
- Comply with the World Bank Group guidelines (OD 4.30) on involuntary resettlement and all local laws;
- Minimize potential resettlement estimated to affect approximately 80 households, or a maximum of 150;
- Modeling resettlement on the existing cultural institutions of resettlement, common among ethnic groups in the area;
- Determine compensation values based on extensive data collection and socio-economic analysis in the area;
- Incorporate preferences voiced during extensive consultation with local peoples, NGOs, and other stakeholders;
- Provide compensation for both private landowners and customary users.

At present:

- Almost 500 households have been made “non-viable” according to the Project criteria, as a result of Project land acquisition activities, whereas the initial EMP estimate was 150 such non-viable households;
- The Project has permanently acquired about 1,400 hectares of land; another 1,450 hectares are to be returned to pre-construction users.

Different livelihood restoration measures are in place for eligible households:

- an improved agriculture program,
- off-farm training (training to various income-generating activities in non agricultural fields),
- employment (provision of a job),
- Project-assisted resettlement (reconstruction in an area where the household is able to find replacement land).

C. Scope of Work

Each consultant will work as a part of a team of two principal consultants (see section D.) that will conduct the impact evaluation of the Chad Resettlement and Compensation Plan for the OFDA. This evaluation should be undertaken before the end of the current dry season (i.e. end of May 2006), in conformance with the mechanism described in the EMP.

The consultants will review all existing documentation, literature, and baseline information prepared by the project or for the project, and any other relevant study carried out in the OFDA area on socio-economic aspects among communities affected by the project.

The consultants will conduct fieldwork in the OFDA area where households or individuals eligible for the resettlement program reside. The consultants will define the working methodology for the study. The sample of households and individuals selected for surveys and interviews will have to be statistically significant. Both quantitative and qualitative methods can be used to collect and analyze data to evaluate the effectiveness

of the Chad Resettlement and Compensation Plan. The design of the methodology for this study will be mutually agreed by the IFC and Esso.

On the basis of the qualitative and quantitative information gathered and analyzed, the consultant will determine:

- a) Whether and how the Chad Resettlement and Compensation Plan is meeting (or has met) its objectives;
- b) Which objective (if any) is not being (or has not been) met, giving a detailed description of the non-compliance situations vis-à-vis the Project's commitment indicated in the EMP, vol. 3;
- c) Whether the objective of avoiding village relocation" is still valid today in light of the larger Project footprint than originally envisioned, and in light of additional land to be used by the Project in the OFDA area;
- d) Whether criteria for "non-viability" of affected households are adequate in the current situation or need to be revised;
- e) How best to deal with households who are affected several times successively by land acquisition activities;
- f) Whether the livelihoods of individuals and households eligible for the resettlement option are being (or have been) restored to pre-project conditions, or improved;
- g) Whether and how the improved agricultural practices, on-farm training, and off-farm training programs are meeting the objective of providing alternative sources of livelihoods to the people eligible for the resettlement program;
- h) The effectiveness of the procurement for processes providing the training centers selected to deliver the improved agricultural practices and the off-farm training programs;
- i) The effectiveness of the individual and community compensation programs as delineated in the EMP vol. 3 vis-à-vis the empirical observations made in the field at the end of the study;
- j) The effectiveness of the process of returning lands to pre-construction users;
- k) Whether Project monitoring obligations as they stand in the EMP are being met, provide a review of monitoring done to-date, and recommend improved monitoring if needed;
- l) In addition, the consultant will evaluate the practice of "conquering lands" reported by the Project but not envisioned in the original EMP vol. 3.

In addition to the analysis of the current and past situation, for all points above, the consultant will:

- a) Propose revisions to the initial compensation strategy stated in the Chad Resettlement and Compensation Plan if needed;
- b) Propose remedial measures as appropriate, and reflect these in a recovery action plan that includes implementation mechanisms, timelines and budgets;
- c) Propose actions and structure to Project for effective monitoring Resettlement and Compensation Plan's impacts.

D. Consultant profile

The consultants' ideal profile is the following:

- Socio-economist:
 - 15 years minimum experience in the fields of expertise required by the assignment;
 - Demonstrated capacity to carry out qualitative and quantitative research in rural Africa on livelihoods, poverty and vulnerability;
 - Working knowledge of the French and English languages;
 - Experience in resettlement or rural livelihood enhancement programs;
- Resettlement specialist:
 - 15 years minimum experience in the fields of expertise required by the assignment;
 - Considerable experience in rural resettlement as a result of private sector projects, including agricultural livelihood restoration;
 - Experience in rural Africa;
 - Working knowledge of the French and English languages;
 - Demonstrated capacity to draft plans of action for implementation of recommendations.

The consultants may be either free-lance professional or be affiliated with a consulting firm.

E. Logistics and Facilitation

During their stay in the Project area, the consultants will receive the following support from ESSO:

- accommodation at Esso's camps;
- provision of two 4x4 vehicles, fuel and French-speaking drivers;
- Hiring on behalf of the consultants' team of a team of French-speaking Chadian enumerators per consultants' requirements.
- Provision of translators into French or English (depending on consultants' needs).

F. Deliverables

It is expected that the study will entail a total of about 95 person-days of work, subdivided as follows:

- 15 days to review secondary literature, documentation and existing baselines for the project, and to meet with appropriate stakeholders (ESSO EMP and implementing organizations, CTNSC, regional authorities, local representative NGOs, etc), and develop study methodology (sampling, development of questionnaire, etc);
- 35 days of fieldwork in the OFDA area, including testing of methodology and training of enumerators;

- 35 days to analyze the data and produce a final report.

Report production will be staged as follows:

1. 1st report: assessment and recommendations:
 - a. draft report after 75 days,
 - b. ESSO's and IFC comments and observations 2 weeks after a- above,
 - c. Final report 2 weeks after b- above;
2. 2nd report: action plan:
 - a. draft report 4 weeks after 1.b above,
 - b. ESSO's and IFC comments and observations 1 week after 2.a- above,
 - c. Final report 2 weeks after 2.b- above;

G. Confidentiality Statement:

All data and information received from the Project for the purpose of this assignment are to be treated confidentially and are only to be used in connection with the execution of these Terms of Reference. All intellectual property rights arising from the execution of these Terms of Reference are assigned to the Project. The contents of written materials obtained and used in this assignment may not be disclosed to any third parties without the expressed advance written authorization of the Project.

Appendix B Observations on Villages and Village Agriculture

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B.1 Summary table of the surveyed villages

Number	Village	Compounds	Compensated	% Compensated	Non Compensated	Houses built with project money	%	Houses built with project employment	%	Local teachers	Qualified Government teachers	School	Village Chief
1	Begada I	143	76	58%	55	unknown	unknown	unknown	unknown	3	1	Esso school	Darnadji Alphonse
2	Begada II	117	67	57%	50	40	34%	7	6%				Ngarboui Kobmbaye Gaston
3	Béla	127	59	46%	68	14	11%	11	9%	2	1	Esso school	Ngarkandji Bayo
4	Béro II	338	245	72%	93	145	43%	31	9%	5	1	Esso school	Dayim Raoul
5	Danmadja	115	71	62%	44	19	17%	2	2%	3	1	Esso school	Namhorngar Jonas
6	Dildo	226	74	33%	152	34	15%	1	0%	2	1	Esso school	ADOUM Joachim
7	Dokaidilti	53	34	64%	19	15	28%	7	13%			No school	Ngardissal Emmanuel
8	Koutou Nya	44	8	18%	36	0	0%	2	5%			No school	NGARDIGAL Jude
9	Madana Nadpeur	37	19	51%	18	1	3%	1	3%	2	0	Esso school	Djikolmbaye Emmanuel
10	Madjo	131	97	74%	34	64	49%	5	4%	2	0	Esso school	KOUMANTOLNGAR Pierre
11	Maikeri	131	83	63%	48	18	14%	10	8%	2	0	Local school	Djindodji Auguste
12	Mainani	111	73	66%	38	43	39%	2	2%	2	0	Esso school	Lokissingar Gustave
13	Mbanga 1	176	88	50%	88	33	19%	9	5%	4	1	Esso school	MATANGARTI Patrice
14	Mbanga 2	131	68	52%	63	42	32%	5	4%				Ngadeur Amon
15	Medeubte Nya	26	6	23%	20	0	0%	0	0%			Church school	TODJIRENGAR François
16	Miandoum II	376	82	22%	294	27	7%	67	18%	9	3	Esso school	Nekaigon Paul
17	Mouarom	109	55	50%	54	14	13%	7	6%	1	0	Local school	Ngarbatnan Joachim
18	Ngalaba 1	137	97	71%	40	15	11%	5	4%	2	1	Esso school	Tamro Mbaije Vincent
19	Ngalaba 2	118	100	85%	18	6	5%	10	8%				Madjitouloum Miandje
	Total	2646	1402	53%	1232	530	20%	182	7%	39	10	11	

B.2 Observations on agriculture

▪ Cordes

Cordes is the area measure used initially by the colonial power and later by the parastatal Cotontchad company. Farmers were obliged to grow one corde of cotton during the colonial era, and – “according to the needs of the mother country, the size of this corde, (the length of this rope varied), though it was in general given a rope of 71 meters and 0.5 ha. Nowadays in the villages of the OFDA, the length of the cord varies between 80 and 110 m. e.g. in Begada 100 to 120 steps, in Mbanga 100 meters and measured, in Mouarom, a corde is about 1 ha, in Maikiri.

▪ Béro II

Land usually belongs to extended families called “*Ngelka*”, who have the same grand parents. There are about 15 different *Ngelka* in Béro II. They share their land among themselves.

No families have yet left the village in search of land. People fear diseases but there are no examples of people leaving the village because of multiple diseases. The chief cites two reasons for expelling people the village: sorcery and criminal activities.

People have to go further and further from the village to find agricultural land. The hamlet Miarom is an example of a growing agricultural settlement. It is still part of Béro, and until now only a temporary one. One man from Béro started farming in Miarom, and others followed him in later years. In Miarom fields were first created next to the village, and the agricultural area spreads out as a result of agricultural rotation, impoverishment of the soil and of population growth. There is not yet a hamlet chief in Miarom, but the chief of Béro II believes that it may eventually develop into a permanent village. Even in this small hamlet (about 8 families) farmers from different families reside.

The main agricultural constraints are labour (you need money to pay external labour), especially for weeding. Cattle help only for the initial ploughing, not for the intensive weeding that is necessary: longer and more expensive.

Babla. – Individual local labourers are paid about 100-250¹ F/day.

Ndo Djima. – Groups of 10-12 workers who work in each other’s fields for one day. They are not paid, but offered a meal with smoked fish and tea for lunch.

Real Famines are uncommon in the area, but food shortages through bad harvests happen regularly. 1984 and 85 was an extremely bad years The food situation has become more difficult since cassava growing stepped in the early 1990s when the cattle herders came to the area.

▪ Bégada

In a good rotational system, the first year is used for sorghum, the second for a mixture of pennisetum and peanuts. When the land is tired a long fallow is needed: 6-7 years is best, while we used to apply 4-5 years. However, nowadays typical in a typical rotation de land is used for 2-3 years and then left fallow for 3-4 years.

A good harvest means 6-7 bags of sorghum per corde (about 1200 kg/ha), but when the soil becomes impoverished, the yield can become as low as 1 bag (200 kg/ha). Before the harvest is completely picked, threshed and bagged part has already been eaten directly from the field, implying that actual production is a little higher than the data presented here.

Local cattle prices: Pigs 10-20,000 F, hens 1,00-1,500 F, goats and sheep 10-15,000 F, cows (120-140,000 F) and oxen (more than) 200,000 F in the village

Taxes. – People pay taxes on bicycles (3,000 F/year), goats and sheep (200 F/year), cows (1,500 F/year).

▪ Miandoum

In Miandoum, 4-5 bags of sorghum are considered a good crop (800-900 kg), as well as three bags of shelled peanuts (about 500 kg).

There is enough land available in the village, according to a group of women in Miandoum V, a village hardly impacted by the project. However, there are always problems with land in the village, as people tend to use land belonging to someone else, or do not respect limits between fields.

¹ Was 150 FCFA/day in the unpublished survey of 1997.

- Men and women often have different plots of land, women may inherit from their parents (when they are married in their own village) or been given land by their husbands.
- Land is used for about 3 years and then left fallow for about 4 years
- Land is rented in the village for about 5,000 F per corde², sometimes more. However, renting of land is not very common.
- Land within the village to build houses is sold for 80 to 100 thousand francs. The village chief keeps track of the transactions, but not of the size or price of the plot.

▪ **Project induced diminished production**

- Flaring is impeding the crops to grow: if you put a pot of water near the flare, a kind of skin will form on it, indicating the toxic substance that are present in the flare.
- Light around the project facilities is hampering production: the plants (like sorghum) grow very well in the beginning of the rainy season, but when they are at a flourishing stage, nothing happens and there is no formation of seeds. In many villages this is repeated as a generally observed truth, and villagers explain that the sorghum plants are too shy to mate during the night, because of the lack of darkness.



The only possible way of growing cassava is to protect the field with a fence from marauding cattle.

▪ **Recent changes in agriculture**

Agricultural practice in the area Two phenomena have greatly impacted agriculture in the area:

1. Cassava. – This used to be an important crop that could be harvested throughout the year. The influx of cattle herders in the mid nineties in the area, whose marauding cattle generally destroy the crops has led to a gradual abandoning of the crop.
 - Cassava used to have the advantage that it could be harvested all year round, and could grow on poor soils.
 - It was an important asset in the system of seasonal food security in the area.



Cotton harvested in February 2006 in Missimadji in the OFDA. Unfortunately Cotontchad had not yet bought it, in spite of the start of the new rainy season.

2. Cotton. Cotton was grown in the OFDA and the surrounding areas. In the system adopted in Chad, the villagers had to organize themselves into groups (Associations Villageoises, or AV) who would be jointly responsible for paying back the seeds, fertilizer and pest control products, that the parastatal Cotontchad would hand out in the beginning of the season. Besides the fact that Cotontchad always paid late, often downgraded the cotton to a lesser quality, and not everybody in the AV would produce enough cotton to pay back his share of the loan, there were always tensions. Outside the OFDA most villages continue to grow cotton, in spite of these difficulties, but inside the OFDA cotton has been abandoned, though the villagers do not state that it is because of hope of Esso employment.

² A corde is traditionally 71 x 71 m², or about 0.5 hectare. However, in modern practice people will use a corde of 90 m, a corde of 100 m, or simply confound the terms fields and codes. Analysis of the satellite photos shows that most fields fall in the 0.7-0.9 ha category, so at least 50% more than the official corde.

- Payment of the cotton crop early in the calendar year allowed people to buy cereals to counter for food shortages during the rainy season
- The land used for cotton could be used favourably for 1-2 years to grow food crops, which would benefit from the left over fertilizer in the soil.
- Cotton growing stopped in most villages between 1997 and 1999, when Esso started taking land and paying compensation
- There is a tendency in some of the villagers to go back to cotton: in about half of the villages interviewed, people wanted it, and in a few villages (e.g. Dokaidilti, Dildo), villagers had started to do so.
- A potential rotational system including cotton may be: 1. Sorghum/sesame, 2. Pennisetum + peanuts, 3. Cotton, 4. Pennisetum + peanuts + sesame, 5. Another millet crop.

The farmers tried to compensate the loss of revenue from cotton by growing more peanuts, which could be sold in the markets (78% of 413 farmers interviewed) or buy growing more cereals (61%) so that they would have to buy less.

▪ Mainani

The main crops grown in the area are sorghum, peanuts, sesame, cucumber seeds, beans, Bambara nuts. Among those, the ones that are most often used for selling in the markets are sesame, peanuts, pennisetum millet, and cucumber seed.



The fruit of the Karité (mahogany) trees is intensively used in all the villages for preparing oil.

Land. – Since the arrival of Esso, less land is available, and the quality of our water is less through pollution. Though we have not yet tried to grow on it, land restored by Esso seems to be of insufficient fertility. The village has lots of land left: bush land near Kome (4 km), bush and fallow near Bégada (1.5 km), and land that we have put to fallow in 1974 located behind Kome base, near Béla. A sample of 7 persons present indicates that they have land between 2 and 7 km from the village.

Cotton. – Cotton was abandoned in 1997 for the same reasons as cited elsewhere: mainly that Cotontchad had too much delay paying the harvest but also unjustifiably downgraded the quality of the cotton. The fertilizer used for cotton allowed other crops, such as sorghum to grow better. Now the only way left to improve fertility is to burn the fields.

Land tenure. Land is still handed out temporarily to new comers. Until now, no land has ever been rented or sold in the village.

Rotations. – Land is used during about 4 years, and then put to fallow.

Cattle herders. – There are many problems between villagers and cattle herders of which three groups are distinguished: 1. Mbororo/Fulata who come from the North West and Cameroon, Missériés from Central Chad and Arabs from the north. Main problem is the

damage that marauding cattle does in the fields, and the fact that they do not pay [enough] compensation for such damage. Cattle herders arrived in the late 1990s, believing that Esso would buy their cattle at a good price. Finally they stayed.

In kind compensation. – Initially Esso's in kind compensation was not good: the items were too expensive, and it took too much time before they were given³. After such experience, none of the meeting participants wanted to speak out in favour of in-kind compensation.

³ In 2006, a bicycle in Doba costs about 40-50 thousand FCFA, during Esso's compensation an in-kind bicycle cost 80,000 FCFA; oxcart: Esso 320,000 FCFA, in Doba 250,000 FCFA. Delays were often extremely long, in one of the files shown by Esso, cash compensation was paid in April, and the plough was delivered only in September of the next year.

▪ **The 10% for the authorities**

The local authorities (chef de canton, sous-préfet, village chief) have, almost since the start of the compensation payments considered that at least 10% of the compensation paid to the villagers is their due. As this practice is illegal, and the authorities assists officially in the compensation sessions, they have their personnel (usually his security personnel (locally called “goumier”) and his secretary who are in charge of recuperating the money. The normal payment is 10% with – what villagers think is adding insult to injury – a minimum of 5,000 FCFA for those who receive only 46,000 FCF. For villagers it’s plain theft, but they cannot fight it as they will need the service of their chief for a long time, and they are also afraid of the consequence of disobeying.

According to information obtained in all villages, many parties have to take a share in the 10%: the chef de canton, the sous-préfet, and the secretaries. Some of the interviewed in the socio-economic questionnaire cited this money as an important source of income.

▪ **Education**

There are very few qualified teachers in the school built through Esso compensation. In the villages surveyed, out of 11 Esso built schools surveyed, there were 36 local teachers and 10 qualified teachers. Three schools had no qualified teacher at all. Local teachers “voluntary teachers” receive from parents association a monthly fee that theoretically varies between 5 and 10,000 FCFA, which is paid only when the money is effectively available. The voluntary teachers have rather limited school training themselves, some have only primary school, others a few years of secondary education. The education authorities help a little with short 2-days training sessions that are given once or twice per year in the canton capitals.

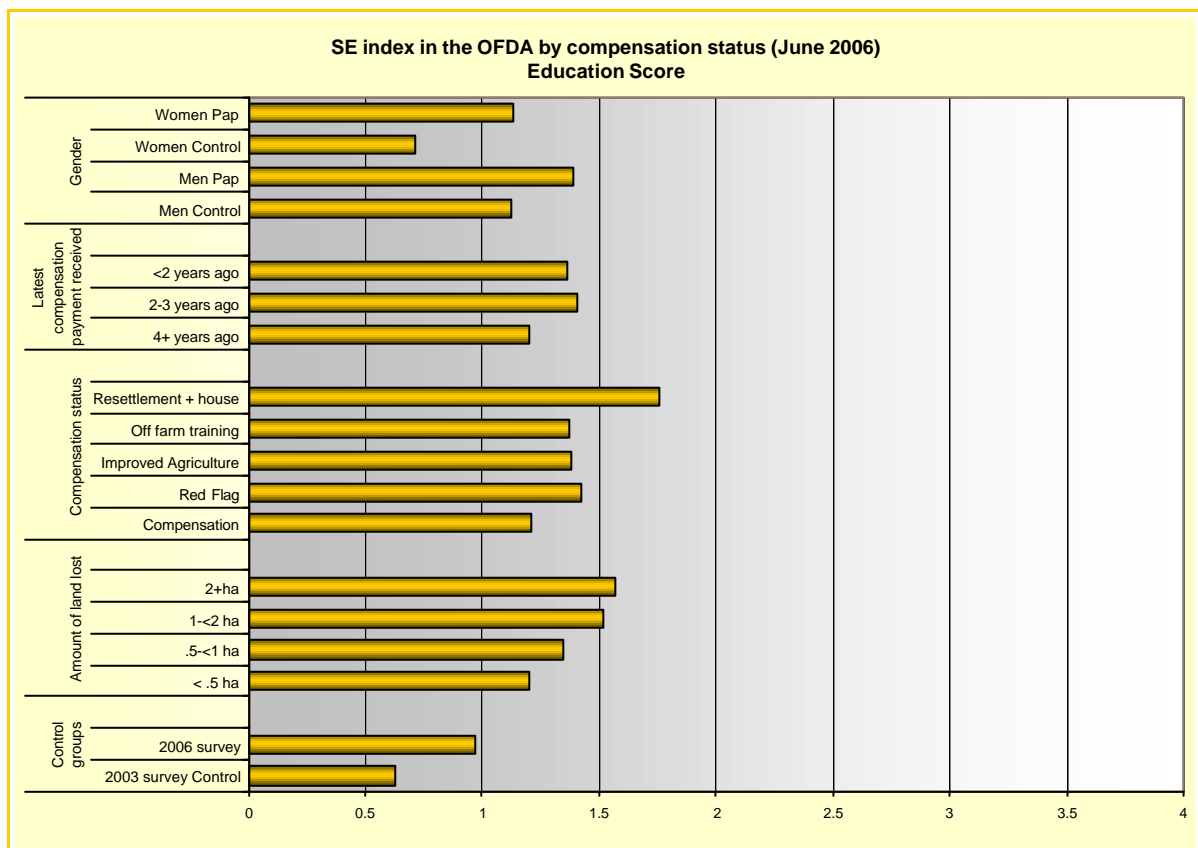


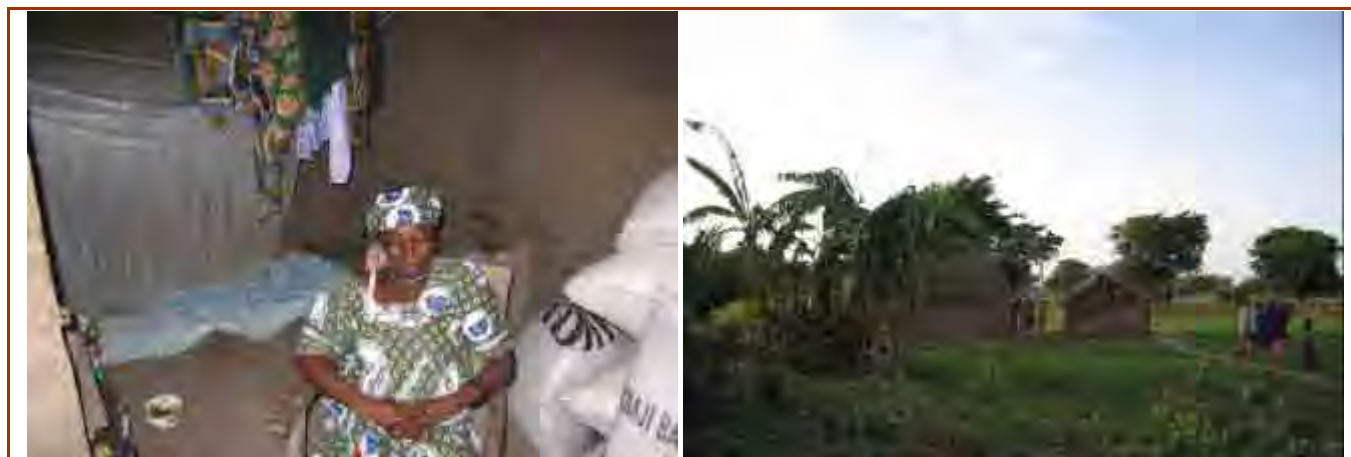
Figure 2-1. – Socio-economic index of educational indices in the OFDA sample during the 2006 study (see main text for details of the index value).

Figure 2-1 shows that, although many schools have 2 classrooms, only and are understaffed with qualified teachers, the population has responded by sending more children to school than was evident from the 2003 survey. While in the OFDA villages, in 2003, 18.5% of all households did not send any school children to school, this number had fallen in 2006 to only 3.5% of the households in the village studied. What remained is that children tended to start late and drop out early, which resulted that in 2006, of the children from 6 to 14 years of age 13% did not – yet or anymore – attend school.

B.3 Madana Nadpeur

03.07.2006 by Frédéric Nodjiasnagar in the presence of one elder, the village nurse and 3 young men from the village

Village founded in 1966 by Nadpeur, who came from Kairati on his way to Karaiti, but stopped halfway. Dana "halfway", so the name means "where nadpeur stopped halfway".



Left: Cereals are stored in bags in the compound. Note the mosquito net in the background. Right: the small hamlet of Madeubte Nya, used to be part of Madana Nadpeur but is now independent.

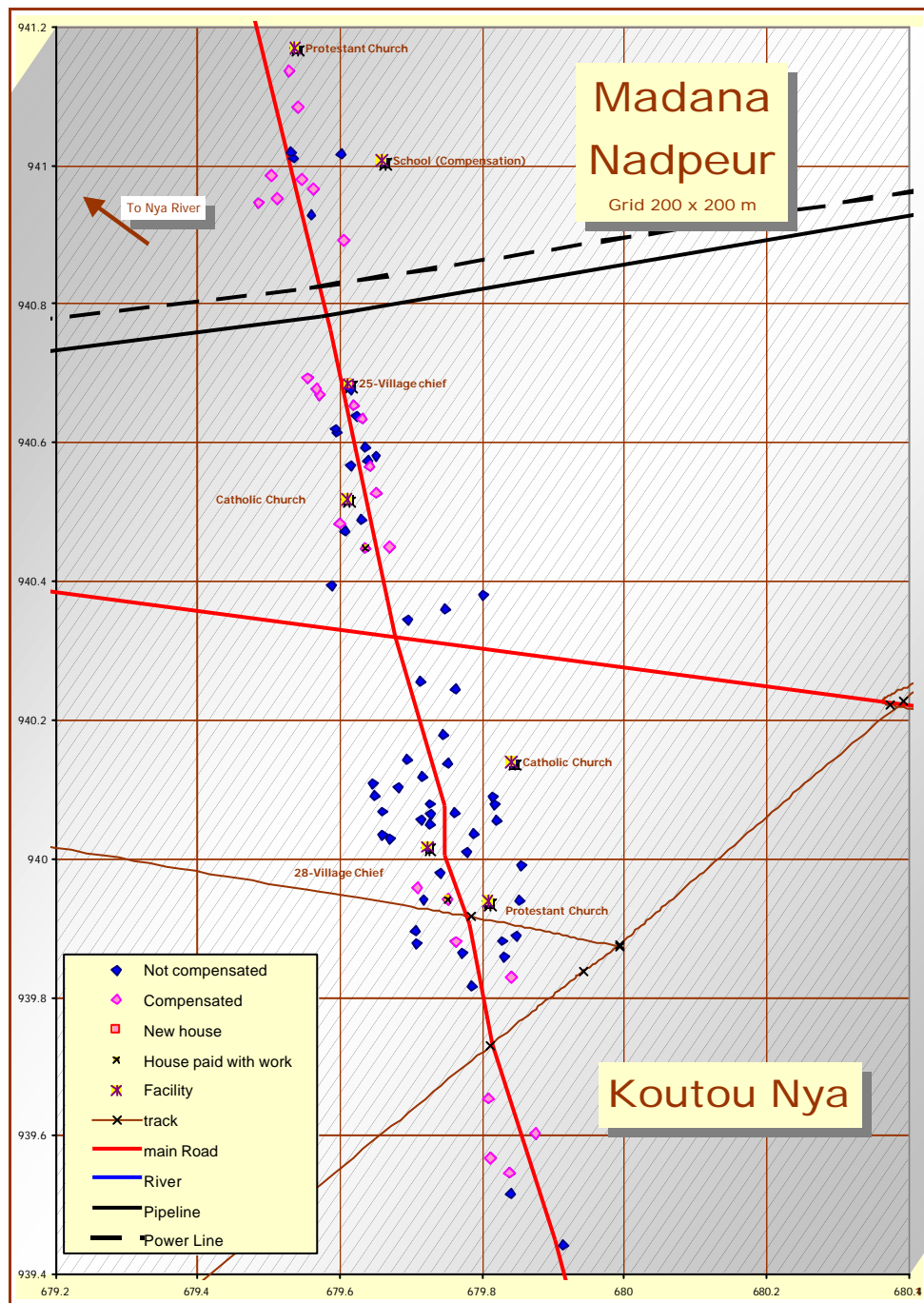
Positive changes: for those who have been able to work and those who received agricultural training. Also better roads and easier to travel.

Negative changes: famine is menacing us, the environment is polluted, the trees don't bear fruit anymore, lack of rainfall, the fields loose their fertility, presence of stealing.

There are so many negative impacts that it's impossible to tell them all in less than an hour. However, one should not forget the advantages we cited.

Characteristic	Description
Village chief	Djicolmbaye Emmanuel
Population	37 households of which 19 (52%) received compensation
In migration	None
Out migration	Two families returned to the village
Ethnic groups	Ngambaye only
Languages	Ngambaye, French and Arabic
Religion	Christians (Catholic and Protestant Church built with straw and mud bricks), animists (and one Muslim family).
Land chief	Will do his yearly sacrifice early in the season, because if he's late, the people don't wait for him to finish
Housing	Of the 37 compounds, 1 was built with compensation money, another with employment money.
Water	Traditional wells and river
Esso compensation	School (community compensation)
Fuel for cooking	Wood and charcoal.
Radio	National radio: Voix du paysan (Doba), RNT International: Africa °1, RFI, Vatican
Television	None
Cell phone	None but reception is good
Education	School: 4 years to CE2, only local untrained teachers. Further in Madanan (primary) and Miandoum (secondary) and Bébédjia
Health	4 traditional midwives, 1 trained male "midwife", 1 trained red cross health worker Health posts in Kome (11 km), Miandoum (22 km), Hospital in Bébédjia (30 km)
Commerce	Weekly market in Bolobo, daily market+ shops in Kome base, stalls (timbres) in Madana.
Transport	Daily bush taxis, motorbike taxis and bicycles. A good road maintained by Esso.

Characteristic	Description
Livelihood	Agriculture, animal husbandry and fishing in the Nya River for domestic use and for selling) are the three main pillars of livelihood
Project work	Nobody is working actually, only 3 persons worked during the TCC period.
Government services	Cotontchad and health services visit the village. ORT does agricultural development for Esso, service forestry and hunting government services visit the village.
Roads	
Local organizations	Saving groups, Teacher-Parents association, Savings bank in Kome, Choirs, sport clubs, informal rotating saving groups.
Cattle herders	Both Arabic and Peul (Fulata) herders are in the region, mainly between November and June



B.4 Mouarom

11.06.2006 by George Koppert and Frédéric Nodjiasngar in the presence of the village secretary and village elders and young people

Village founded in 1970 by people from neighboring Kome. The settlement started as a hamlet where people from Kome came to work the fields. In 1995 Ngarndo Rene (now deceased) became the chief. The current chief, Ngarbatman Joachin, became chief in 2002. The chef de canton decides if a village is a village or only a "quartier", a hamlet belonging to other villages⁴.



Top Left: Built with cemented fired bricks, but with a traditional thatched roof. Right: This is the building where children go to school. Below: The rains were late, but after the first rains the fields turn green rapidly.

Positive changes: compensation, new and improved housing for the villagers, cattle, ploughs, oxcarts and oxen, bicycles, wheelbarrows. Bigger fields (through oxen), agricultural training through ORT and Esso

Negative changes: Dried up wells, less land, in migration of foreigners, among whom there are thieves, prostitution, delinquency, jealousy within families between those who have and those who did not receive compensation, difficulties for some people to find replacement land.

Grievances. Our village does not have community compensation in spite of important project impact (because according to Esso it's still officially a part of Kome) and lack of local recruitments.

Characteristic	Description
Village chief	Ngarbatnan Joachin
Population	109 households of which 55 (50%) received compensation
In migration	None, only during the construction phase with TCC. The migrants live in nearby Kome Atan
Out migration	None
Ethnic groups	Ngambaye only, of the Mbay Doba group
Languages	Ngambaye and French
Religion	Christians (Catholic and Protestant Church built with straw and fired bricks), animists

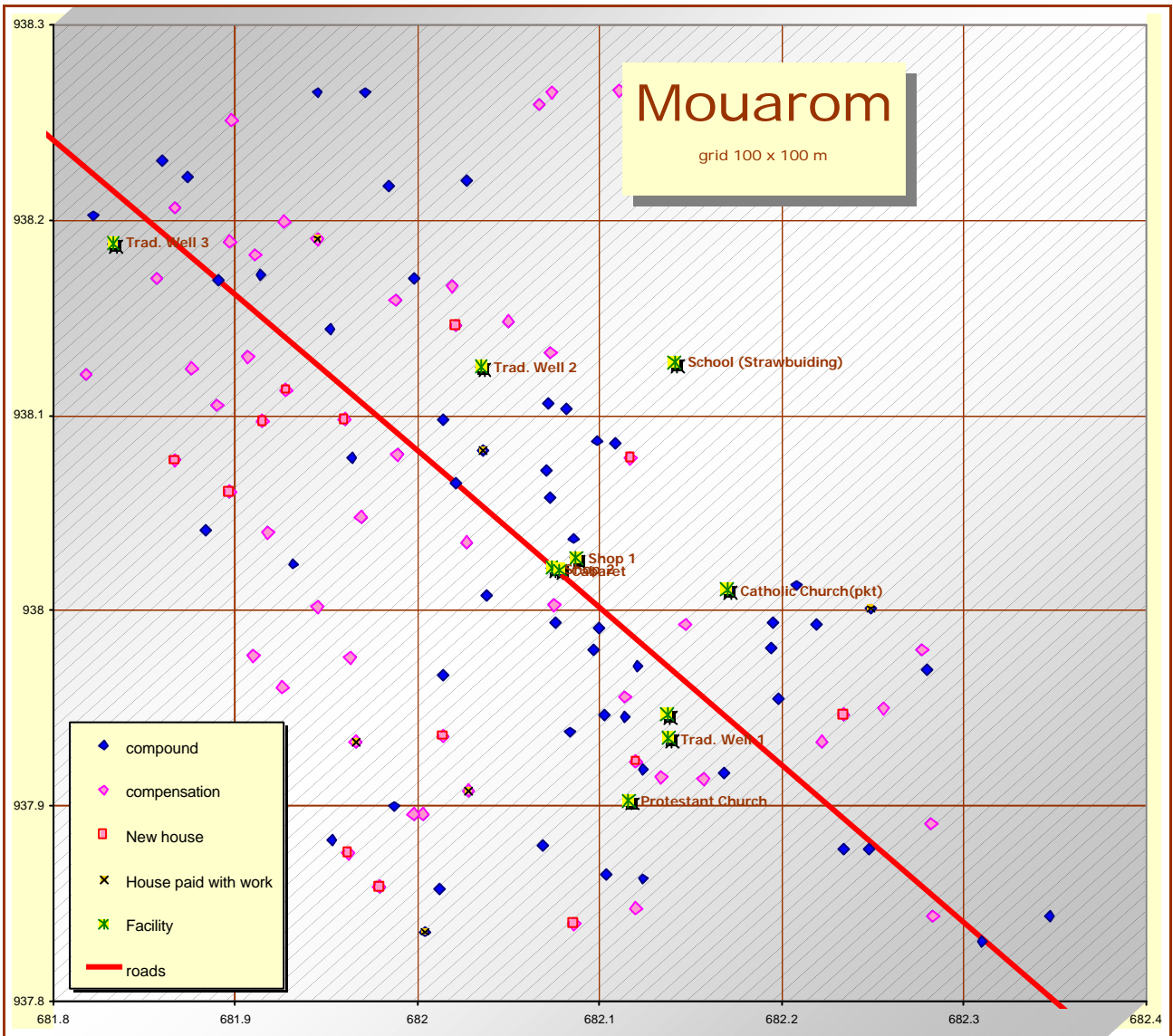
⁴ The Sous préfet told RB that Mouarom should still be considered to be a hamlet and not a village, but the villagers say that they are independent from Kome.

Characteristic	Description
Land chief	Farmers wait for the sacrifice of the land chief before sowing in their fields.
Housing	20 families (18%) built a new house with money from compensation and/or employment. A new house of 2-3 rooms with a corrugated iron roof costs about 200 to 250 thousand F.
Water	Traditional wells most of whom dry during the dry season
Esso compensation	None, in spite of the considerable project impact in the village.
Fuel for cooking	Wood only
Radio	National radios: Voix du paysan (Doba, development orientated), RNT International radios: Africa 1, RFI, Vatican Few have radios, and it's hard to find money to buy the batteries.
Cell phone	Reception is good
Education	School: 3 years to CE1, only one local untrained teacher (6,000 F/month). Further in Danmadja (4 km) and Kome (7). Secondary in Kome Bébédjia and Doba (7 in the lower grades, 2 in the higher grades of the lycée).
Health	3 traditional midwives who received training in the Kome clinic, one shop sells medicines Health posts in Kome (7 km), Woso (25 km). Hospital in Bébédjia (35 km) and Doba (40 km)
Commerce	Weekly market in Bolobo, daily market+ shops in Kome base, 2 shops and 1 stall (timbre) in the village,
Transport	Transport is available fin nearby Kome Atan: 1,000 F to Bébédjia, another 1,000 F from Bébédjia to Doba.
Livelihood	Agriculture, animal husbandry, the preparation of alcoholic drinks and fishing in the Nya River (for domestic use only) are the most important activities. The majority of families only eat the food they produce. A minority has to buy food. Those who own cattle have been able to grow bigger fields. Fields are measured in corde of 100 m, twice as big as the traditional Cotontchad Corde of 71 m or half a hectare.
Project work	Two people in the village have a permanent job in the project
Developmental and government services	Cotontchad and health services visit the village. The nuns from Bendome give health advice. ORT does agricultural development for Esso, service forestry and hunting government services visit the village. EPOZOP ⁵ discusses the Esso project.
Local organizations	Saving groups, Teacher-Parents association, Choirs, sport clubs, informal rotating saving groups.



Agricultural activities. Note that usually small boys guide the oxen, as they can best handle the cattle, being in charge of herding them throughout the year.

5 Entente des populations de la zone pétrolière.



Left: a small shop, financed by money earned through the project. Right: the main water well in the village.

B.5 Dokaïdilti

02.07.2006 by Frédéric Nodjiasnagar in the presence of the secretary of the village and 9 village elders.

The village was initially called Bendoh, by people from Doba who settled in the area to grow cotton. Nowadays the village is called Dokaïdilti. It is one of the rare villages where people grow cotton, in spite of the difficulties. Cotontchad had not yet bought the cotton harvest of 2005.

Positive impacts. No positive impacts are perceived in our village.

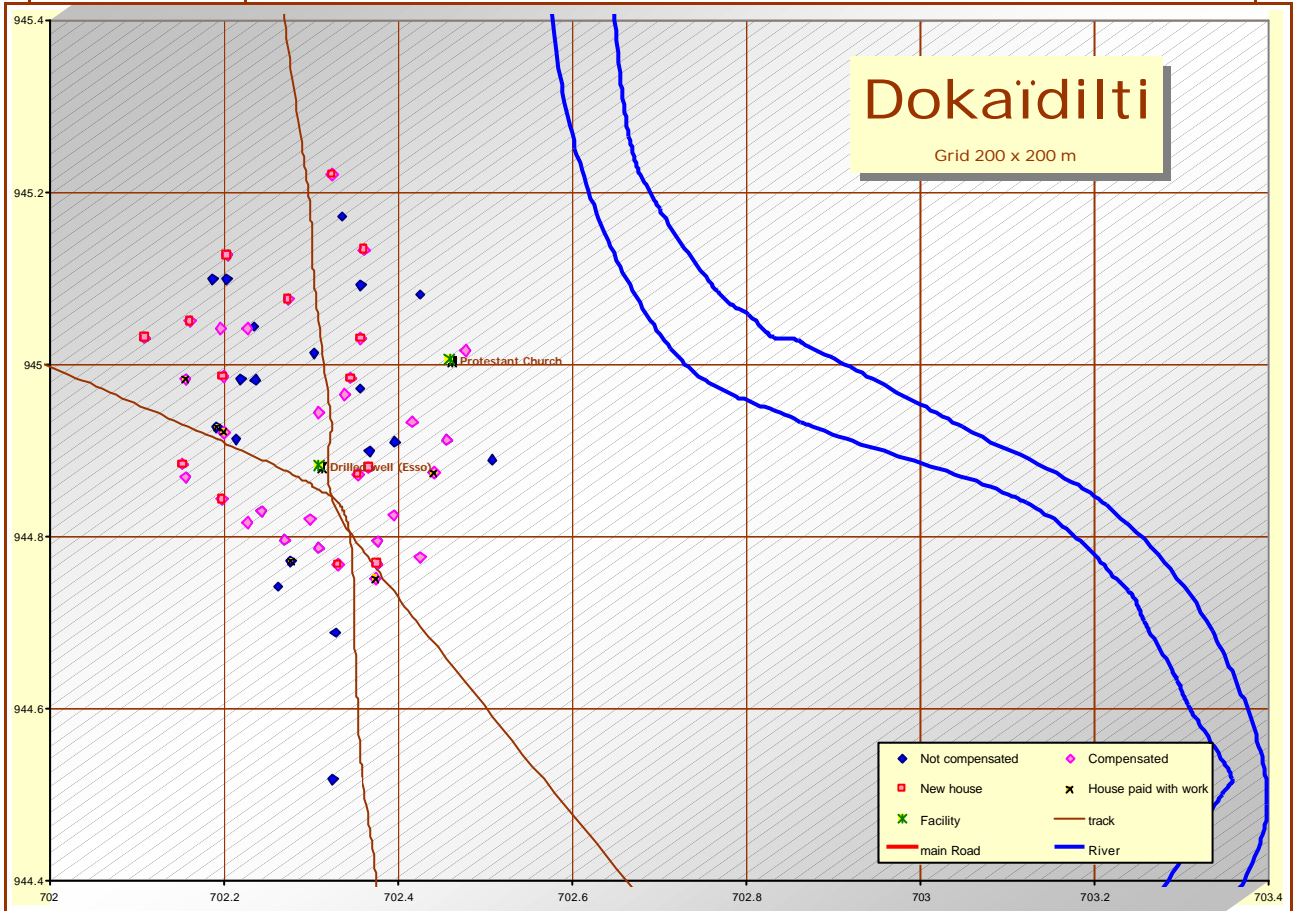
Negative impacts. – Extremely rapid change in our way of life: money becomes the only way of surviving. All our fields are now occupied by the project. No satisfactory compensation. The beneficiaries of training receive no follow-up. The initial information provided to the village by project representatives did not reflect the truth. Contrary as to what was said then, Esso has not taken care of the village. The community compensation received for our village does not reflect the amount of land we lost for the well pads and the Kome V airport.



Left: Esso built house for the village chief; Right: water well chosen for community compensation

Characteristic	Description
Village chief	Ngarndissal Emmanuel
Population	53 households 64% of whom received compensation
In migration	None
Out migration	None
Ethnic groups	Mbay Doba (Ngambaye) only
Languages	Mbay Doba (Ngambaye), French and little Arabic and Foulbé
Religion	Christians (Catholic and Protestant Church built with straw and mud bricks), and minority animists
Land chief	Christian religion dominate and the chief is not adhered to anymore
Housing	Mostly straw thatched, 28% were built using compensation money, 13% using employment money.
Water	Traditional wells, one drilled well built by Esso, river water
Esso compensation	Drilled well (community compensation)
Fuel for cooking	Wood only
Radio	National radio: RNT, Voix du paysan (Doba) International: Africa °1, RFI, Vatican
Cell phone	Reception is good
Education	No School in the village: primary school in Dildo, Secondary Collège in Béro (9 km, 9 pupils) and Lycée in Doba (12 km, 1 pupil).
Health	4 traditional midwives who received training, 1 trained red cross health worker, 4 local "Dr Tchoukou" untrained health and drug providers. Health posts in Ndaba Bébo (3 km), drugs available in Béro (9 km), Hospital in Doba (12 km)
Commerce	No shops in the village. The markets are in Béti and Doba, on the other bank of the Pendé river
Transport	None available on a regular basis. The roads can be used during all seasons, but the river crossing to Doba is difficult in the rainy season.
Livelihood	Agriculture, animal husbandry and fishing in the Pendé River for domestic use and for selling. A group of

Characteristic	Description
	farmers grows cotton.
Project work	Only temporary jobs. At the time of the survey 3 people had a temporary job.
Government services	Cotontchad and health services visit the village. Vaccination campaigns concern children (free) and cattle (for a small fee).
Local organizations	There exists an Association Villageoise (AV) for cotton, mutual assistance groups for agriculture, cotton. Churches support choirs as well as men and women's groups. Informal rotating saving groups.
Cattle herders	Arabic herders are in the region, mainly between December and May



B.6 Miandoum II

30.06.2006 by Frédéric Nodjiasnagar in the presence of the village chief and 5 village elders.

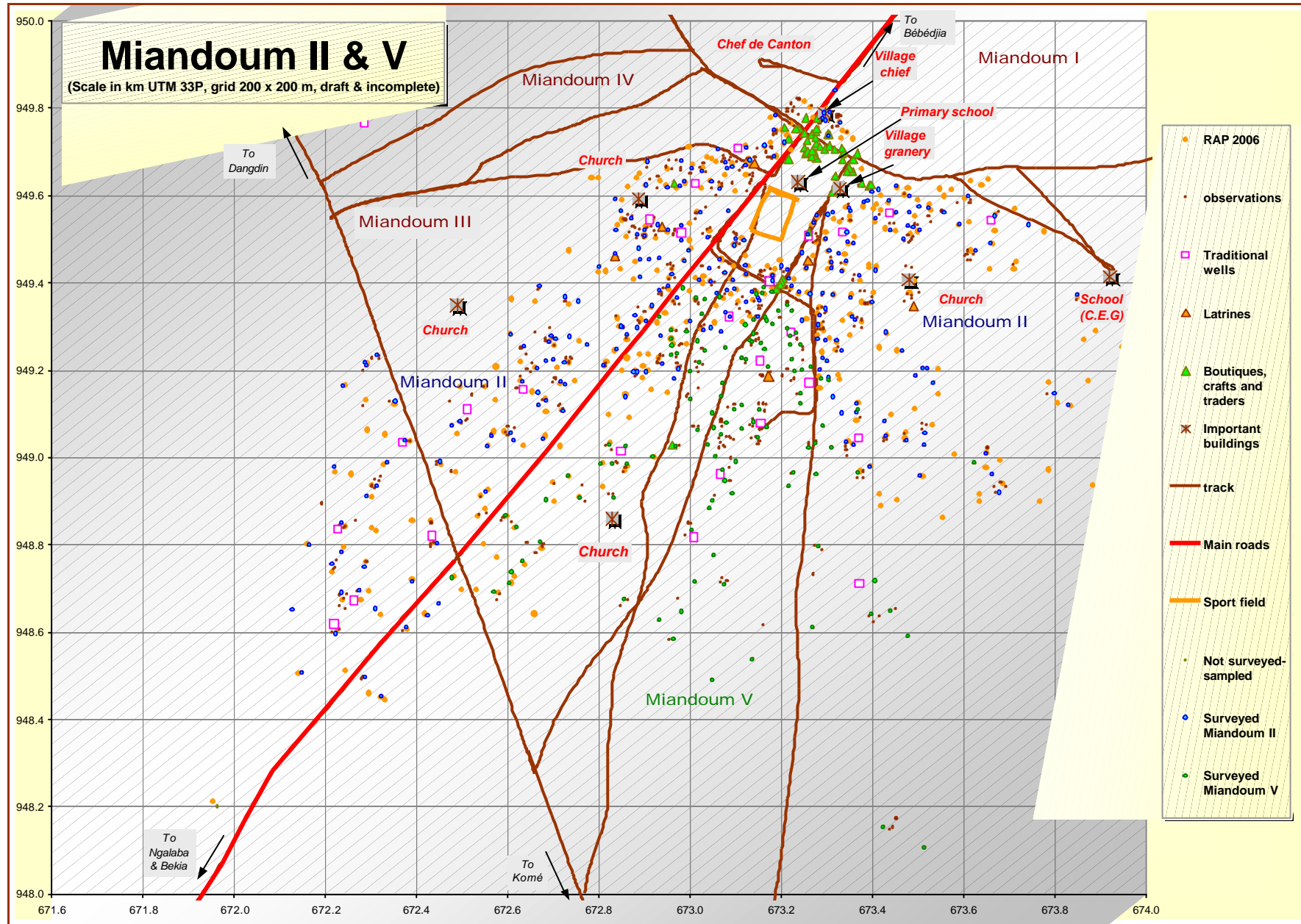
Miandoum II (with Miandoum V) was one of the villages studied by Gepfe in 2003. The name Miandoum means "hide the voice" which replaced the name Kiri Koro (a kind of grass) that was initially used. They had fled their initial village because to flee the colonial yoke.

Positive aspects of the project. – Some jobs initially which allowed building the school (the secondary CEG), the health post, and a drilled water well.

Negative aspects of the project. – Loss of land, lack of respect towards the land chiefs, insecurity in the village, disrespect for the promises given by Esso.

Grievances. – The village expects Esso to fulfill its original promises: taking care of the farmers throughout the duration of the project.

Characteristic	Description
Village chief	Nekaingoun Tandigel Paul (Miandoum II)
Population	376 households 22% of whom received compensation
In migration	Yes people have arrived to look for work in the Esso project. The village grew approximately 26% since 2003.
Out migration	Accused of sorcery, three families were obliged to leave the village
Ethnic groups	Mostly Ngambaye but 2 Moundang and 1 Sara Kaba.
Languages	Ngambaye, French and Arabic
Religion	Christians (Catholic (a straw building and a new one under construction) and Protestant Church built (permanent building), various straw chapels. A minority of the populations is animist
Land chief	The chief is not really adhered to anymore, but performs various secret rites early in the agricultural year.
Housing	55% straw thatched, 57% use fired bricks, 7% were built using compensation money, 18% using employment money. The village has one of the best housing qualities seen in the area.
Water	Traditional wells, one drilled well built by Esso, piped water
Esso compensation	Drilled well (community compensation) and a secondary school (donation program) + health center (donation program).
Fuel for cooking	Wood and charcoal
Radio	National radio: RNT, Voix du Paysan (Doba) (but reception is bad) International: Africa °1, RFI, Vatican (reception is OK) One TV in the village which transmits paid world cup matches.
Cell phone	Reception is good, about 20 people own a cell phone
Education	Complete primary and secondary college in the village with 3 qualified and 9 voluntary teachers, Lycée in Bébédjia (12 km).
Health	Health center in Miandoum IV. Hospital and pharmacy in Bébédjia (12 km)
Commerce	The village has a daily and a weekly market + many boutiques. Important markets in the area are Kayra and Bekia.
Transport	Regular transport is available between Bébédjia and Komé base. Esso maintains the roads, which can be used during all seasons.
Livelihood	Agriculture, animal husbandry, trade and for some salaries.
Project work	At the time of the survey 5 people had a temporary job and 10 had a permanent job.
Government services	Cotontchad and health services visit the village, but no cotton is grown. Vaccination campaigns concern children (free) and cattle (for a small fee).
Local organizations	Mutual assistance groups for agriculture. Parents Teachers Association, sport clubs, choirs, Informal rotating saving groups, a mutual savings bank, groups of Miandoum canton people in N'djamena and Moundou. Specific groups for men, women and young people.
Cattle herders	Fulani herders live permanently in the region, mainly between the town of Bébédjia and the Nya River



B.7 Begada

02.06.2006 by GK in the presence of the village chief and village elders.

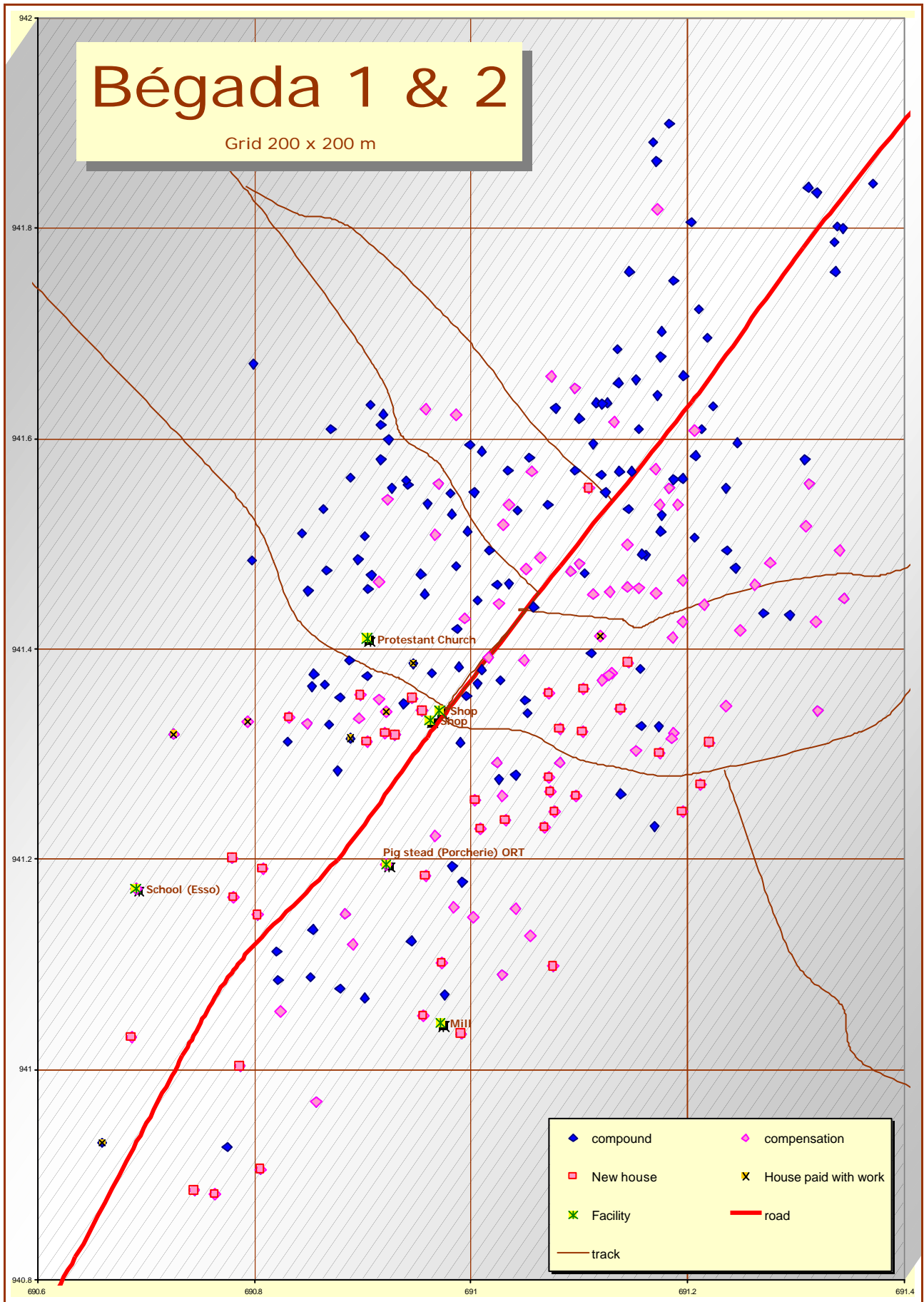
Grievances. – Land on the former Kome airfield has been restored, but gendarmes from the army have laid a complete claim on this land and forbid the villagers to use it for their own. The village expects this area to be fertile after restoration, and want to use it for the village. The airport has existed since 1986, and in those days no compensation was paid to the farmers.



From top left: Cattle and a brand-new oxcart, are used to transport fired bricks. Boys are wrapping salt in small packets, to be sold for 10 or 25 FCFA each. 2nd row: Proud behind the brand-new cereal mill paid 2.5 million FCFA with compensation money. In spite of the presence of a drilled well, women still fetch their drinking water from an open well. Below: peanuts are shelled as the season to sow them has arrived.

Characteristic	Description
Village chief	Darnadji Alphonse (Begada I, 143 households) and Ngarboui Kobmbaye Gaston (Begada II, 117 households)
Population	260 households 57% of whom received compensation
In migration	None
Out migration	None only students and people that work elsewhere
Ethnic groups	All Ngambaye (Mbay Doba). There used to be a Fulata cattle herders camp (Ferrick) which left the village in 2005.
Languages	Ngambaye, French
Religion	Christians (Catholic (fired bricks, under construction) and two Protestant Churches (straw and fired bricks). A minority of the populations is animist
Land chief	
Housing	Mostly straw thatched. In Begada II, 34% were built using compensation money, 6% using employment money.
Water	One drilled well built by Esso, which provides red colored water which is not appreciated. Only people who lie near the well use this water, others use traditional wells close to their compounds. A second well drilled before Esso, has broken and is not used.
Esso compensation	Primary school of two classrooms and a drilled well as community compensation. One house for the village chief.
Fuel for cooking	Wood only. One of the local bars uses a car battery for music
Radio	National radio: RNT, Voix du Paysan (Doba) (reception is OK) International: Africa °1, RFI, (reception is OK). There is public TV but at the time of visit the electric generator did not work.
Cell phone	Reception is good, about 30 people in the village own a cell phone
Education	Complete primary in the village (2 classrooms Esso + 2 straw buildings), with 1 qualified and 3 voluntary teachers, Secondary schools in Kome (7 km) and Bero (8 km). Lycée in Bébédjia (12 km, 6 pupils) and vocational training in Moundou (1 pupil).
Health	Two trained red cross health workers, 3 local "Dr Tchoukou" untrained health and drug providers. Health posts in Kome (7 km), Hospital in Doba and Bébédjia
Commerce	Five small shops, 2 cereal mills, various stalls (timbres). Markets in Kome or in Doba. Every day an animal is butchered for local consumption.
Transport	The village is located on the old German road, which is also used by Esso. Dust and speedy driving area nuisance. No regular transport is available for the villagers, only irregularly market trucks stop. People travel using bicycles, motor taxis or go walking.
Livelihood	Agriculture (mainly sorghum, peanuts, pennisetum millet). Cassava is rarely grown these days due to damage by cattle. Cotton has not been grown since 1999. Trade concerns mostly speculation on food crops, animal husbandry, and a few salaried jobs.
Project work	At the time of the survey 2 people had a permanent job, irregularly villagers sometimes obtain temporary jobs.
Government services	Health services visit the village. Vaccination campaigns concern children (free) and cattle (for a small fee): during our visit we observed cattle vaccination and vaccination of pregnant women.
Local organizations	Mutual assistance groups for agriculture. Parents Teachers Association, sport clubs, choirs, Informal rotating saving groups (both using money and sorghum ⁶), a mutual savings bank, groups of Miandoum canton people in N'djamena and Moundou. Specific groups for men, women and young people.
Cattle herders	Arabs Fulata (Mbororo) in the area, Since their arrival, cassava growing is not possible anymore, as marauding cattle destroys the fields

⁶ For instance 10 persons each give weekly a sum of 1 or 2 thousand francs, or 10 coros (local measure, equivalent to about 25 kg) of sorghum; each of ten weeks one of the participants receives all. Sorghum as than usually sold in the market.



B.8 Maïnani

07.06.2006 by GK; presence of village chief and various village elders and young people.

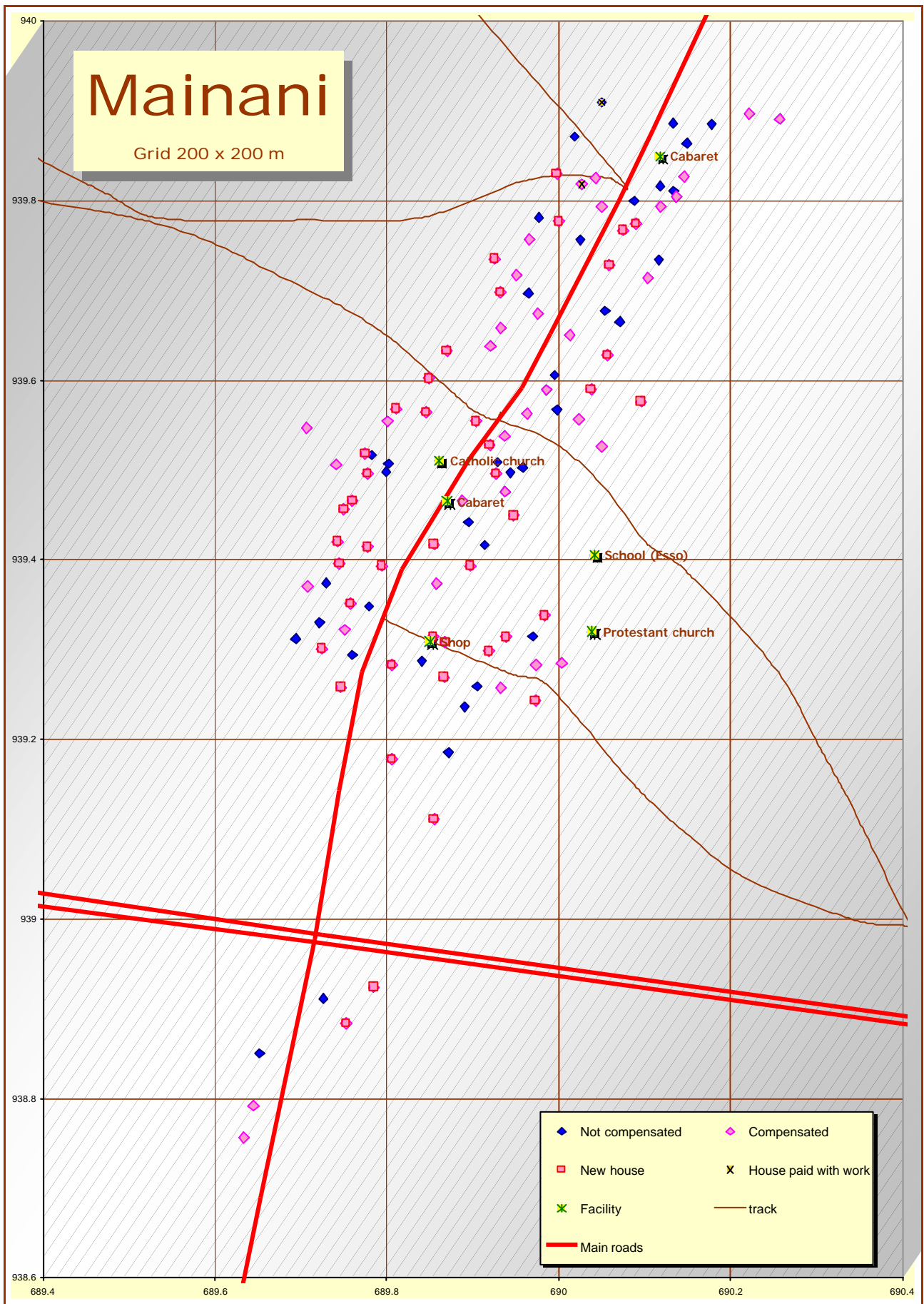
Maïnani is straddled along the road between Kome Base and Kome 5 and along the German road from Kome canton to Béro. At least seven sub contractors of the project had a base in the village, attracting some migration of workers, but very few villagers work for these companies: 4 permanent and 4 temporary workers at the time of the survey. Only a small part of the village – the migrant spontaneous quarter – was part of the 2003 Gepfe survey.

The village was founded around 1945, when Ngarnmone, the then canton chief of Doba send a group of 12 farmers to the area. In those days, the area was uninhabited and there were lots of wild animals. Since then, rifles, and project activities have made flee the game.



Top left: the chief had bought a second hand car with the compensation money, but had not yet found a driver to use it. Top right: Filling out questionnaires in the presence of husband and wife. Below: Cattle is the main form of investment for money, once a new house has been built.

Characteristic	Description
Village chief	Lokissingnar Gustave the village chief and the chef de canton (Kome) Konudjingar Samedi. The village has two "quartiers", each with a quarter head.
Population	111 households, 66% of whom received project compensation
In migration	Yes people have in search of work in the Esso project, and people assigned by their company.
Out migration	Some families have left the village, in search of land elsewhere.
Ethnic groups	All families in the village are of the Mbay Doba ethnic group
Languages	Ngambaye, and French
Religion	Christians (Catholic and Protestant (Assemblée Chrétienne). Both have a straw thatched mud brick building.
Land chief	
Housing	Mostly straw thatched. 39% were built using compensation money, 2% using employment money.
Water	Traditional wells only.
Esso compensation	A primary school (community compensation) and a house for the village chief (donation program).
Fuel for cooking	Wood mainly and sometimes charcoal
Radio	National radio: Voix du Paysan (Doba, reception OK) and sometimes RNT, International: Africa °1, RFI (reception is OK)
Cell phone	Reception is good, "many" people own a cell phone
Education	Incomplete primary school in the village (4 years to CE2) with 2 voluntary teachers who are paid 10,000 F/month. Children complete primary school and college in Kome (4 km, return home after classes) and in Doba (return only for weekends and holidays). Lycée in Doba
Health	Health center in Kome canton, built by Esso (" <i>good but not good enough supplied with medicines, they sometimes even cut the pills in half</i> "). Hospital and pharmacy in Bébédjia, Doba and Koumra (Mission). Four traditional midwives who received training, Two untrained "Dr. Tchoukou" locals who sell drugs.
Commerce	Market: in Kome Atan, in front of the Kome camp, and a small one in Kome Canton. No shops, mills, bars or butchers, only 4 small stalls "timbres", where basic foods and cigarettes are sold.
Transport	Regular transport is only available between Bébédjia and Komé base. Difficult to find a car that picks up people in the village, it costs 4.5-5 thousand francs to travel by motor bike to Doba. The village roads (both Esso and German) have been paved since 2003.
Livelihood	Agriculture mainly, and animal husbandry: cattle, pigs, sheep and goats, guinea fowl, chickens, ducks. No hunting, fishing, nor charcoal burning is practiced in the village
Project work	At the time of the survey 4 people had a temporary job and 4 had a permanent job.
Government services	Vaccination campaigns concern children (free) and cattle (for a small fee). No agricultural development organizations
Local organizations	Mutual assistance groups for agriculture. Parents Teachers Association, sport clubs, choirs, Informal rotating saving groups, Specific groups for men, women and young people.
Cattle herders	Cattle herders arrived in the late 1990s, believing that Esso would buy their cattle at a good price. Main problem is the damage that marauding cattle does in the fields, and the fact that they do not pay [enough] compensation for such damage.



B.9 Mbanga 1 and 2

07.06.2006 by GK; presence of village chief and various village elders and young people.

Mbanga is located along the German road from Kome canton to Béro, which has been upgraded and maintained, but not widened by Esso. The road through the village is small and unpaved, and dust is a real problem, all the more so when cars do not respect the speed limit⁷. The present chief, MATANGARTI Patrice, has been chief since 1985.

The village has existed since 1922. In those days, the “sick” people in the Doba region were rounded up for treatment in Doba. After having been cured, they were sent to Mbanga. Initially there were 60 families. In those days, the area was uninhabited.

The village covers an area 2,600 ha of fields, in which 175 ha have been compensated, or 0.57 ha per household.



From top and clockwise: 1. Explaining the location of the fields. 2. Using the restored land next to a well pad. 3. Meat used to be rare in the villages, but these days, every day at least a goat or a pig is butchered. 4. A woman gets a shot of anti-tetanus vaccine for a nurse sent by the nearby mission health post.

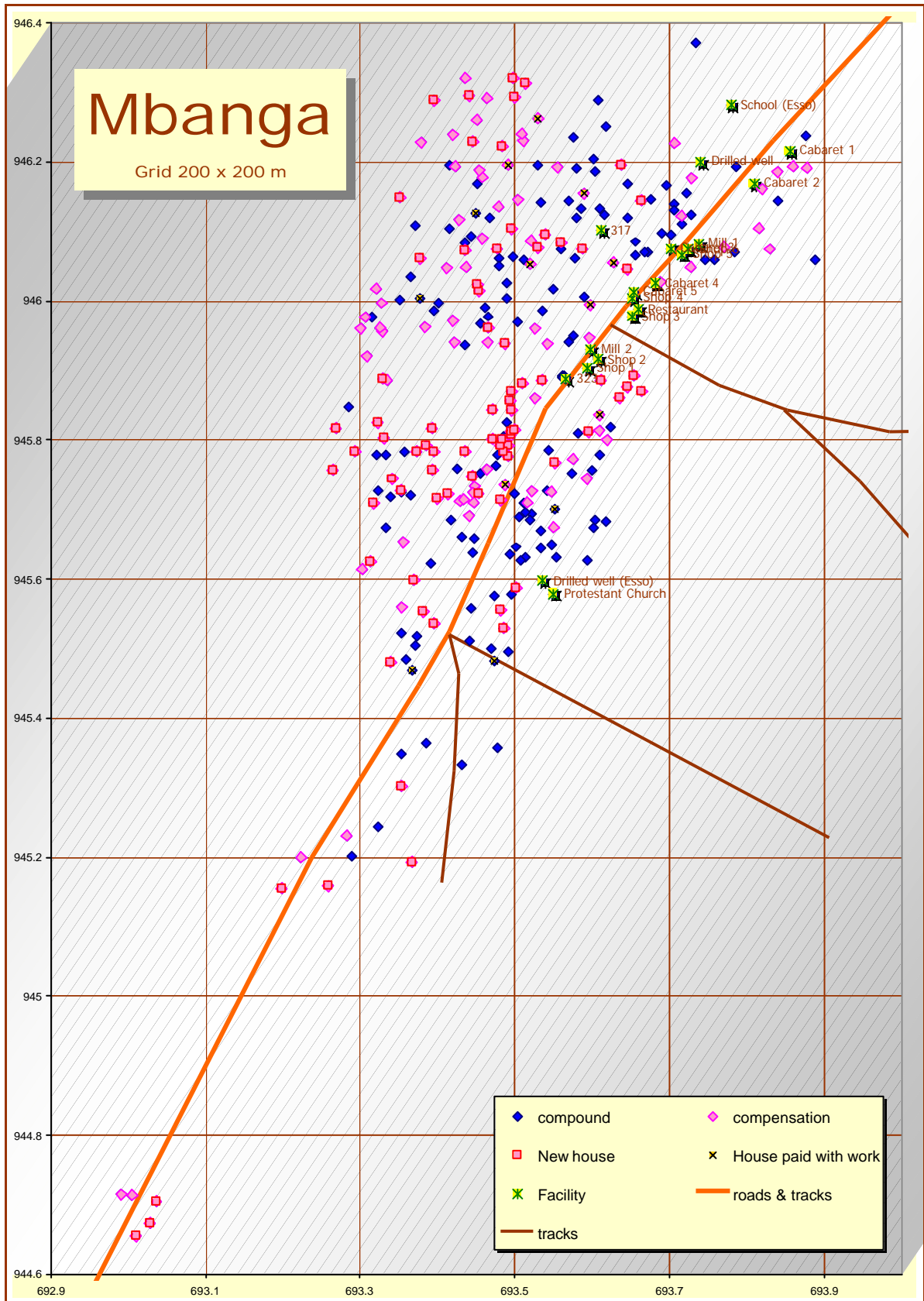
Characteristic	Description
Village chief	MATANGARTI Patrice (Mbanga 1) and Ngadeur Amon (Mbanga 2) chef de canton (Kome) Konudjingar Samedi.
Population	176 +131=307 households for the two villages, 51% of whom received project compensation
In migration	No, only women who come to marry in the village, but most women marry in the village where they are born.
Out migration	No, only children who go to school elsewhere and men in search of work.
Ethnic groups	All families in the village are of the Mbay Doba ethnic group, no cattle herder's camp (ferik) in the village
Languages	Ngambaye, French and for some a little Arabic.
Religion	Christians (Catholic and Protestant. Both have simple churches with a straw thatched roof and mud brick walls. Minority of animists.

⁷ A speed limit of over thirty km is still responsible for much dust, and potential accidents with small cattle and children.

Characteristic	Description
Land chief	The "Djedonang" Still respected. He opens the agricultural season with his rituals, and when it's not raining enough, he convenes the people to pray to the ancestors for rain. The initiation chief "Djeïd" is in charge of the traditional initiation of the boys every 4-5 years.
Housing	Mostly straw thatched. 25% were built using compensation money, 4.5% using employment money.
Water	Two drilled wells: one (Esso) is in working, another needs a spare part costing 45,000 FCFA that the village has not yet managed to pay. Traditional wells are still used by many villagers
Esso compensation	A primary school (community compensation), a drilled well in both Mbanga 1 and Mbanga 2 and a house for the village chief (donation program).
Fuel for cooking	Wood mainly and sometimes charcoal.
Radio	National radio: Voix du Paysan (Doba, reception OK) the national radio RNT, Moundou radio International: VOA, Africa °1, RFI, Vatican (reception is OK) There are two people with generators and video.
Cell phone	Reception is average, 12 people own a cell phone
Education	Complete primary school in the village (6 years to CM2) with 1 qualified and 4 voluntary teachers paid by the pupils' parents form the 1,500 F/year school fee. Children go to college in Béro (a 5 km walk, return home after classes). Three village children attend Lycée in Doba (15 km) and return only for weekends and holidays).
Health	A private well equipped nursery in Béro, the Evangelical mission in Daba, a former nurse in Kagro, 5 red cross trained villagers that sell basic medicines. Hospital and pharmacy in Bébédjia, Doba and Koumra (Mission).
Commerce	Market: in Kome Atan, in from of the Kome camp, and a small one in Kome Canton. No shops, bars or Two mechanical mills, 6 small stalls "timbres", where basic foods and cigarettes are sold, meat is occasionally butchered. Esso Off farm training has, according to the chief, provided with good training for carpenters, masons, and tailors.
Transport	Regular transport is only available between Bébédjia and Komé base. Difficult to find a car that picks up people in the village, it costs 2-5 thousand francs to travel by motorbike to Doba, 500-1,000 FCFA to rent a bicycle. To transport one 80 kg bag of sorghum to the important Doba market by ox cart costs 2,000 FCFA.
Livelihood	Agriculture mainly, and animal husbandry: cattle, pigs, sheep and goats, chickens (too many diseases). No hunting, some fishing in the Loulé river by men, women and children for domestic use
Project work	At the time of the survey, 2 people had a temporary job and 6 had a permanent job in Mbanga 1 and 2.
Government and other developmental services	Vaccination campaigns concern children (free) and cattle (three doses cost 900 FCFA, considered very useful by the farmers). General vaccinations concern polio, tetanus, filarial treatments. agricultural development by Esso sponsored ORT gives "very good training" to the farmers and has organized some of the villagers in an association, which owns a pig stead. The forestry service authorizes people to burn charcoal for an annual fee of 1,200 FCFA.
Local organizations	Mutual assistance groups for agriculture. Parents Teachers Association, sport clubs, choirs, Informal rotating saving groups, Specific groups for men, women and young people. ADECAM ⁸ , Epozop ⁹ .
Cattle herders	No permanent cattle herders in the village.

⁸ Amicale de développement du Canton de Miandoum.

⁹ EPOZOP: Entente des Populations de la Zone Pétrolière s/c Commission Permanente Pétrole Locale : CPPL BP 35 Moundou Tchad.



B.10 Maïkiri

14.06.2006 by GK; presence of village chief and various village elders and young people.

Maïkiri is located near the gathering station of Ngalaba, a few hundred meters from the main Esso road. The village exists since 1952, when the fled Bekia where the fields were ruined by elephants. The name "Maikir" also means "hide from the elephants". Nobody was living in the area at the ten households found the land they needed: the soil was sufficiently fertile, and the presence of wild life. Part of the village left in 1965 to relocate to Bendo, (2 km) but returned in 1970 when they experienced too many unexplained diseases and deaths.

Cotton growing used to be an important activity. Cotton has not been grown since 2002, and the village regrets it (chief "we thought that Esso would recruit many, but se that only few are lucky. We now want our cotton back") A farmer could earn between 30 and 50 thousand FCFA per corde of cotton, and would grow on average 4-5 cordes. Cotontchad wanted to restart cotton growing in the village this year "but we prefer to wait next year as the dust from Esso traffic may affect the quality of our cotton and the grade that it is paid".

Impact of Esso on land availability. – Before Esso there were less than 30 oxen in the village, now there are 230 heads. Land is not sufficiently available in the village anymore; the sharing of land between the sons of each farmer [population growth] is responsible for that. Rent or sale of agricultural land does not exist in the village. According to the Esso database, 365 files were treated in Maikiri for a total surface of 52.8 ha, or an average surface of 0.40 ha (0.8 corde) per household. On the flow lines, the land is not usable for agriculture anymore as fertile topsoil and laterite have been mixed

Positive impacts. – Before Esso there were less than 30 oxen in the village, now there are 230 heads. * Money available in the village. The light of the gathering station helps people fall asleep, the roads have improved, Esso distributed bed nets...

Negative impacts. – Prostitution of our daughters, HIV/Aids, "Mrs. Brown of Esso has come to our village to write our names, so we could have work, but we don't see the work she has promised". Since Esso "life is less good, everything has become more expensive". In spite of this "Life is better with Esso than without Esso"

Grievances. – (1) we have many difficulties leaving the village by night as the security police arrest everybody after dark "we are tortured through the beating with their rifle butts". (2) We receive lots of dust from the Esso truck during the dry season. (3) Esso has to make a good road to our village [the last 200 m to the village consist of an un-maintained road].



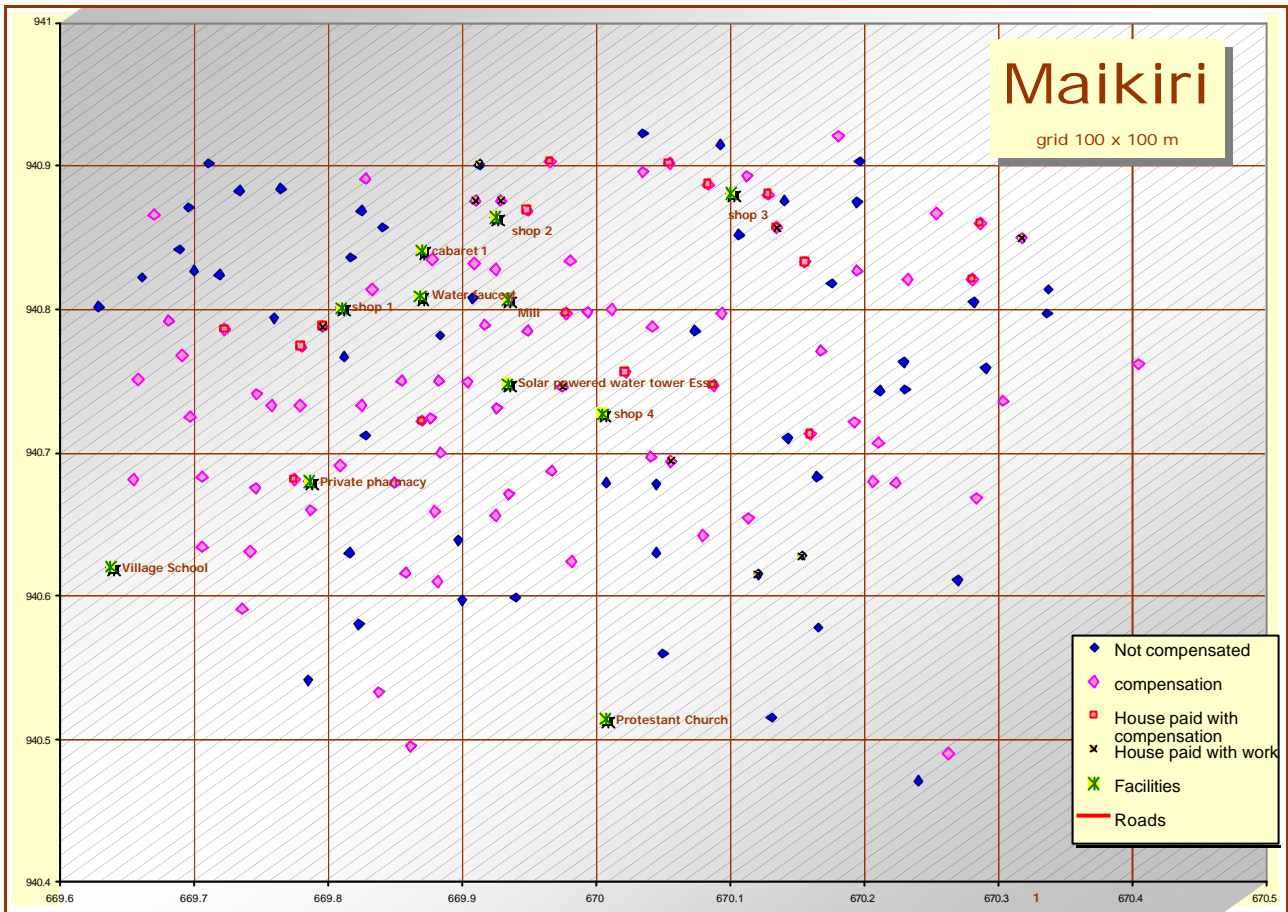
From top left, clockwise: 1. Catfish from the nearby Nya river. Though old and weak, this "mama" is still proud to hoe her little field near the compound. 3. The village mill is in the closed shop, and the solar powered water tower is visible in the back.

Characteristic	Description
Village chief	Djinodji Auguste, and chef de canton (Miandoum) Ngarambe Djasro Pierre.
Population	131 households for the two village, 63% of whom received project compensation
In migration	No, only women who come to marry in the village.
Out migration	1 or 2 families within the canton, families outside the canon in pursuit of employment
Ethnic groups	All families in the village are of the Ngambaye ethnic group of Bébédjia
Languages	Ngambaye mainly and for some a little French or Arabic.
Religion	Christians: Catholics (in Ngalaba) and Protestants. The protestants have a church with a straw thatched roof and mud brick walls. Minority of animists. No Muslims.
Land chief	As everybody is now Christian, the land chief's office is not respected anymore and he does no perform his rituals anymore.
Housing	Mostly straw thatched. 14% were built using compensation money, 4% using employment money.
Water	An Esso financed water tower is working: a bucket/basin of water costs 10-15 FCFA. Traditional wells are still used by many villagers who do not have the money. The water faucets are locked and administered by one of the villagers who is paid 250 FCFA/day. Income from the well serves to pay the administrator, to have savings if repairs are needed, and help pay for the voluntary school teachers.
Esso compensation	A solar powered water tower with a block of 4 faucets, built on an existing drilled well. A well drilled by Esso outside the village was refused because too far.
Fuel for cooking	Wood. Light in the evening is provided by kerosene lamps (700 FCFA/l) flashlight, but also often simply wood or straw.
Radio	National radio: Voix du Paysan (Doba, FM reception OK) the national radio RNT International: RFI
Cell phone	Reception is impossible in the village itself, but still 4 people own a cell phone
Education	Incomplete primary school (straw shelter) in the village (4 years to CE2) with 2 voluntary teachers paid 8-9 thousand FCFA each by the pupils parents from the annual 2,0000 FCFA/child school fee. Children complete their primary education in Ngalaba, Bekia or Bendo (<3 km walk, return home after classes). Collège in Miandoum (11 km) and Bébédjia (22 km), lycée in Bébédjia form where children return home only for weekends and holidays).
Health	Midwives who have received basic training from the catholic mission in Bikou, 3 red cross trained villagers that sell basic medicines. Various untrained Dr Tchoukou. St Joseph Hospital and pharmacy in Bébédjia, Doba and Koumra (Mission)..
Commerce	Markets: in Békia, Miandoum, Madia Kerati. There are 5 shops in the village,; one cereal mill paid by a villager with his compensation money. Craftsmen include carpenters and blacksmiths.
Transport	No transport is available in the village. In order to find a car they have to walk or cycle to Kome Atan or Miandoum.
Livelihood	Agriculture mainly (most important crops are sorghum, millet and peanuts), while peanuts are usually sold for cash; secondary animal husbandry: cattle, pigs, sheep and goats, chickens (too many diseases). Villagers make fired bricks for selling, karité (mahogany) trees are used for oil that easily sold. 4-5 women prepare local beer (<i>bilbili</i>) and <i>arguina</i> (alcohol "four bottles makes you sleep well", there are "about ten drunkards in the village"). Some weaving, no pottery, no hunting, no fishing.
Project work	At the time of the survey, 3 people had a permanent job as guards while nobody had a temporary job.
Government and other developmental services	Vaccination campaigns concern children (free) and cattle (three doses cost 900 FCFA, considered very useful by the farmers). Agricultural development by Esso sponsored ORT gives "good training" to the farmers and was followed by some of he farmers who had not been eligible.
Local organizations	Village Cotton Association. Mutual assistance groups for agriculture. Parents Teachers Association, 6 soccer clubs, choirs, Informal rotating saving groups. Dokalaye ¹⁰ : a group of farm workers that work to pay the partying when the works is done. Specific groups for men, women and young people. ADECAM ¹¹ , Epozop ¹² .
Cattle herders	Nomadic cattle herders are al year round in the area and do much damage to the crops

¹⁰ Dokalaye means "they will drink it all"..

¹¹ Amicale de Ressortissants de la zone de Miandoum.

¹² EPOZOP: Entente des Populations de la Zone Pétrolière s/c Commission Permanente Pétrole Locale : CPPL BP 35 Moundou Tchad.



Top from left: Not everybody likes it if photos are taken. 2. Water from the tap is sold for a small fee to be used for maintenance of the system, but also to help pay for the primary school. 3. A copy book is kept to write down who paid what. Below: the cost of water is considered high, so women still fetch well water for most domestic uses. Those who have no money, also drink it.

B.11 Ngalaba

17.06.2006 by GK, FN; presence of village chief and various village elders and young people. The meeting took place in Ngalaba 1, but as the villages split up only recently, the information is valid for both, unless stated otherwise.

Ngalaba, which is adjacent to Maikiri, is located near the gathering station of Ngalaba, a few hundred meters from the main Esso road. The name is derived from the name to steal, meaning the silent approach that was necessary for not caring the animals would come to drink in the small lake. The village has been divided into two separate ones since 2005. The village exists since 1933 (?), and the present chief is said to be the 4th one. The fertility of the land was the main reason for choosing the site.

The various meetings took place in a somewhat tense way, and the village is obviously not very happy with how Esso is treating them.



Left: Meat is regularly available in the villages where compensation payments continue. Middle: Avian flu prevents this chicken house – built by ORT in Ngalaba – to be used. Right: the garden is only lightly protected from hungry cattle.

According to the villagers, there have been several meetings with Esso representatives in 2000 /2001 where the village was informed that (1) all their land would be taken, (2) their fields and their animals would not produce anymore. People that decided that it was better to move to Miandomou and many people started building houses in Miandomou¹³. (3) The LCC cannot give us a clear response.

Impact of Esso on land availability. – – We lost all or fields, and the fields that are left are not fertile at all. The light around the base is responsible that our sorghum grows normally but has stopped flowering.

Positive impacts. – More cattle and better housing are the advantages we recognize.

Negative impacts. All 12 people in the meeting stated that they had to go to the market to buy food, because they had finished last year's stock. There are more epidemics in the village, like anemia and scabies. They have problems going to the fields because of the Esso security people. Cost of living has risen enormously since Esso.

Grievances. (1) An extension of the school was planned with help from the NGO Adecam and Facil¹⁴, – mistakenly considered as an Esso affiliated organization – The school is still unfinished, and the village wants assistance from Esso. Adecam and the village have still 300,000 FCFA left of the initial money to build the school. (2) The road is too high for our oxcarts to climb,

Characteristic	Description
Village chief	Tamro Vincent (Ngalaba I) Madjitouloum Miandje (Ngalaba 2), and chef de canton (Miandomou) Ngarambe Djasro Pierre.
Population	255 households for the two villages, 77% of whom received project compensation, the highest proportion observed in the OFDA
In migration	No, only women who come to marry in the village, teachers, priests.
Out migration	1 or 2 families within the canton, families outside the canon in pursuit of employment. Five families left the village to settle in Miandomou, following the incitation "by people from Esso" to move.
Ethnic groups	All families in the village are of the Ngambaye ethnic group of Bébédjia
Languages	Ngambaye mainly French and for some a little or Arabic.
Religion	Christians: Catholics and Evangelical (church with straw roof + mud bricks) and ACT (aluminum + fired bricks). There are still many animists.

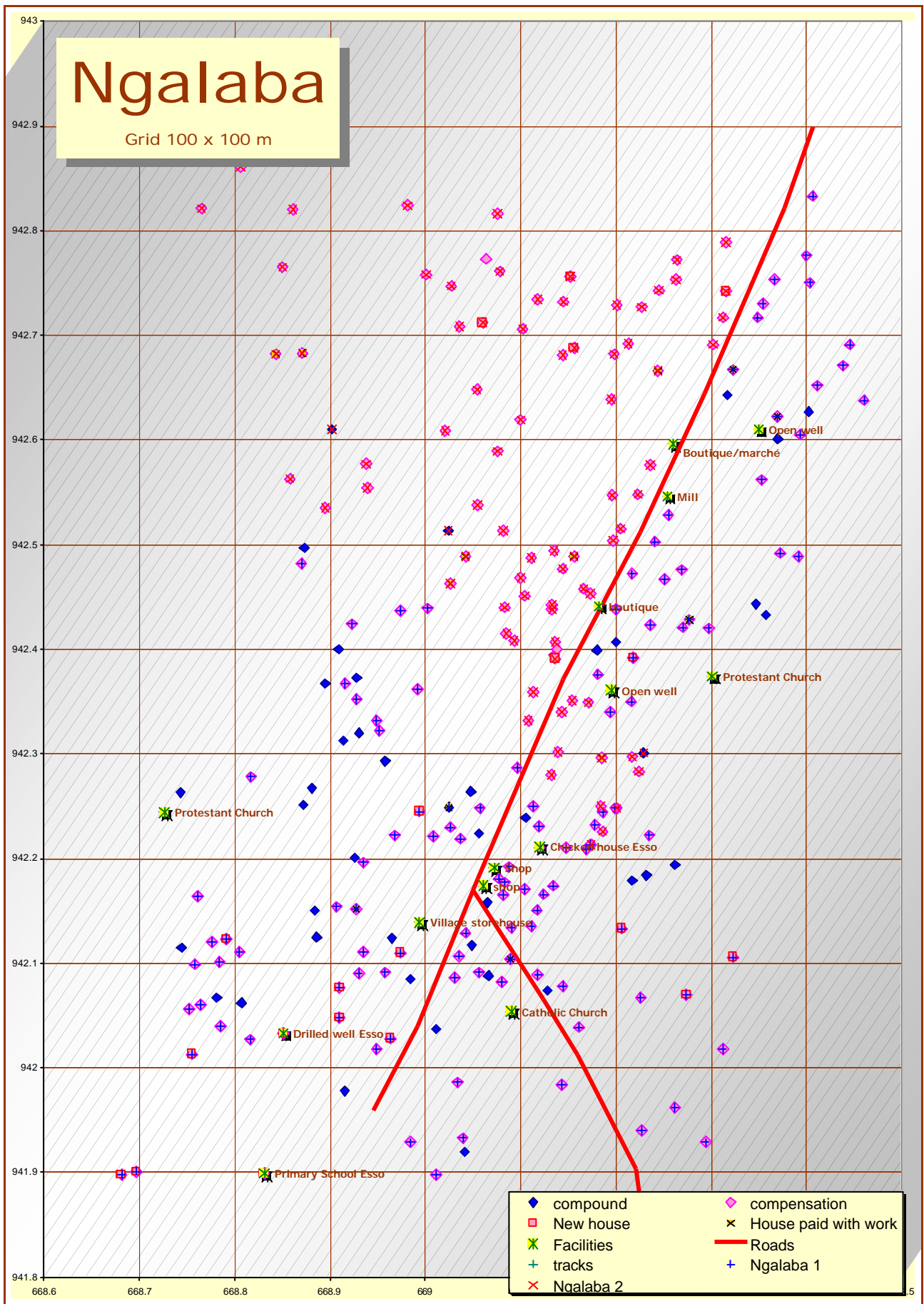
¹³ Robert Barclay was told in Miandomou, that an NGO, Adecam(?), told the people that they had to move.

¹⁴ FACIL the government agency that was supposed to implement development schemes in the OFDA, with the ù of the oil profits to be invested in the OFDA. For the villages, all these organizations are part of the myriads of subcontractors Esso.



In Ngalaba, only women close to the drilled well take its water, the others use the various traditional open wells.

Characteristic	Description
Land chief	Present, but his rituals are not respected anymore
Housing	Mostly straw thatched. 8% were built using compensation money (low because of fear of relocation), 6% using employment money.
Water	One Esso financed drilled well is working and has a managing committee. Most people still use one of three traditional wells. A second well is broken down and the replacement part costs 200,000 FCFA.
Esso compensation	A two classroom primary school (community compensation) and a drilled well (donation program).
Fuel for cooking	Wood. Light in the evening is provided by kerosene lamps (600 FCFA/l) flashlight, but also often simply wood or straw.
Radio	National radio: Voix du Paysan (Doba, FM reception OK) the national radio RNT International: RFI A small radio costs about 5,000 FCFA , a big one 10,000. The people often listen to the radio but are unhappy by the fact that radio only treats oil related problems for the big towns like Doba, and not for their village.
Cell phone	Reception is very difficult in the two villages, but still 10 people own a cell phone
Education	Complete primary school (2 classes in the Esso building, two others in straw shelters) in the village with 1 qualified and 2 voluntary teachers paid 10 thousand FCFA/month each. The third teacher quit. Collège in Miandoum (9 km) and Bébédjia (20 km), lycée in Bébédjia from where children return home only for weekends and holidays). School fees per year are 1000 FCFA for girls and 1150 FCFA for boys + 1 corò (about 2.5 kg) of sorghum to use during meetings and help pay the teachers.
Health	4 midwives who have received basic training from the catholic mission in Bikou, 1 red cross trained villagers. Various untrained Dr Tchoukou. Health post in Miandoum; hospital and pharmacy in Bébédjia.
Commerce	The village has its own market on Saturdays. There are 6 shops in the village, one cereal mill. Craftsmen include Esso trained carpenters and blacksmiths.
Transport	Once a week a cars stops in the village and can take people to Bébédjia for 750 FCFA/trip
Livelihood	Agriculture mainly (most important crops are sorghum, peanuts and millet), peanuts and sesame are usually sold for cash. Animal husbandry: cattle, pigs, sheep and goats, chickens (too many diseases). The two villages now own 242 heads of cattle. Brick and charcoal making; cutting straw for roofing. Local beer is brewed for market days only, but local alcohol is available daily. Some hunting and fishing in the Nya river is practiced. Karité (mahogany) and néré trees are used for oil and local condiments that are sold in the market.
Project work	At the time of the survey, 4 people had a permanent job and 4 others had a temporary job.
Government and other developmental services	Vaccination campaigns concern children (free) and cattle (three doses cost 900 FCFA, considered very useful by the farmers). Agricultural development by Esso sponsored ORT helped create a chicken farm which could not be finalized due to the recent threat of avian flu. The village is interested in growing again cotton.
Local organizations	Mutual assistance groups for agriculture. Parents Teachers Association, 6 soccer clubs, choirs, Informal rotating saving groups. Mutual assistance groups from the churches. Specific groups for men, women and young people.
Cattle herders	Resident cattle herders have a ferik near Bikou and come grazing around the village throughout the year. From time to time cattle damage the crops



B.12 Béro II

19.06.2006 by GK, FN; presence of village chief and 2 villagers. The meeting took place in Béro II, the only part of the village Béro that was surveyed.

Béro is one of the most impacted villages which is close to the Kome V site. The village was surveyed in 2003, when 58% of the family heads already declared having received more than 100,000 FCFA in compensation money. The population growth of Béro has been rapid, and more than in the other villages surveyed twice since 2003: from 263 to 384 households for the local population (+46%) and from 23 to 31 (+29%) for the ferik of the cattle herders. Together with Béro, the hamlets of Sagn Dô and Dodang that were part of the 2003 survey, were again surveyed.

Impact of Esso on land availability. – the people have lost fallow land, which has not been compensated. The loss of land was a bad thing. Receiving 200,000 FCFA for a plot of land is not enough, the money finishes easily, but a field lasts many years. Chief: “Even if a villager has no land, it does not mean that he cannot cultivate: you should be able to find a corde of land somewhere, in order to have your field and produce. Impossible for a villager to be without his own field, if people say so, it’s untrue”.



Left: the replacement house for resettled people. Right: the solar panels of the water tower were stolen, and not replaced.

Positive impacts. – No positive impacts: “Our new houses will crumble before our children grow up”.

Negative impacts. – We thought that we would be at ease with Esso: employment, market, electricity, schools, hospital, but nothing has been realized.

Use of compensation money. – Best success with those who managed to invest in town. The greatest dangers are women, alcohol and the strong pressure of the relatives to share. There exists a private savings bank which has a branch in Béro, with more or less success.

Grievances. (1) We were promised work and development. We do not perceive development, and those that work are fired 2 months later for the slightest of errors, (2) the people have lost fallow land, which has not been compensated. (3) When there is additional damage after the compensation has already been paid Esso does not pay us. (4) people far from our area, who have not lost anything, benefit much more from Esso than us, the locals.

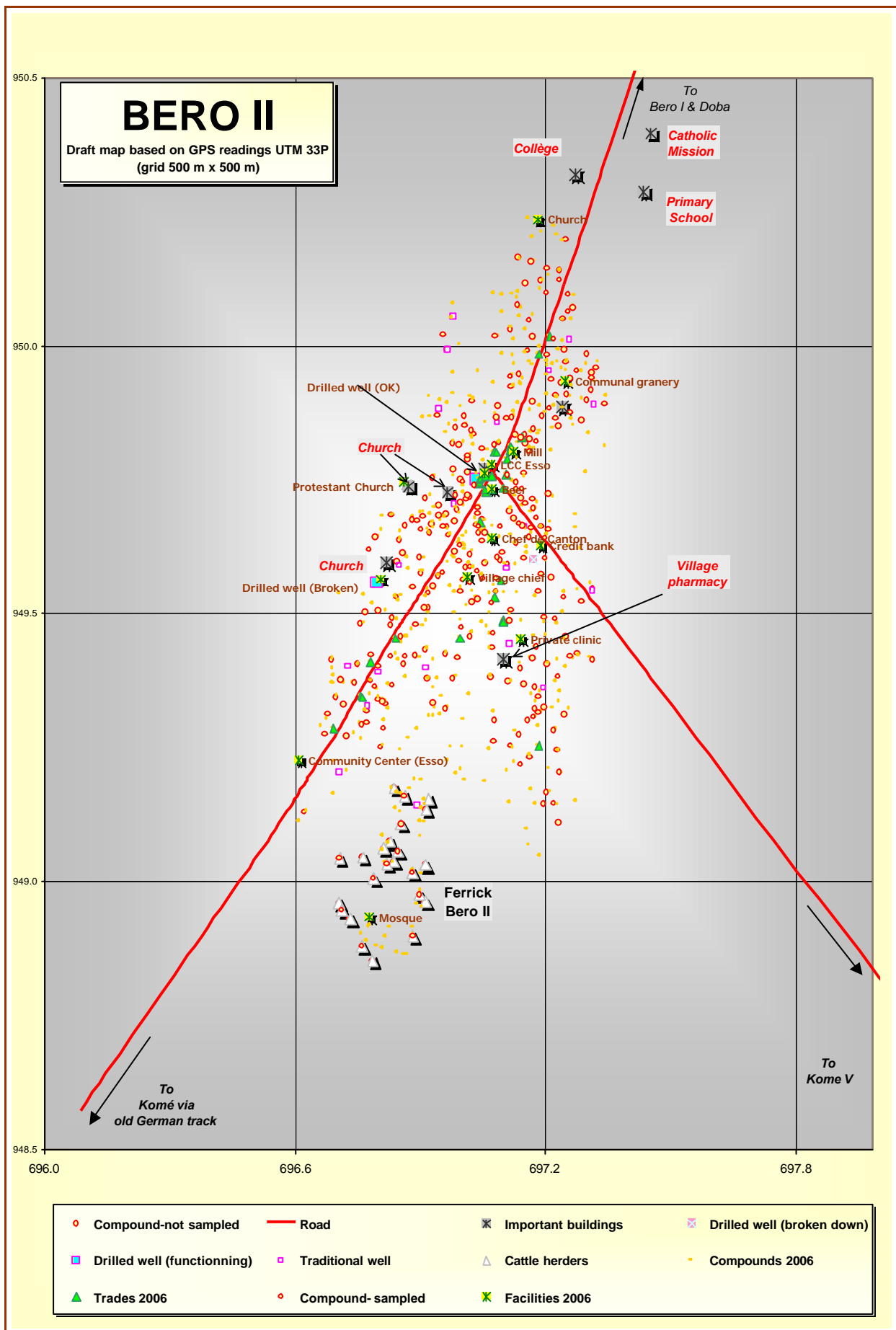
Characteristic	Description
Village chief	Dahim Raoul (Béro II) and chef de canton (Béro) Ndayngar Digambaye. Three hamlets belonging to Béro are Sagn Dô, Dodang and Miarom. Though Béro I, II and III are three distinct villages, people farm globally in the same areas.
Population	338 households and a cattle herders hamlet (ferik) with 31 households. 72% of the resident population received project compensation.
In migration	A very limited number of families from other villages in search of a job, a few foreigners rent rooms in the village, but almost all non local project workers reside in Bébédjia, Doba and Kome Atan.
Out migration	A few families returned to the village in search of a job, but as they did not find it, they left again. No families have left the village in search of land.
Ethnic groups	Mbay Donba (Ngambaye), a camp of Arabic cattle herders (since 1998), Arabic shop keepers.
Languages	Ngambaye mainly, some French and for some a little or Arabic.
Religion	Three churches Catholic (unfinished, fired bricks), main Catholic mission in Béro I, Protestant/ATC:

Characteristic	Description
	aluminum (semi-permanent), Eglise de Dieu: straw building.
Land chief	No information
Housing	43% of the houses have been built with compensation money and a further 9% with money from employment,. In 2003, most of the houses were still straw thatched, in 2006: 65% (was 35%) of the houses had an aluminum roof and 46% (was 25%) had been built with fired or pressed bricks.
Water	Most people still use traditional water wells. One drilled well from Esso (1999) is working OK, but not supported by a community organization. From the second well, built by the village association a part has been stolen. The solar panes of the water tower have also been stolen.
Esso compensation	A community building not yet officially opened; drilled well (OK), primary school (OK)
Fuel for cooking	Wood.
Radio	National radio: Voix du Paysan (Doba, FM reception OK) the national radio RNT International: RFI
Cell phone	Good reception. Many people own a cell phone.
Education	Primary school with 2 classrooms built by Esso, with 1 qualified director ¹⁵ and 5 local unqualified teachers. The school has 699 pupils (was 595 in 2003). The secondary college has 3 qualified teachers: the director and two teachers.
Health	A well kept private health clinic with a qualified nurse, who is well appreciated in the village
Commerce	Market is irregularly held, 14 shops, 2 mills, a private health post with a qualified nurse, butcher: every day at least pork, beef, and mutton 2-3 times per week. Main market for the village is in Doba
Transport	No information
Livelihood	<i>Agriculture.</i> Sorghum, pennisetum, beans are the main crops. In 2003, fallow was between 2-5 years. Has not changed. <i>Cotton.</i> – Some people in Béro want to start growing cotton again, but independently from Cotontchad. Land is available south of the village, between Béro I and II. <i>Hunting.</i> – A little hunting (small antelopes, Guinea fowl, to the West, near Kagroy. 12 (!) people in the village own a rifle. <i>Fishing.</i> – In the Nya river, men fish individually, women collectively. <i>Trade.</i> – Locals and Muslims.
Project work	At the time of the survey, 27 people had a permanent job and a few others had a temporary job.
Cattle herders	Resident cattle herders have a settlement just outside the village Béro. Mbororo come grazing around the village throughout the year.



Left: traditional black smiths at work with leftover iron from the Project. Right: The house building boom has led to better techniques: the new bricks are thinner and better fired that the ones used until recently.

¹⁵ Who died in hospital during our stay in the village.



B.13 Madjo

The village is located near the Kaymadjo River, known elsewhere as the Pendé, one of the tributaries of the Logone River. The village exists probably since German times (who left in 1919). They came from Makobo, where they were also located near the Pendé River. The village is composed of three “clans” or Ngelka, who each have their own lad area.

Land use since Esso. – There is still land after Esso: clay near the river, sandy soils elsewhere. Some people farm < 1 km from the village, others between 3-4 km. Land is used 2-3 years followed by 3-5 years of fallow. We have already used project restored land, but think it’s impossible to use it two successive years. Most compensation was paid in 2004, and no money is left anymore.



(1) The village Madjo is located near the Pendé river. (2) Among the fishing gear, are pirogues and various nets. (3) Small fish are part of the diet. (4) The market garden covers an area of almost one hectare and is well fenced off. The products are sold in the Doba market. (5) usually cooking fire is lighted between a few bricks, this one allows some fuel economy in the burning of charcoal. (6) Karité seeds are crushed and will be transformed into oil later which will be sold in Doba.

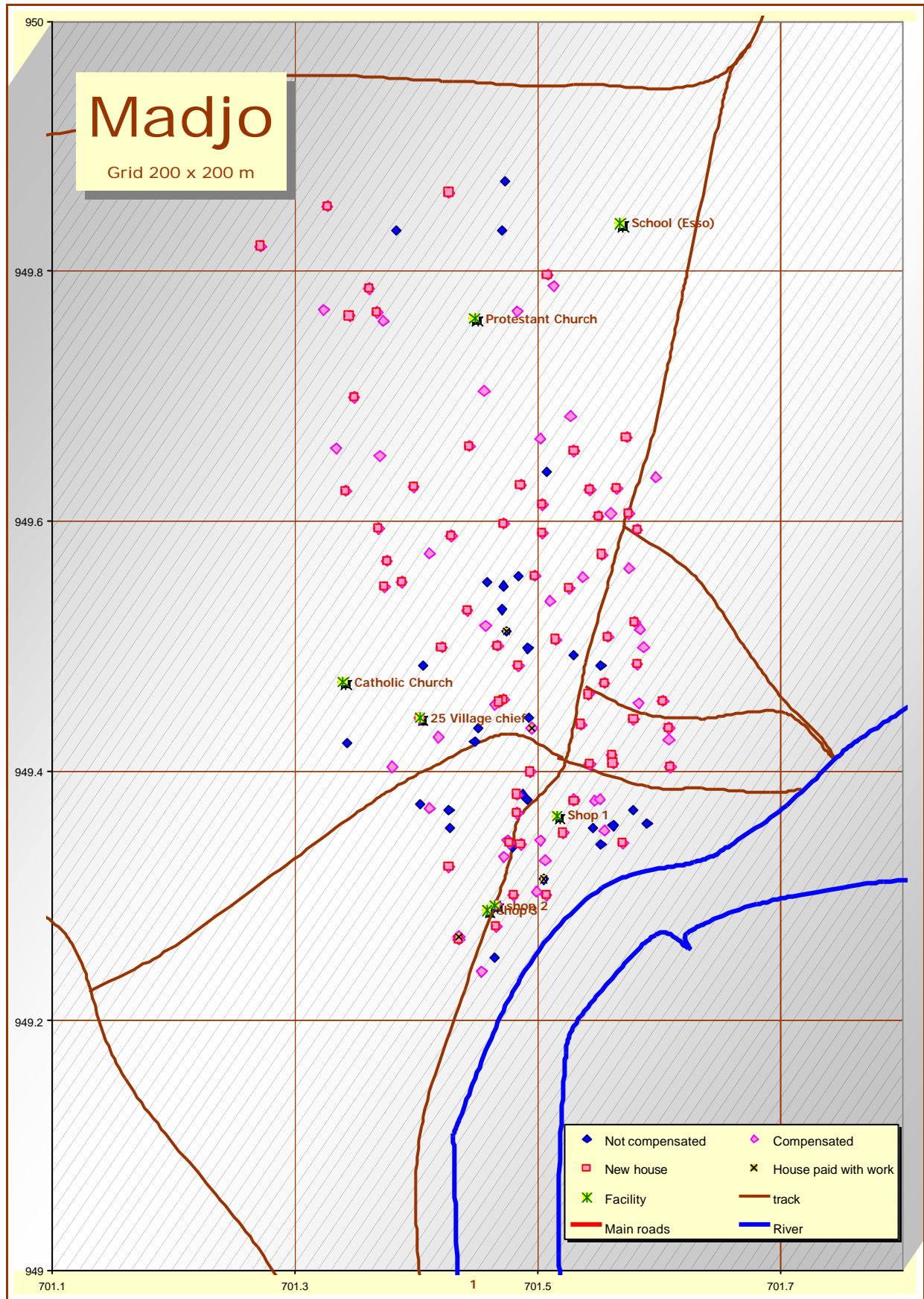
Agricultural training. We received a water pump but do not have the money to pay fuel. The communal garden of the ORT trainees is functioning, and works OK. Several people said that they had earned 10,000 FCFA/month with this activity. Vegetable gardening was already commonly practiced in Madjo before the ORT training, which made it easier to apply.

Positive changes. – Better housing is the only positive impact we notice.

Negative changes. – Less water, less rains, more malnutrition, not enough agricultural production.

Grievance. – Too many foreigners and too few Chadians recruited by the project. Too much dust along the roads. Too many problems with the gendarmerie that are guarding the Esso installations.

Characteristic	Description
Village chief	Koumantolngar Pierre and chef de canton (Béro) Ndayngar Digambaye..
Population	131 households, 74% of whom received project compensation
In migration	One family from Gore has come to the village
Out migration	One villager is in the Army in Ndjamena. People who used to work In Cameroon and Nigeria have been expelled, and returned to the village before the start of the Project.
Ethnic groups	All families in the village are of the Mbay Doba ethnic group, except for one Mongo family
Languages	Ngambaye, French and for some a little Arabic.
Religion	Christians (Catholic and Protestant). Both have simple churches with a straw -thatched roof and mud brick walls.
Land chief	No information
Housing	Housing has significantly improved over traditional the tradition model of thatched roof and mud-bricks: 59% aluminum roofs and fired bricks. 49% were built using compensation money, 4% using employment money.
Water	Water is drawn from traditional wells and directly from the river. No clean water is available.
Esso compensation	A primary school (community compensation).
Fuel for cooking/light	Cooking. – Wood mainly and sometimes charcoal, and straw from the fields. In one house a very clever traditional stove was found. (see picture). Light. – Kerosene lamps (6-700 FCFA/l) for those who can afford it.
Radio	National radio: Voix du Paysan (Doba, reception OK, interesting broadcasts) rarely the national radio RNT International: VOA, Africa °1, RFI, Vatican (reception is OK)
Cell phone	Reception is good, 10 people own a cell phone
Education	Incomplete primary school in the village (since 1986, 4 years to CE2) with 2 voluntary teachers irregularly paid monthly between 5 and 10 thousand FCFA. Children go to college in Béro (a 6 km walk, return home after classes). None of the village children attends Lycée in Doba (7 km).
Health	One trained traditional midwife, another is in training. Women prefer delivering their baby in a hospital, but are often too late. 2 red cross trained villagers, 1 untrained Dr. Tchoukou who sells basic medicines. A mission dispensary in Dendoba (15 km). Hospital in Doba is difficult to reach in the rainy season when the river is too high, but used for severe cases.
Commerce	A mill paid with compensation money has been sold since. There are still three boutiques. One carpenter trained by Esso. Main shopping center is Doba.
Transport	No transport available, people walk or take their bicycles. From the Esso road to the village (about
Livelihood	<i>Agriculture</i> mainly, peanuts and market garden crops are important for sale in the nearby town Doba. Cotton growing has been abandoned since Esso, (badly paid and too late, we don't want cotton anymore). <i>Cattle</i> . – About one hundred heads of cattle in the village, paid with compensation. However, many have died since they were bought. <i>Fishing</i> is important but yield diminishes. Mostly for domestic use.
Project work	At the time of the survey, 3 people had a temporary job.
Government and other developmental services	Vaccination campaigns concern children (free) and cattle . Agricultural development by Esso sponsored ORT has organized some of the villagers in an association, which owns a fenced vegetable garden.
Local organizations	Mutual assistance groups for agriculture. Parents Teachers Association, sport clubs, choirs, Informal rotating saving groups. The village is in the process of creating a local development committee for agriculture and health.
Cattle herders	There are transhumant and resident cattle herders all around the village, who cause lots of damage to our fields.



B.14 Danmadja

26.06.2006 by GK, FN; presence of village chief and 2 villagers.

The village was surveyed in 2003 together with Madana Nadpeur and the hamlets Koutou Nya and Mebedne Nya/ the village is located near the Nya River, which is bordered by a vast swampy area. The Nya River is quite rich in fish. The market garden part of the improved agriculture program has worked was made easier by the presence of the water and the possibilities of the Kome Atan market.



The Nya River near Danmadja

History. – The village exists since 40 years, first as a part of Kome, and since 1985 with the present chief. Since June 2006, the village has been divided into two villages: Danmadja¹⁶ 1 and 2.

The village had a market in the early 2000s and had chosen as community compensation for the construction of a new market: and area of neatly covered stalls. However, the establishment of Kome Atan (less that 4 km) as the main commercial center around Kome base has led to the all but the disappearance of the Friday market in Danmadja, though it still exists with very few clients.

The former primary school was on the project easement, and a six-classroom school with three buildings has been built with assistance of the project. As most of the work (making bricks, labor for the building...) has been done with participation of the village the village speaks about “*our school*”. In most other villages, with schools built for the community compensation, the participation of the village was often limited – as one chief said – to providing the water needed in its construction, people general peak about “*Esso’s school*”. Unfortunately, this school has only one qualified and three local teachers.



The Nya River is very rich in excellent fish, as shown in these photos made on different days.

Land use since Esso. –. According to the chief, there are now at least 50 households¹⁷ that have no land left at all. Before Esso they had 3-4 cordes per household, including fallow land. We cannot use land that is too

¹⁶ No reason is cited, but the powder of the chiefs to recuperate part of the 10% that the authorities consider is their rightful share of the compensation money is generally perceived as one of the major reasons why so many villages split up. However, it must be noted that there exists a general tendency in southern Chad for villages to split up into smaller units.

fragmented because of the project facilities. We cannot use land that is too close to light of the project, as this stops the sorghum from producing. *"All plants that grow in the air and produce their seeds in the area suffer from light pollution"*. We lost land for the HT power line, the pipeline, the flow line, the well pads, the manifold and the main road.

Agricultural training. – Agricultural development by Esso sponsored ORT has helped the village: improved plowing, improved sowing..

Positive changes. – Esso has helped us a little bit, but Esso has never respected its promises:

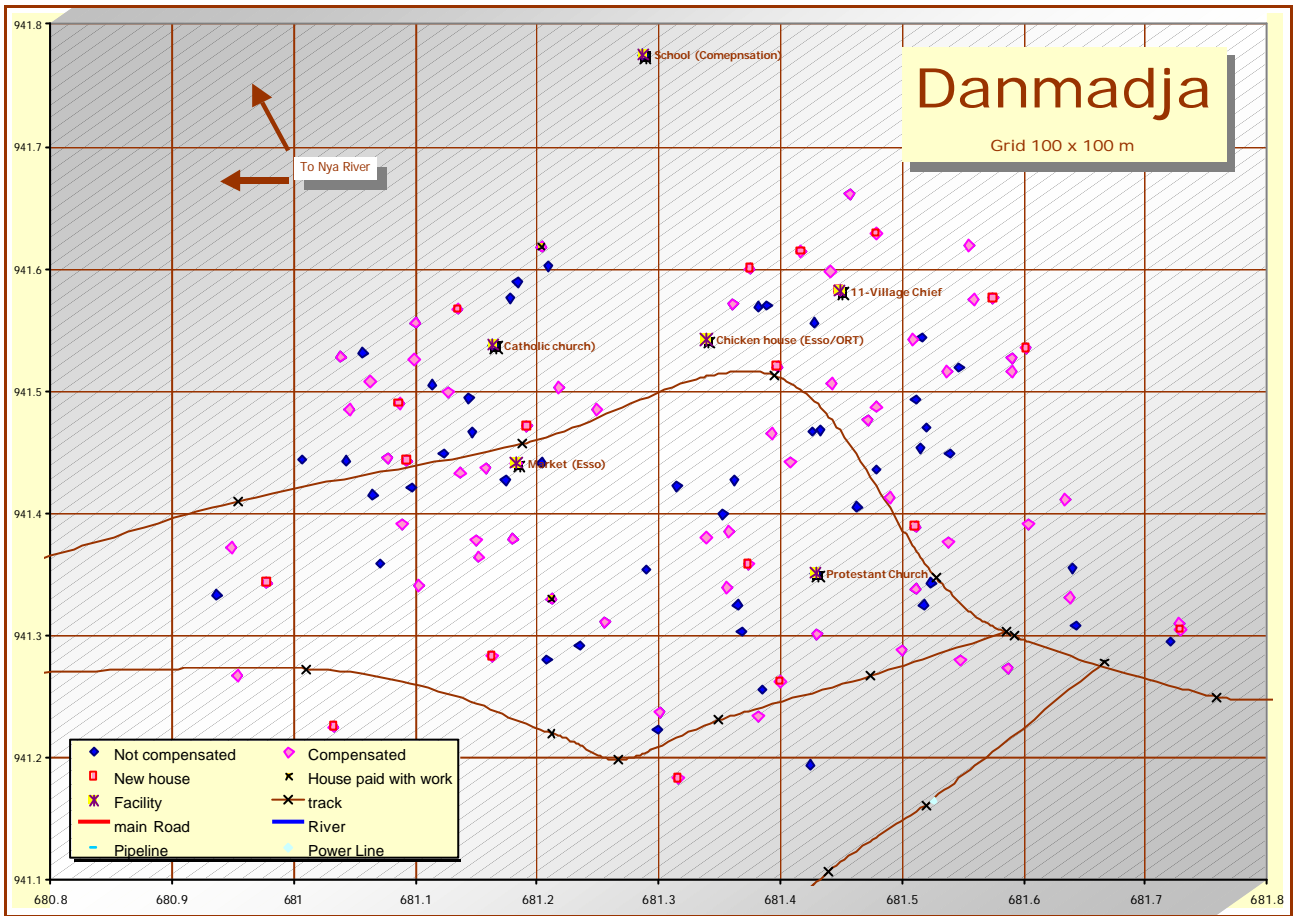
Negative changes. – We regret the arrival of Esso. Since Esso life has become so much harder.

Grievance.(Village chief:) – *"I have not received my house [unlike many other village chiefs]; I don't see our village hospital, there is no bridge over the Nya River, the village does not have water wells"*.

Characteristic	Description
Village chief	Nanihorngar Jonas the village chief and the chef de canton (Kome) Konhodjingar Ndolébé. Since 2005 the village is divided into two separate villages, one for Nanihorngar Jonas, the second for xxx.
Population	115 households, 62% of whom received project compensation.
In migration	No immigration
Out migration	Nobody has left the village, not even in search of employment elsewhere
Ethnic groups	Ngambaye but of the Mbai Doba branch as we belong to Doba.
Languages	Ngambaye, French and for some a little Arabic.
Religion	Christians (Catholic and Protestant). Both have churches with a straw -thatched roof and but with fired mud brick walls. Presence of animists
Land chief	Presence of a land chief. The villagers wait with sowing until the land chief has completed his rituals to ask the blessing of the ancestors and spirits for the new agricultural season.
Housing	17% of the houses had been built with compensation money and 2% using employment money. Many houses use now fired bricks, but the majority was still with a straw thatched roof.
Water	Water is drawn from traditional wells and directly from the river. No clean water is available.
Esso compensation	A market (community compensation) and a primary school (direct compensation)
Fuel for cooking	Cooking: mainly wood Light: straw and kerosene hurricane lamps.
Radio	National radio: Voix du Paysan (Doba, reception OK,) and the national radio RNT for broadcasts in Ngambaye.
Cell phone	Reception is good,
Education	Complete primary school with 1 qualified and three un-qualified teachers
Health	Three trained traditional midwife, (through the Kome clinic). 2 red cross trained villagers, 1 untrained Dr. Tchoukou in the village. External care is sought in the Kome clinic, or with a private nurse in Kome Atan. Hospitals in Bébédjia and in Doba for surgery.
Commerce	The Esso built market on Fridays but without clients as everybody goes to Kome Atan. Mill: not working. Shops: 0. Stalls: 05. Carpenters: 03. Tailors: 03. Blacksmiths 0.
Transport	No transport available, people walk or take their bicycles. Transport from Kome Atan: 1,000 FCFA to Bébédjia.
Livelihood	<i>Agriculture</i> mainly, Sorghum, peanuts, sesame and pennisetum millet. <i>Fishing.</i> – People fish in the Nya using pirogues and fishing nets, long-line fishing (<i>palangre</i>), cast net (<i>épervier</i>), and baskets (<i>nasses</i>) <i>Cattle.</i> – There are now about 80 heads of cattle in the village. <i>Cotton.</i> – We do not want to grow cotton anymore.
Project work	At the time of the survey, 3 people from the village had a permanent job.
Government and other developmental services	Vaccination campaigns concern children (free) and cattle (once per year). ORT (see above)
Local organizations	Mutual assistance groups for agriculture. Parents Teachers Association, sport clubs, choirs, Informal rotating saving groups. Women's church groups (Mothers of charity). <i>Djakasrabi</i> : a group of elder men, concerned about the education of the young.

¹⁷ The project database indicates that 60 ha have been compensated in the village of Danmadja, which would mean 2 cordes

Characteristic	Description
Cattle herders	There are transhumant and resident cattle herders all around the village. A vegetable garden – created by the villagers – was destroyed recently by cattle “without compensation” ¹⁸ .



¹⁸ A complaint cited during the individual interviews with farmers eligible for agricultural training.

B.15 Béla

27.06.2006 by George Koppert and Ngamane in the presence of the land chief, the village secretary village elders and young people

History. – The original name of Béla was “*mayta*” “*the quarrelers*” which was later named “Béla”, “riches”. No reliable information on when the village was founded, but the present chief is only the second in line, indicating that the village is not very old.

Land use since Esso. – There is still land available to the east of the village, and families progressively occupy this new land. But the quality of the land is not good: before we used to harvest up to 10 bags (of 100 kg) per corde, nowadays it's only 2. “*Those who had compensation haven't shared their compensation with us, so we have no reason to share our land with them.*” As our land is not fertile, compensation is a good thing, as it allows people to buy the food that they otherwise could not produce. If the land had been fertile, the loss would have been considerable.



Left: Timbre: a table with various dried products for the kitchen: dried tomatoes, tea, sugar, salt, leaves and dried fish.
Right: the size of the palm in front of the house of the village chief shows that this village is relatively old.

Agricultural training. – “*Will be OK once the eligible will have finished their training and received their equipment.*” Only the eligible villagers participate in the meetings.

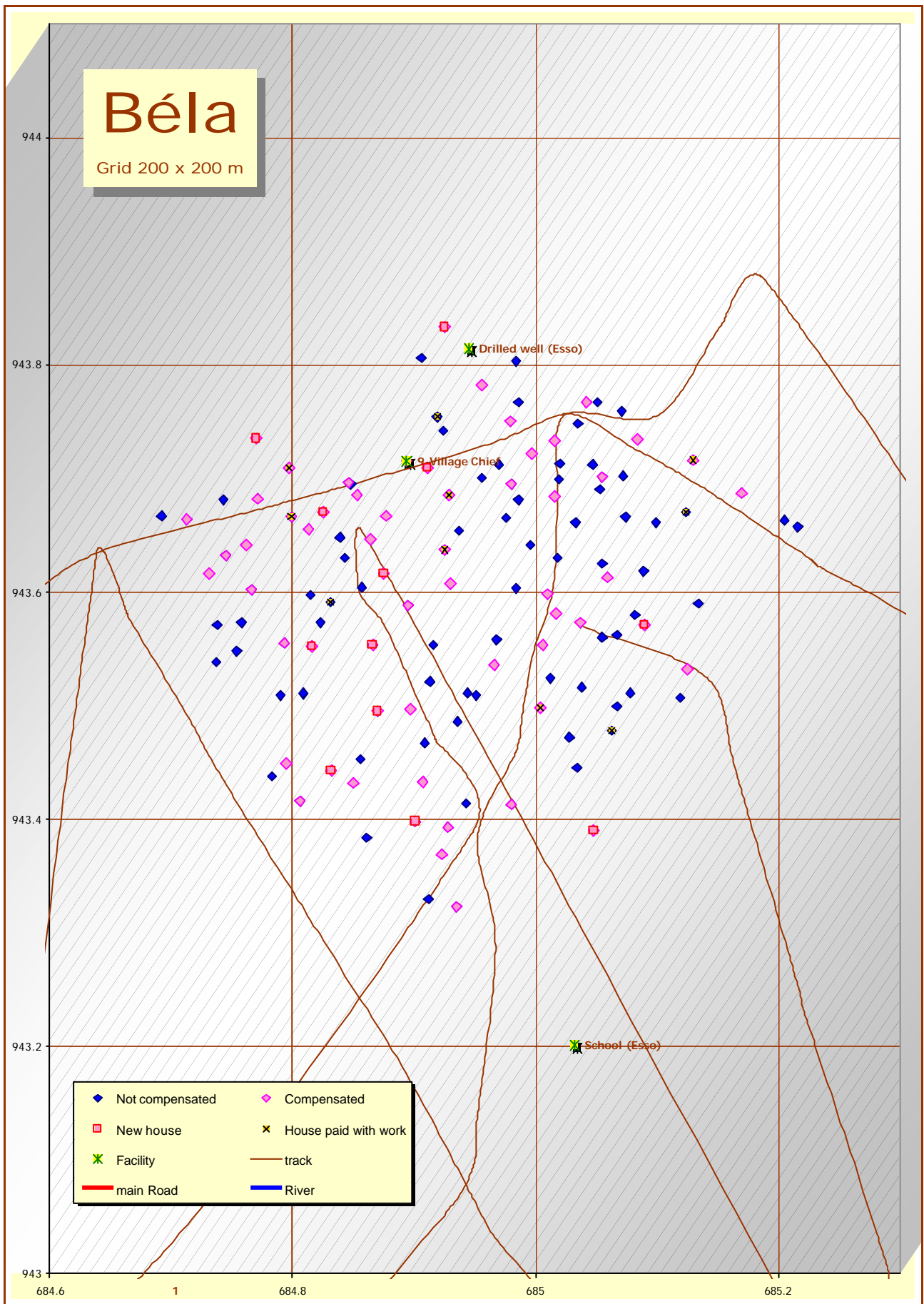
Positive changes. – Some have found employment in the project. Those who have received compensation have been able to build new houses, others have just drunk all their money.

Negative changes. – Before the project, we were living fine: no disease, no mortality of our cattle. There is now famine in the village. But “*those who have no compensation are only invited to share a cup of tea [by those who received].*”

Grievance. – We haven't seen the money with which the school has been built. Wouldn't it have been possible, with our help, to build a bigger school, which would be enough for our children? Costing the same amount of money?

Characteristic	Description
Village chief	Ngarkandji Bernard the village chief and the chef de canton (Kome) Konhodjingar Ndolébé.
Population	127 households, 46% of whom received project compensation
In migration	Four families have come to the village during recent years (before Esso), in search of land: 2 from Doba and 2 from Miandoum. Recently only the priest and the government's schoolteacher have arrived.
Out migration	No emigration
Ethnic groups	Most families in the village are of the Mbay Doba ethnic group, 2 are Ngambaye
Languages	Ngambaye, Gor, Arabic, French in order of their importance.
Religion	Christians (Catholic and Protestant). Both have simple churches with a straw -thatched roof and mud brick walls. Presence of animists
Land chief	There is a land chief, but he is hardly respected anymore, and nobody waits for him to signal the start of the agricultural season. (Land chief: This year is the sores draught since 8 years, and I plan to perform the traditional ceremonies to beg for rain).
Housing	Housing has improved over traditional housing: 25% aluminum roofs and 42% fired bricks. 46% were built using compensation money, 11% using employment money.
Water	Water is drawn from a drilled (Esso) well, which does no yield enough and from traditional wells.

Characteristic	Description
Esso compensation	Primary school and water well
Fuel for cooking/light	Cooking: mainly wood Light: straw and kerosene hurricane lamps. (kerosene 1,500 FCFA/1.5 liter)
Radio	National radio: Voix du Paysan (Doba, FM) and RNT (Ndjamena, SW) International: VOA, Africa °1, RFI, Vatican. Listen to News, music, informative programs and theater.
Cell phone	Reception is average, 10 people in the village own a cell phone
Education	Complete primary school with 1 qualified and two unqualified local teachers. One classroom is in a straw building. Secondary education: College (4 children, in Kome, Miandoum and Béro), Lycée: Bébédjia (1 child)
Health	Five un-trained traditional midwives. 1 red cross trained villager, no Dr. Tchoukou. One of the villagers works in the Kome clinic, and helps his neighbors. Health clinic in Komé (10 km) or Miandoum. Hospital in Bébédjia mainly.
Commerce	A mill paid with compensation money. There are 04 stalls that sell basic foods and cigarettes. Crafts: no blacksmith or carpenter, only many masons.
Transport	Transport available from Kome Atan. The road to the village is not maintained but the village remains accessible throughout the rainy season.
Livelihood	<i>Agriculture.</i> Sorghum, peanuts, rice along the Nya river, beans, sesame, pennisetum, cucumber seeds, market garden crops. <i>Cotton.</i> We would like to re-start growing cotton but need assistance from Cotontchad, and they pay too late or just don't pay at all. <i>Cattle.</i> – About one hundred heads of cattle in the village, paid with compensation. However, many have died since they were bought. Their fodder consists of hay, and the left stems of the sorghum, peanut and beans harvests. <i>Fishing</i> is important. A few villagers own a pirogue.
Project work	At the time of the survey, 5 people had a permanent job.
Government and other developmental services	Vaccination campaigns concern children (free, through the clinic of Kome) and cattle (here is a government office in Kome Atan). Agricultural development by Esso sponsored ORT.
Local organizations	Mutual assistance groups for agriculture. Parents Teachers Association, 05 sport clubs, choirs, Informal rotating saving groups. Women's church groups (Mothers of charity). A mixed group of men and women promoted by ORT who engage in vegetable gardening.
Cattle herders	There are transhumant and resident cattle herders in Kome, not far from the village.



B.16 Dildo

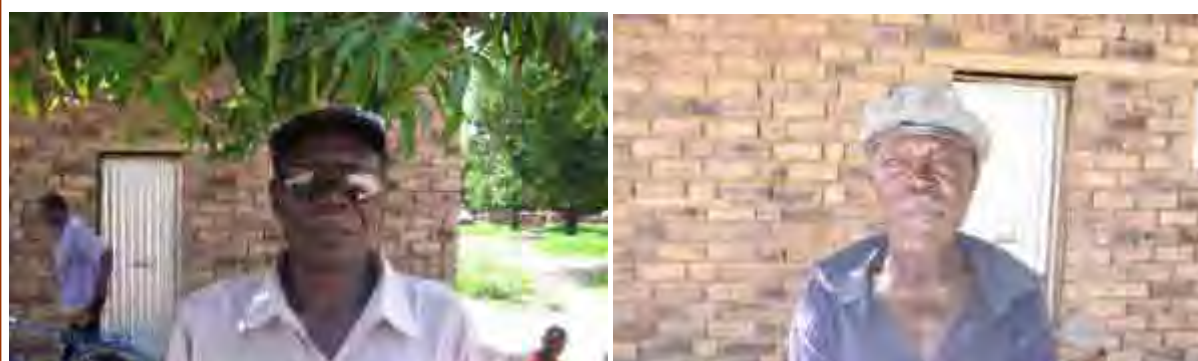
The village is located near the Pendé River, one of the tributaries of the Logone River. The name of the village means “caïlcédrat”, the African mahogany tree: a sacred tree which resembles a human person. The village exists since “hundreds of years” at the present site. The people originate from two different villages: one of fishermen north of Doba, another of farmers from the village Bekia. The two clans (Ngelka) that are still present in the village reflect these origins. The 2 ngelka used to have different areas for agriculture, but nowadays all is mixed.



Dildo.

Land use since Esso. – Though land is limited, there is still available for those who need it.

Positive changes. – Not many, according to the village chief compensation was “like a wind that blows and goes away”. It was very difficult for people to manage their money judiciously. Still, “compensation was a good thing”.



Left: the village chief; right: the land chief

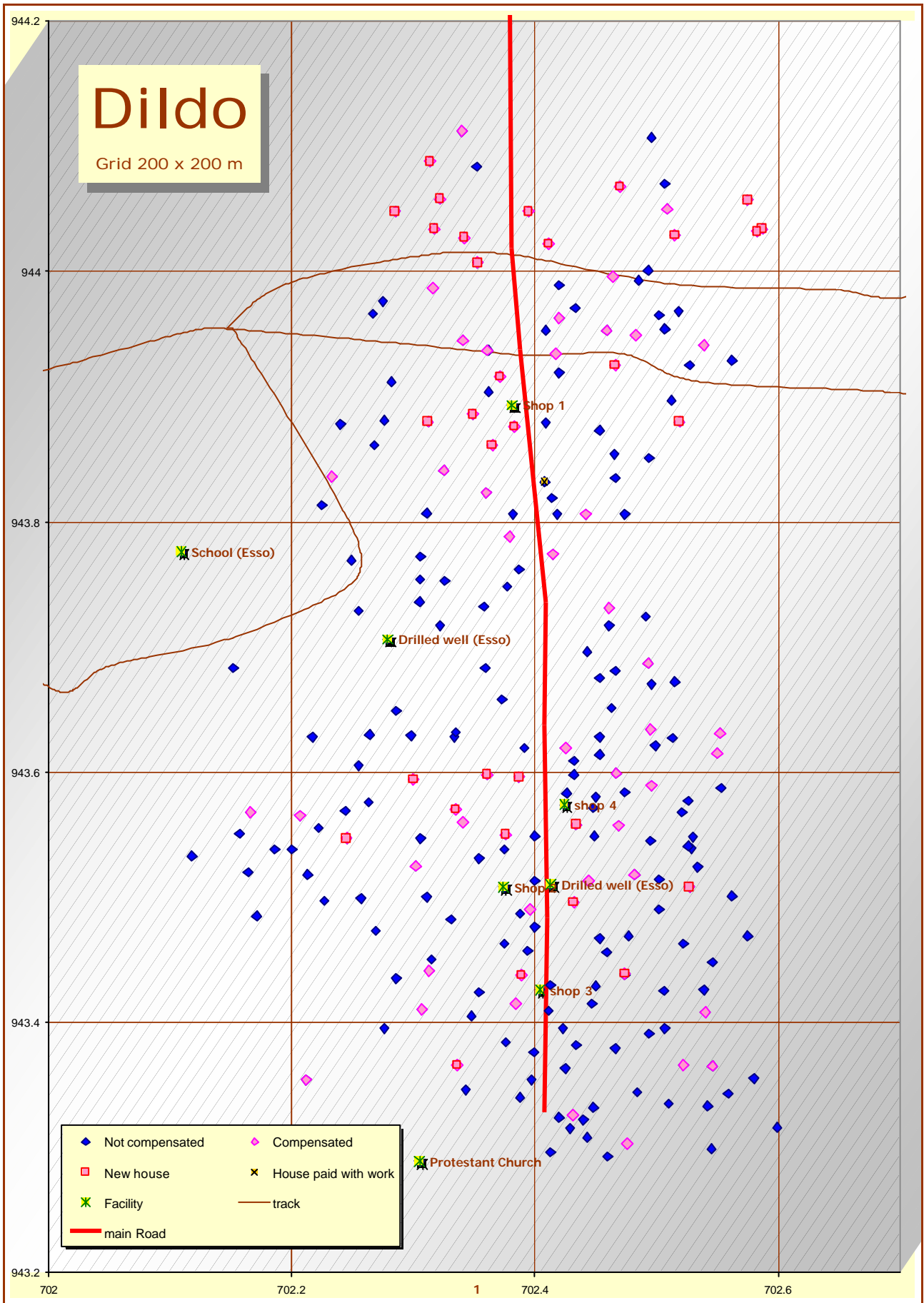
Negative changes. – less water, less rains, more malnutrition, not enough agricultural production. “Every body [former president] Toumbalbaye, Ellen Brown, promised that Chad would be rich and that everybody would work. Who has the money in our village to pay for a job?”

Grievance. – Trucks from the TCC subcontractor damaged the road to our village. Compensation for the airport has been paid in 1998, and no extra money was received in the village after the value of the trees has been re-evaluated. GTZ built the school in our village, but the only thing from the village they used was water. The Project buries much of its waste, even the waste we can still use. Because of the light of the Kome V center, “our sorghum grows but does not produce, even our trees don’t produce as they used to do”.

Characteristic	Description
Village chief	ADOUM Joachim and chef de canton (Béro) Ndayngar Digambaye..
Population	226 households, 33% of whom received project compensation
In migration	None
Out migration	Some villagers have migrated to Cameroon and Gabon, in search of employment
Ethnic groups	Mbay Doba only
Languages	Mbay Doba/Ngambaye, French and a little Arabic.
Religion	Christians (Catholic and Protestant). Only the protestants have a churches with an aluminum rood and fired brick walls. Presence of animists.

Characteristic	Description
Land chief	Present, but not respected anymore. However, if there are no rains, we will ask the land chiefs and the clergymen to pray for rain.
Housing	23% of the houses have aluminum roofs and/or fired bricks, but most (74%) are still the traditional style of mud walls and thatched roof. 15% were built compensation money, 7% using employment money.
Water	There are two drilled wells in working order, but water is also drawn from traditional wells and directly from the river.
Esso compensation	Two (?) drilled well and a primary school of two classrooms.
Fuel for cooking/light	Cooking. – Wood mainly and sometimes charcoal. Light. – Kerosene lamps (1.000 FCFA/l) and sometimes flash lights.
Radio	National radio: Voix du Paysan (Doba, reception OK,) the national radio RNT International: VOA, Africa ^o 1, RFI, Vatican (reception is OK)
Cell phone	Reception is good, 8 people own a cell phone
Education	Incomplete primary school in the village (4 years to CE2) with 1 qualified government and 2 voluntary teachers irregularly paid monthly 8.5 thousand FCFA. Children go to college in Béro (a 9 km walk, return home after classes). Four village children attend the Lycée in Doba (7 km).
Health	Three traditional midwife have received some medical training. Even if women give birth at home they go to the hospital afterwards for vaccinations. 5 red cross trained villagers. 2 untrained Dr. Tchoukou who sells basic medicines. A mission dispensary in Ndaba (5 km). Pharmacy and hospital in Doba used for severe cases.
Commerce	A mill paid with compensation money has been sold since. There are still three boutiques. One carpenter trained by Esso. Markets in Béti (Sundays and Thursdays) and in Doba (daily). Three small shops/stalls in the village, one cereal mill, two carpenters.
Transport	One motorbike in the village but generally people walk or take their bicycles, sometimes the oxcart. From the Esso road to the village the road is bad.
Livelihood	<i>Agriculture</i> mainly, which suffers from striga weeds. Cotton was grown in 2005 ¹⁹ but the harvest has not yet been bought. <i>Cattle</i> . – The village used to have 160 cows, now there are about 300. Cows are not milked. <i>Fishing</i> is an important economic. About half of the men engage in fishing.
Project work	At the time of the survey, nobody in the village had a project job.
Government and other developmental services	Vaccination campaigns concern children (free) and cattle. Agricultural development by Esso sponsored ORT. The BELACD used to provide small loans (30 to 50 thousand FCFA).
Local organizations	<i>Ndo Doman</i> : Mutual assistance groups for agriculture. Four soccer teams (but no ball). Choirs, Parents Teachers Association (maybe); AV for cotton, informal rotating saving groups. Church organizations for youngsters and women. There exists a group who manages the water wells. When spare parts are needed, the women contribute money.
Cattle herders	There are transhumant (January to June) and resident cattle herders in Ndaba, 5 km) all around the village. It's necessary to harvest early in order to avoid damage by cattle.

¹⁹ 34 farmers have grown cotton in 2005, on a total of 50.5 ha of land located south of the village. The official cotton price has been lower this year (155 FCFA/kg) than last year (185 FCFA/kg). Though land is limited, there is still available for those who need it.



B.17 Ferik of Kome “Hambassadna”

Ferik is the name used in Chad to designate a more or less permanent cattle herders' settlement.

The Ferik of Kome was founded 9 years ago, when they arrived because they had heard about the oil exploitation in Kome, and they new that, being Chadians and born in the area, they had the right to settle there. They were – and still are – in search of employment.

Cattle trade. – Villagers buy cattle in the big markets of Bébédjia and Bebongue (near Doba). That is where they meet the Arabs that sell cattle. In these markets, the villages exchange old cows against young calves, which allows them to rejuvenate their cattle.

Cattle prices were highest during the construction period with TCC (around 2002), and employees paid up to 250,000 FCFA for a cow. Since than, prices have gone down considerably and they are in 2006 around 100,000 FCFA for and adult cow or ox²⁰.

Land use since Esso. The installations of Esso (flow lines, well pads, roads...) do not interfere seriously with the movements of our cattle herds. The fields are either avoided or well compensated, so are not an issue either. Borrow pits are a problem, when they are not protected and our cattle can fall.



The chief and community members of the Komé ferik.

Positive changes. – If the Project cannot pay more water wells for us, they have to leave the lakes that are created in the borrow pits: they will provide us with some water.



Well drilled by Esso as community compensation.

Negative changes. – Problems with the villagers. We do not want such problems. We just want our transhumance corridors, where our cattle can cross without damaging the fields. If the villagers do not tell us where they have sown their fields, we can tell our children where they have to guard the cattle. Often villagers try to scare the cattle away by crying loudly. The unfortunate effect of this is that the animals panic flee in all directions, and so do much more damage than what would have been done without such behavior.

There exists a committee of villagers and cattle herders, which will take care of the damage if some is done. Rate like 20 FCFA for a damaged sorghum stalk exist, and are verified in the local markets.

“We do not like it that we are always accused by the villagers of the worst things”.

Grievance. – None of us has a project job, in fact none of the cattle herders in any of the feriks has a job²¹. For normal problems we either see the canton chief or the LCC in Kome.

Characteristic	Description
Village chief	Mahamat Moussa the ferik chief and the chef de canton (Kome) Konhodjingar Ndolébé.
Population	85 households according to it's chief, a few of whom received project compensation, some 3,000 cattle.
In migration	All, in search of Project employment
Out migration	
Ethnic groups	Djoubour ethnic group, from the Salamat
Languages	Arabic
Religion	Muslims

²⁰ This is less than the price cited by villagers, which is around 120-140 thousand FCFA for a young adult.

²¹ Daba Dildo, Béro, Komé. Information needs to be checked and –if possible– remedied.

Characteristic	Description
Land chief	No
Housing	All houses are of straw
Water	One drilled well, maintained by the ferik. Once they paid 20,000 FCFA to repair it.
Esso compensation	One drilled well with equipment for cattle drinking
Education	Children don't go to school as the local children ostracize them. We need a special school for our community.
Commerce	Cattle are traded in the markets. Cattle price is presently about 100,000 FCFA for an adult (see introduction).
Livelihood	<i>Agriculture</i> is not sufficient for own consumption. They grow sorghum, millet and peanuts. Reported yield higher than among villagers (4-5 bags/corde), probably because they use cow dung as fertilizer. Each household (men only) has one more fields, on land provided freely by the canton chief of Kome. <i>Cattle</i> . – The Ferik owns 3000 cattle. Water, and dry season grazing grounds and fodder are limiting factors.
Project work	Nobody works for the project

Appendix C Estimate of Land Requirements to Meet Nutritional Needs of an Average Household

C-1 Introduction

The nutritional needs of a family can be estimated knowing the family size and the average food consumption of each member of a household. Traditionally, almost all of these needs are covered by either direct production from household land, or if necessary through supplementary purchase from the market.

C-2 Changes in the food production system

The changes in production observed during the last 10 to 15 years have profoundly changed the subsistence economy. Previously, people would grow mainly cereal crops, cotton and cassava. Cereal production has traditionally been limited, but part of the production shortfall was taken care of by the cassava and through buying cereals in the market with money obtained from the sale of cotton.

Cotton – It appears from the various village interviews, that cotton production was abandoned in most villages between 1998 and 2001, mainly due to difficulties in obtaining payment from the parastatal Cotontchad company. Delays in delivery and collection, and an un-transparent quality grading system were also cited as factors for cotton's decline. It is curious that such complaints exist in all villages in southern Chad, and yet most of these have not abandoned cotton cultivation. It can be conjectured that people in the OFDA may have been counting on oil revenue to replace cotton, and so may have stopped cotton cultivation prematurely. In the survey, farmers indicated that they had replaced the revenue from cotton by increasing their sorghum and peanut production. It is difficult to evaluate to what extent this has changed household food sufficiency.

Cassava – Cassava is a crop that can be harvested all year round to provide additional food and was important to household diets and food sufficiency for bridging periods when other crops were in short supply. Cassava is a crop that is attractive to cattle because it remains green and succulent during the dry season. It is therefore particularly prone to damage when cattle are around. Due to the presence of transhumance cattle herders and recurrent cassava losses, the local population has now nearly universally abandoned its cultivation. As the herders are perceived as outsiders from the North, their presence is a major source of conflict and local tension.

Population growth – The population growth in southern Chad is high, as shown by the increase in the number of households in the villages that were studied in both 2003 and 2006. Though the indicators are not very robust, two of the three indicate a rapid population growth. Over the three year period, an annual increase of 10% in the number of households can be observed. This represents an increase of 20% in the number of people per household¹. One can estimate that the OFDA population increase lies within the range of 5-10% per year.

Land occupied by the project – According to interpretation of satellite photos in 1998, land unused for agriculture and fallow represented 10% of the Miandom concession area, and 40-50% in the Bolobo and Kome area. This was 8 years ago. Both population growth and land take in the meantime have significantly reduced the amount of available land.

C-3 Food energy needs of an average family

The average family size in the sample surveyed is 8.5 and average food intake in similar savannah areas previously studied by George Koppert is around 2,000 kcal day. In African savannah diets, often as much as 85% of the energy content of the diet is derived from cereals. Observations of dietary habits in the OFDA appear consistent with these figures..

¹ Only the population growth calculated from crude birth and death ratios – as reported by the population during the survey – is low: 3,3%-2,4% = 0.9% annual population growth.

Using these data, almost 500 g cereal per capita is needed daily. This is equivalent to about 1,500 kg/year². If some of the calories are consumed as more energy-rich foods such as peanuts or sesame, a similar area of land is still required as the 'per hectare' yield of these crops is lower. At an average annual price of between 120-180 FCFA per kg³, using data from the project inflation monitoring, a budget of 180,000 - 270,000 FCFA is needed to feed an average family. The yield per hectare of sorghum in the OFDA is not known⁴ but using the yield applied in the compensation payment calculation, which reflects an average yield accepted by the ONDR agricultural extension service, about 2.5 ha of fields are needed to produce such a quantity. This is equivalent to about five standard cordes.

8.5 people → 2,000 kcal/person → 500 g person/cereal/day → 1,500 kg cereal/year/family
→ 2.5 ha of cereal with an average yield of 600 kg/ha.
→ 5 cordes (2.5 ha) actively cultivated area to support an average household,
and a provision of another 5 cordes (2.5 ha) for fallow.

At an average cost of 160 FCFA/kg of cereal,
the cereals for this diet would cost 225.000 FCFA annually.

If the family would obtain its energy from a more balanced diet⁵, such
as the food basket defined in the project's monthly inflation monitoring survey,
the food baskets for this diet would cost about 8.5 million FCFA annually.

Box 0-1. – Theoretical calculation of necessary food supply, based on the nutritional needs of a household, the estimated productivity of the soils, and the average price of foodstuffs as observed in the OFDA during the period 2002-2005.

The farmers report that they need about 5 cordes, but indicate that their cordes are more than the theoretical size of 71 x 71 m (about 0.5 ha) and are typically between 80 and 110 "steps" on either side. Measurements of fields on satellite photos indicate an average size of about 0.8 ha per field.

² In detail: 2,000 kcal provided by cereals with an energy content of 3500 kcal/kg, multiplied by 365 days, 8.5 persons and 85% of the total calories = 1507 kg.

³ Annual fluctuations observed in the OFDA through the inflation monitoring between December 2002 and April 2005.

⁴ FAO data from 1994 indicate about 700 kg/ha, the Chad market survey of 1998 indicates 610 kg/ha, farmers report that a bad field yields about 2 bags/corde (400 kg), a good field 4- 6 (800 to 1,200 kg/ha).

⁵ 5 kg of cereals, + 1 kg of leaves, + 250 g salt and spics, 0.5 l cooking oil, 1 kg of peanut and pulses, 0.5 kg of meat and 250 g of dried fish. Such a basket provides approximately 2900 kcal and costs between 3.500 and 4.500 FCFA. Per year 8.500.000 FCFA is needed at an average price of 3.5-4,000 FCFA as observed between 2002 and 2005 in the area.

Appendix D Agricultural production and trade

▪ Crops grown

Sorghum – No significant changes for the major staple crop, sorghum, which is grown by 80-90% of households. One observes that uncompensated women-headed households and people with off farm training grow sorghum less often than others.

Peanuts – Cultivation varies, but the provision of improved seeds during the agricultural training has contributed to a somewhat higher proportion of people growing peanuts.

Market garden crops – Market garden crops are one of the activities that are promoted during the agricultural training. This activity is most often practiced in the villages where water is easily available all year round and that are close to a market (e.g. close to Doba or Kome Atan).

Project affected households. – There is no indication that project affected people have diminished significantly the range of crops they grow. Project affected households cultivated on average 3.4 different crops, compared to 2.9 for the control group. A greater percentage of farmers who have undertaken improved agricultural training grow market garden crops than others, although this impact may diminish with time.

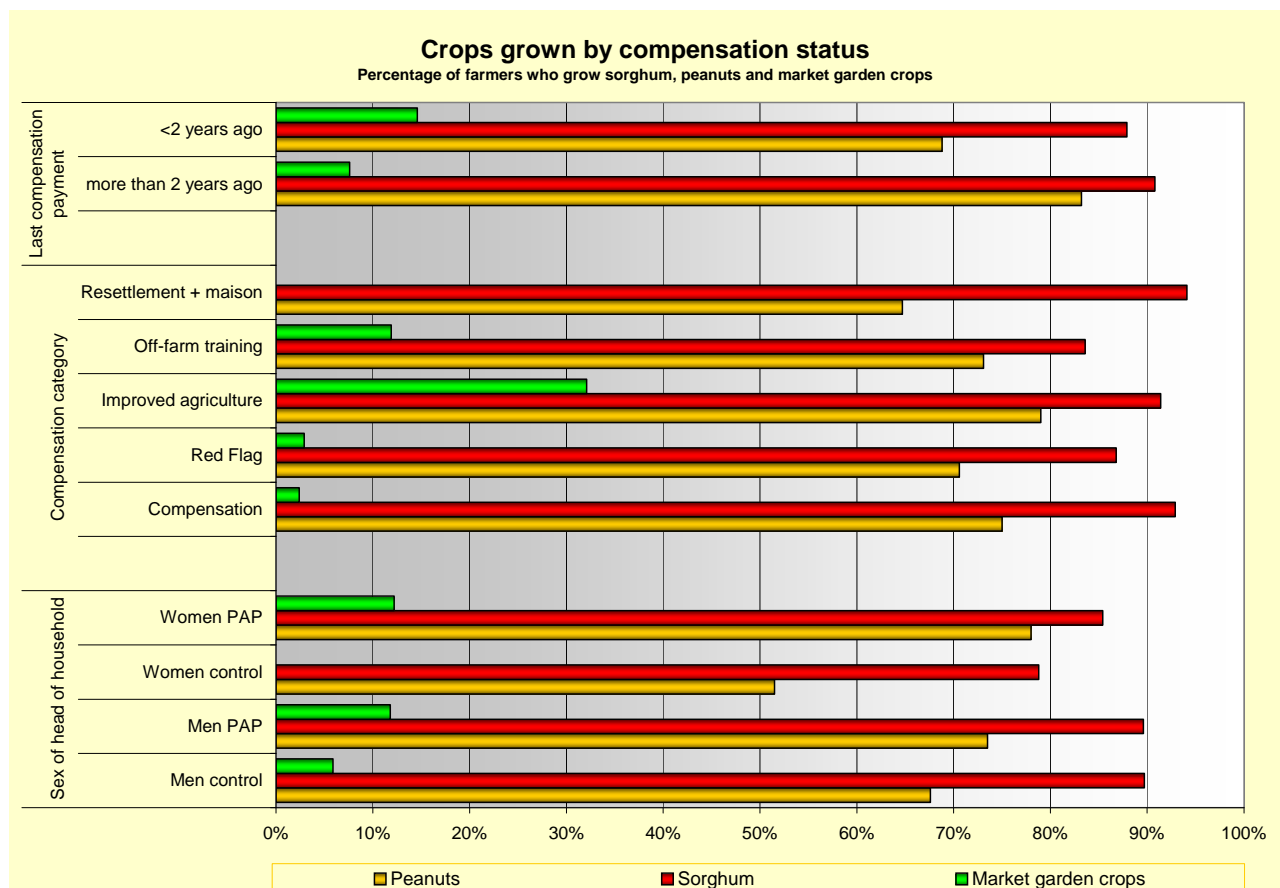


Figure 0-1. – **Crops grown:** The cultivation of the most important food and cash crops (Sorghum, peanuts and market garden crops) according to compensation status (source: present survey)

Conclusion: Project affected households grow at least as often as non-affected households the major crops of sorghum and peanuts. Improved agriculture training has led to more intensified culture of market garden crops.

▪ **Crops bought**

Sorghum – 40% of the control groups report buying sorghum and around 50% of the project affected people. People eligible for off-farm training bought more often staples than the others. This may be because they needed more or because they had regular income through study and child allowance during their training, and disposable income from their craft after the training. Once all people eligible for off farm training have completed their training and apply (or not) their trades on return to their villages, this item should be re-evaluated.

Peanuts – More peanuts were bought in the compensation groups than in the control groups. As peanuts are part of the cash-income of the family, this indicates a negative impact of the project.

Market garden crops – Market garden crops are not generally bought.

Project affected Households. – Project affected households bought food more often during the preceding year than non-affected households. Project affected households bought on average 0.9 products, compared to 0.7 products for the control group.

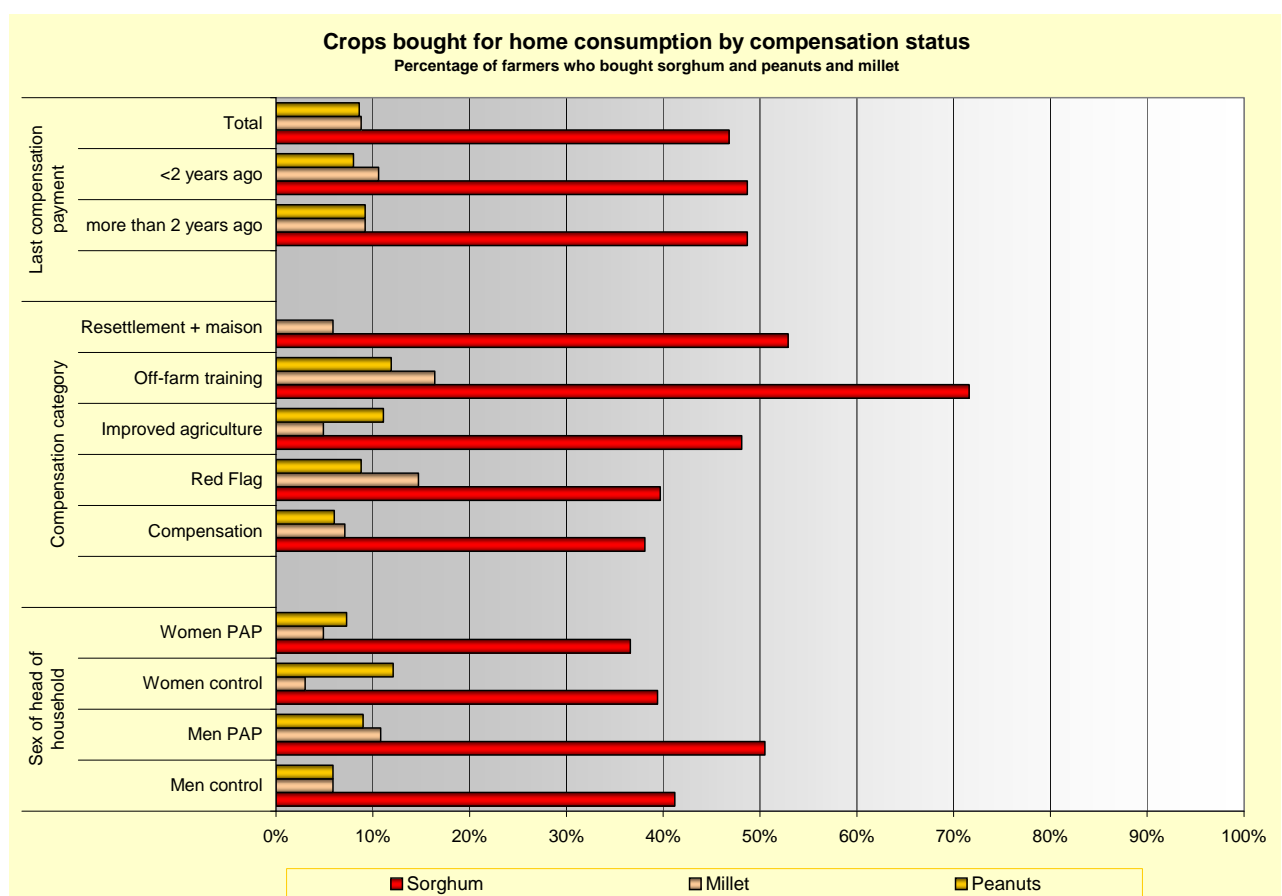


Figure 0-2. – **Crops bought:** The buying of the most important food crops (Sorghum, millets and peanuts) according to compensation status (source: present survey)

Conclusion: Project affected male households buy slightly more often food crops than non-affected households. Only among people with regular income from off-farm training and the resettlement/new house group the majority of farmers report buying the main cereal sorghum.

▪ **Crops sold**

Sorghum – 31% of control group households reported selling sorghum, against 26% of the affected ones. The more heavily a household was impacted, the less likely it was to sell sorghum. No difference is observed between the people who recently received compensation and others. Sorghum is generally sold in smaller quantities by women in order to buy salt and spices in the markets.

Peanuts – In general more peanuts were sold among those with compensation than those without. Peanuts are more considered as a cash crop than sorghum and have partly replaced cotton as the major source of cash revenue. Peanuts are more often sold by the men in greater quantities to provide money for the main annual expenditures.

Market garden crops – Market garden crops have become of a significant source of income amongst 25% of those who are participating or who have participated in agricultural training. For other groups it remains a secondary crop.

Project affected Households. – Project affected households more frequently sold food during the preceding year than non-affected households. Project affected households sold on average 1.1 products for a value of 40.6 thousand FCFA, compared to the control group that sold 1.0 product for a value of 21.4 thousand FCFA.

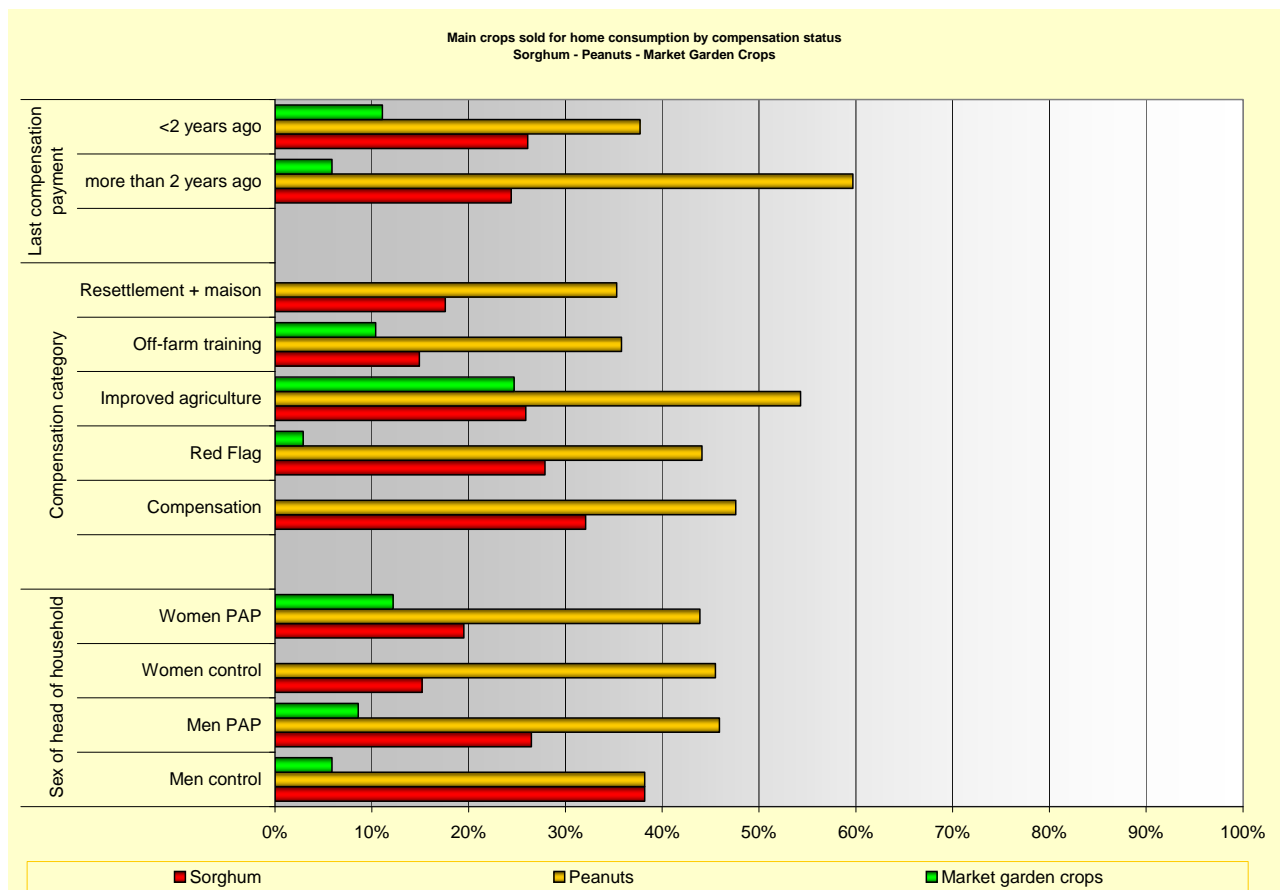


Figure 0-3 – **Crops sold**: The selling of the most important food crops (Sorghum, millets and peanuts) according to compensation status (source: present survey)

Conclusion: Project affected households sell less often food crops than non-affected households. This may be related to direct income from compensation and employment, or lack of produce to sell. Peanuts as a market crop remain important among all categories as an important source of cash to most households.

Appendix E Agricultural Calendar

The agricultural calendar was observed in Ngalaba during a meeting in which some 10 adults participated. During the 2006 mission the rains were later than usual, and agricultural work has started later than usual. The calendar below describes what is probably a normal year. One can read from this calendar the intricacy of the agricultural seasons, which has to take into account rains and draughts, the presence of different fields in the village and the bush, as well as the specific possibilities of each individual crop. Sorghum is the main crop, declined in a multitude of varieties, each adapted to different soils and climatic conditions.

Month	Main activities	Level of activities	Rains	Food availability
January	Harvest of late maturing beans Harvest of late sorghum Brick making in the village, cutting straw for the roofs End of the cotton harvest	+++	No rain, cold	Abundant
February	End of late sorghum and late beans harvest Brick making in the village Straw cutting House building	++	No rain, cold	Abundant
March	Clearing of fields Building of a new houses Hunting is easy when it's hot Making charcoal and building ovens (kilns) for fired bricks	++	Hot, rains rarely	Average
April	Early rains are possible but usually dry Complete clearing new fields Built shacks to keep goats, sheep and pigs Hunting and fishing	+	Hot, early rains	Diminishing food supply
May	Normally the first heavy rains followed by the start of the agricultural season 1 st possibility: direct sowing in the cleared field and later weeding 2 nd possibility: plowing and sowing, with a better result The <i>kitchen fields around the homesteads</i> are first prepared with early maturing varieties of maize, early sorghum, melons, and cucumber seeds The <i>main fields in the bush</i> follow: either planted with a mixture of mainly sorghum, with beans and cucumber seed or peanuts and pennisetum millet. First weeding of the early sown fields	+++	Hot, heavy weather, thunderstorms 2-3 times per week	Difficult food supply
June	Sowing ¹ : sorghum, beans and peanuts. Weeding of the fields sown in May is the main activity Sowing of pennisetum millet (June and July) Prepare fields for the sesame crop	++	Regular rains 3 times per week	Food situation worsens
July	2 nd weeding Start of sowing period for sesame and sweet potatoes and late maturing sorghums First harvest of some of the early maturing peanuts, maize and cucumber seeds in the kitchen gardens around the homestead Abundancy of fresh leaves	++	Almost every day: 5-7 times per week	Height of the seasonal hunger as last year's stock is depleted
August	1 st weeding of sesame, 2 nd and 3 rd weeding of sorghum Main harvest of early peanuts, maize and cucumber seeds in		Every day: more rain	Hunger continues as food production

¹ People use usually specially chosen sorghum seed from their own stock, but buy peanut seed in the market.

	the kitchen gardens around the homestead Early maturing sorghum ripens in the kitchen garden towards the end of August		than in July	is still insufficient
September	Main peanut harvest Weeding of sesame, millets and late maturing sorghums 1 st harvest of early sorghum, cucumbers and voandzou beans	++	Diminishing: 4-6 times per month	Average, food returns and is easier than in August
October	Harvest of late maturing peanuts Main sorghum harvest around the homestead Bring home the harvest from the field Prepare the soil for brick making before it hardens	+++	Rae small rains	The staple food (<i>boule</i>) remains rare, but abundant accompanying sauce
November	Harvest sorghum on the cattle corridors to prevent it from being destroyed Start sesame harvest Main harvest of some giant sorghum varieties	+++	Very rare rains	Abundant
December	Main harvest of sorghum, millet, beans and late maturing sesame Brick making in the village Burning of the savannah	+++	No rains, cold	Abundant

Appendix F Price Fluctuations in the OFDA

Inflation in the OFDA and the pipeline area has been monitored on a monthly basis since 2002. For the project inflation monitoring, a basket of foods has been defined, which includes the various staple foods, vegetables, cooking oil, meat and fish, in a combination that permits a nutritionally sound local diet².

Inflation monitoring data have been reported on quarterly basis until mid-2005, when changes in the implantation of the project, security problems, and availability of monitors have prevented the gathering of comparable data for one year. Other data on inflation over a wider area are available through the government agency SIM³, which until recently, published weekly inflation data through radio broadcast.

Natural Price Fluctuations and Project Induced Inflation

The Sahelian climate prevailing in Southern Chad has a short rainy season, thus allowing for only one major harvest per year. This results in lower prices for cereals, pulses, and seeds immediately after the harvest (last quarter of the year) and higher prices during the 2nd and 3rd quarters that precede the next harvest.

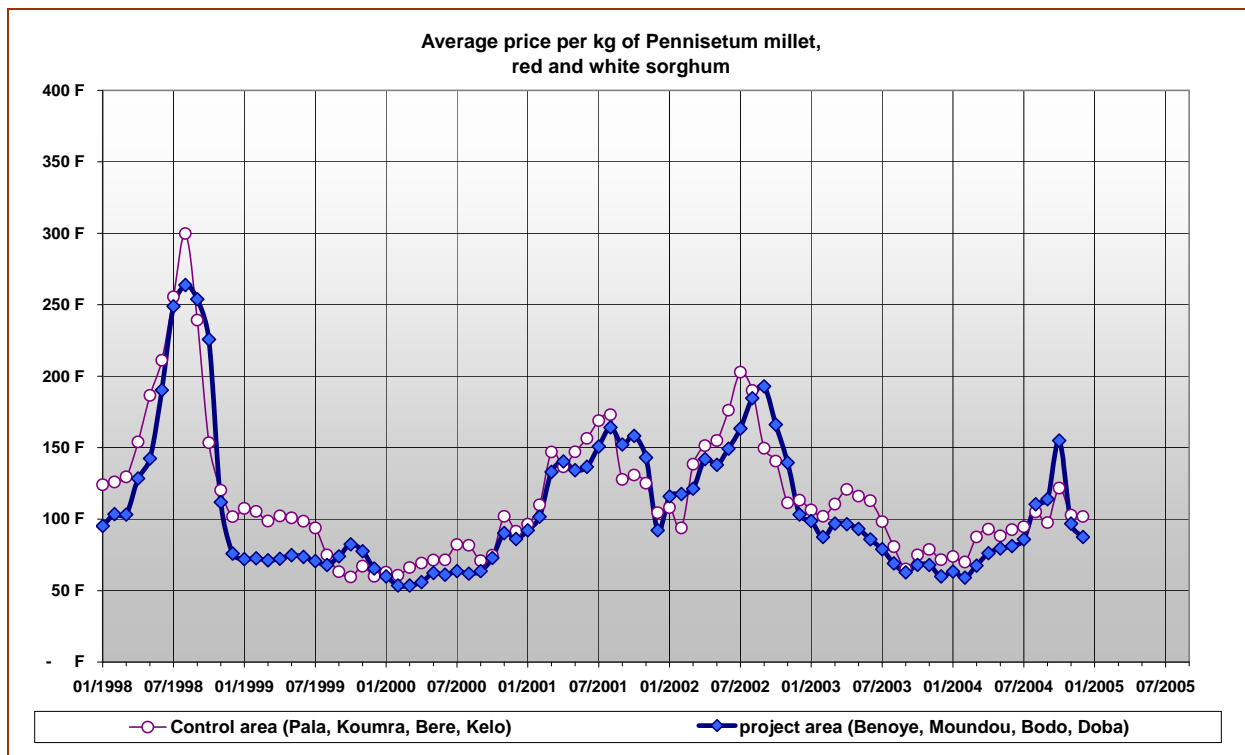


Figure 1. – SIM data showing the average monthly price per kg of three major cereals between January 1998 and December 2004. (Source: SIM Yearly reports and personal comm. for 2002-2004 data.)

Depending on climatic conditions – too much rain and flooding, too little rain and insufficient growth – prices tend to vary considerably between years. The average price of the main cereals has thus varied between 50 FCFA/kg and 300 FCFA/kg since early 1998.

The price fluctuations in the centers monitored by SIM (graph, figure 3) have so far been similar between four towns near the Project area and four control markets outside the Project area. Since early 2003, the prices in the wider project area have usually been lower than outside the area.

² 5 kg of cereals, + 1 kg of leaves, + 250 g salt and spics, 0.5 l cooking oil, 1 kg of peanut and pulses, 0.5 kg of meat and 250 g of dried fish. Such a basket provides approximately 2900 kcal and costs between 3.500 and 4.500 FCFA. Per year 8.500.000 FCFA is needed at an average price of 3.5-4,000 FCFA as observed between 2002 and 2005 in the area.

³ Service d'Information sur les Marchés in N'Djamena. (Market Information Service)

- No new data on price variations in the wider project area could be obtained from SIM for 2005 and the following graph shows available data until December 2004.
- Every year the fall in cereal prices after the harvest occurs 1-2 months earlier in the control area than in the project area. This phenomenon seems to have been present from before the start of the Project; this was again the case in 2003 and 2004.
- The last quarter of 2004 shows a very uncommon post harvest rise in prices instead of the usual drop. This is due to adverse climatic conditions and fear of a food shortage in 2005.

In the wider Project area, as shown on Figure 2 the lower cereal prices that were observed between 1998 and 2000, before the start of the project, were again repeated in 2003 and 2004, and depended more on the prevailing climatic conditions in southern Chad, than on a direct project impact.

OFDA and pipeline area

The inflation monitoring for the project shows that, though in general the prices in the project area follow the regional prices, which are mainly governed by climatic conditions, the project impact is far from negligible. Figure 2 shows that since the construction of the Pipeline and project facilities started in 2000-2001, the price difference between the rural areas along the pipeline and the OFDA have increased to about 25%-50%, depending on the seasons and the general food supply.

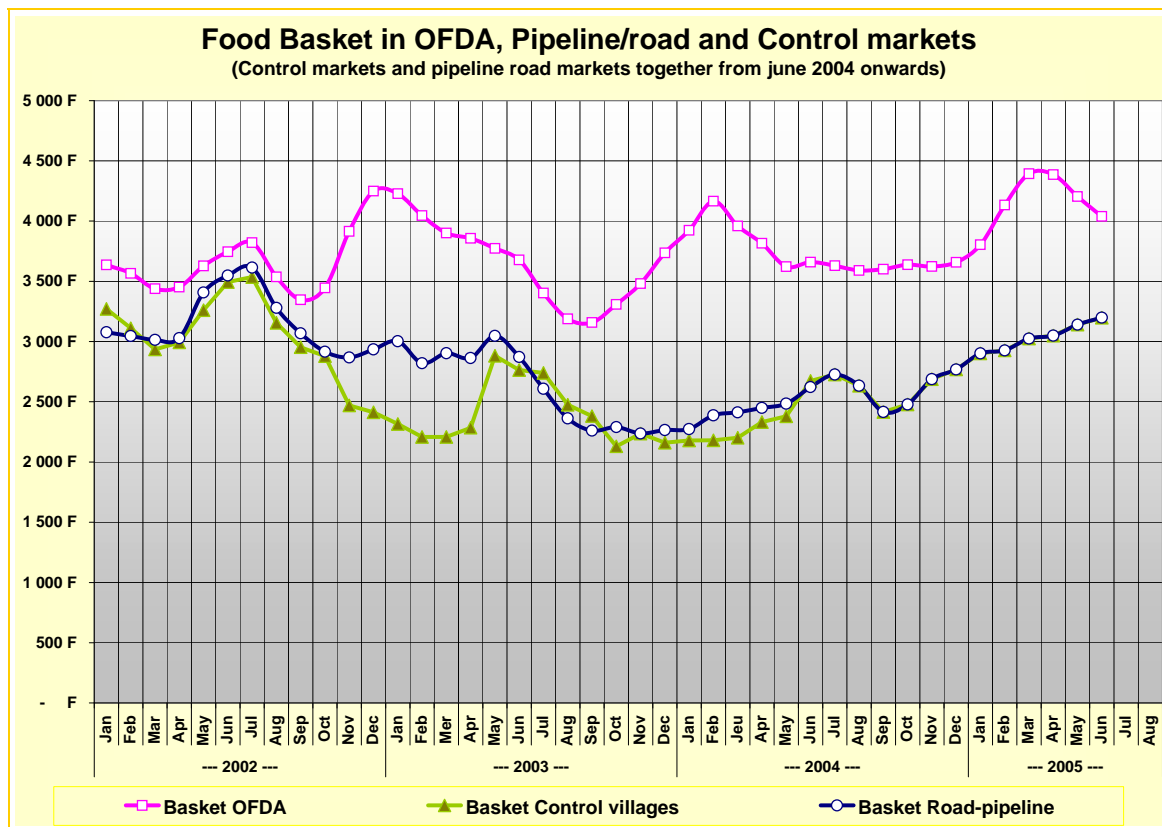


Figure 2. – Average monthly price of a food basket in three OFDA markets, along the road/pipeline Mbéré-Komé and in the control markets

Between October 2003 and March 2004 average prices had risen steeply to 4,500 FCFA. They then dropped suddenly, in April 2004 with the arrival of cheap fresh vegetables, and prices have remained relatively stable, though more expensive than in 2003, showing that there was no serious seasonal shortage of food in 2004.

Figure 2 shows how prices have varied since January 2002. The main period of construction activities, when more than 6,000 local people worked for the project, is situated between 2002 and the end of 2003.

Appendix G Household Questionnaires

1. Household questionnaire (2 pages)
2. Agriculture, household monetary revenue and expenses (1 page)
3. Evaluation of improved farming training and off farm training. (1 page)

NOM du chef de ménage :

N° de la maison :

15. Avez-vous acheté des médicaments (remèdes) au cours des six derniers mois ? Où ?

Table with 5 columns: pharmacie villageoise, hôpital ou dispensaire, pharmacie en ville, Dr Tchoukou, boutique, Rien acheté

16. Y a-t-il eu un (ou des) décès dans votre ménage, au cours des 12 derniers mois ?

Notez avec précision le sexe et l'âge (années ou mois) au moment du décès

Table with 3 columns: Sexe M/F Age, Sexe M/F Age, Sexe M/F Age

17. Y a-t-il eu une (ou des) naissance(s) dans votre ménage, au cours des 12 derniers mois ?

Notez le sexe et la date de naissance (mois et année) pour chaque nouveau-né

Table with 3 columns: Sexe M/F Né en, Sexe M/F Né en, Sexe M/F Né en

18. Avez-vous mangé du poisson ou de la viande au cours de la journée d'hier ?

Table with 2 columns: Item (Du gibier, De la viande d'élevage, Du poisson pêché localement, Du poisson venant d'ailleurs) and options (Espèce?, frais, fumé ou séché, en boîte, congelé)

19. Chez vous, qui (mari ou femme) s'occupe principalement des activités suivantes ? Qui est responsable de (donne l'argent pour) ?

Cette question ne concerne que les ménages composés -au moins- d'un mari et de son épouse

Table with 4 columns: Activité, Personne qui s'en occupe et en est responsable (de l'homme, de la femme, des deux)

20. Questions importantes à poser aux femmes uniquement : insister auprès du CdM pour qu'il fasse venir une femme pour y répondre

Table with 3 columns: Question (Est-ce qu'il y a des enfants âgés de 1 à 4 ans..., Est-ce qu'un de ces enfants a eu la diarrhée..., Est-ce qu'un de ces enfants a été malade..., Est-ce qu'un de ces enfants a souffert de la toux..., Si toux, y avait-il souffle court et rapide, Est-ce qu'un de vos enfants de moins de 10 ans souffre d'une maladie de la peau...), Oui, Non

Table with 5 columns: Eau(x) de boisson consommée(s), A. Eau fournie par Esso, B. Forage au château, C. Source naturelle, D. Puits avec margelle cimentée, E. Rivière/eau de surface, F. STEE (piped water), G. Puits traditionnelle, H.

La question suivante est à poser à TOUS les enquêtés

Table with 2 columns: Question (22. Est-ce que vous (ou quelqu'un de votre maison) a eu un dossier de compensation individuelle auprès d'Esso ?) and options (Oui, Non) and a section for compensation type (En liquides, En nature, Maison, Formation agricole, Formation métier, Terrain agricole)

23. Quand vous avez touché l'argent de la compensation, vous aviez des projets en tête : avez-vous le sentiment d'avoir atteint vos objectifs ? ... une partie de vos objectifs ? ... de ne pas avoir réalisé vos projets ?

Concerne les compensés seulement

Table with 3 columns: Question (J'ai fait plus que je ne pensais..., J'aurais dû ou je souhaite prendre plus en nature, Quel effet a eu le versement de compensations sur votre situation?, Quel était la réaction du village ?) and options

24. Qu'est ce qui reste aujourd'hui de votre compensation (A remplacer par la question 25)

Table with 3 columns: Item (Maison neuve, Radio, Charrette, Commerce/boutique, Petit bétail, Moto-Mobylette, pousse pousse, Toiture, Charrue, Cuisine, Terrain, Meubles, Téléphone mobile, Machine à coudre, Vélo, Bœufs, Epouse, Maison à louer, Acheter une charrette à bœufs, Créer plantations, Acheter du petit outillage agricole, Acheter une charrue, Acheter des bœufs, Acheter du petit bétail, Acheter une radio, Téléphone mobile, Machine à coudre, Lit et/ou matelas, Paiement aux autorités)

25. A quoi avez-vous (U) utilisé l'argent de la compensation et/ou des salaires du projet Esso, Qu'est ce qui reste aujourd'hui ?

Table with 6 columns: Item (Construire une nouvelle maison, Améliorer la maison, Acheter des meubles, Acheter du terrain à construire en ville, Construire en ville, Acheter du matériel de cuisine, Acheter de l'habillement, Aménager une tombe, Boire et manger, Créer un commerce ou l'améliorer, Maison à louer, Payer la scolarité des enfants, Payer des funérailles/un deuil, Payer les frais liés à la santé de la famille, Marier mes enfants, Me marier, Payer mes dettes, Partager avec la famille, Taxi et moto taxi, Acheter un « pousse », Acheter un vélo, Acheter une charrette à bœufs, Créer plantations, Acheter du petit outillage agricole, Acheter une charrue, Acheter des bœufs, Acheter du petit bétail, Acheter une radio, Téléphone mobile, Machine à coudre, Lit et/ou matelas, Paiement aux autorités)

NOM du chef de ménage :

N° de la maison :

Situation agricole

26. Qui vous a donné/prêté /loué les champs que vous cultivez _____ Depuis quelle année : _____ Depuis toujours

27. Etes-vous parenté avec ce village, et si oui, comment ? _____

28. Surface cultivée en 2005 cordes Propre terrain Gratuit Loyer annuel éventuelFCFA/an pour toute la surface

29. Surface en jachère : Cordes pour tous les membres du ménage. Terrain en réserve Cordes pour tous les membres du ménage.

30. Est-ce que vous utilisez :
 Main d'œuvre local payé Bœufs Engrais Semences améliorées Tontine de travail

31. Qualité de ces terres 1 : Mauvais 2 : Moyen 3 : Bien (entourez la bonne réponse) Type de terrain:
 Ce terrain est **Bien** adapté aux cultures suivantes :
 Ce terrain est **Mal** adapté aux cultures suivantes :

32. Depuis quelle année vous ne faites plus le coton.

33. Comment vous avez adapté votre agriculture : X plus de céréales X plus d'arachides autre :

34. Comment avez-vous remplacé la surface des champs cultivés depuis la compensation
 Mon propre terrain Chez mes parents Chez d'autres personnes du village Autre village : Achat Location Non remplacé

35. Qualité des terres nouvellement acquises 1 : Mauvais 2 : Moyen 3 : Bien
 Combien de cordes faut-il pour nourrir votre ménage :

36. Agriculture (cocher la case si la culture est cultivée L'ANNEE DERNIERE, entourer la lettre C si cultivé , A si acheté et V si Vendu)

Manioc	C - A - V	Mil	C - A - V	Haricots	C - A - V	Sésame	C - A - V
Banane	C - A - V	Arachides	C - A - V	Maraîcher	C - A - V	Graines courge	C - A - V
Pommes de terre	C - A - V	Patates douces	C - A - V	Pois de terre	C - A - V	Sorgho	C - A - V
Tabac	C - A - V	Coton	C - A - V	Riz	C - A - V	Maïs	C - A - V

37. Depuis une année avez-vous fait des **Achats** de plus de 10.000 FCFA (poursuivre à partir de quelques exemples, indiquer le prix)

<input type="checkbox"/> Bœufs	<input type="checkbox"/> Petit bétail	<input type="checkbox"/> Santé	<input type="checkbox"/> Habillement	<input type="checkbox"/> Habitat
<input type="checkbox"/> Vélo	<input type="checkbox"/> Charrue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

38. Depuis une année avez-vous fait des **Ventes** de plus de 10.000 FCFA (poursuivre à partir de quelques exemples indiquer le prix)

<input type="checkbox"/> Bœufs	<input type="checkbox"/> Petit bétail	<input type="checkbox"/> céréales	<input type="checkbox"/> Arachides	<input type="checkbox"/> Sésame
<input type="checkbox"/> Vélo	<input type="checkbox"/> Charrue	<input type="checkbox"/> Loyer	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

39. Ici s'efforcer à obtenir toutes les sources de revenu du ménage, au cours des 12 derniers mois, avec un maximum de précision (indiquez TOUJOURS le montant EN KF (= 1,000 F), ne pas faire des calculs, mais noter 20 x 300 pour vingt coro vendus)

<input type="checkbox"/> Manioc	<input type="checkbox"/> Mil	<input type="checkbox"/> Haricots	<input type="checkbox"/> Sésame	<input type="checkbox"/> Maraîcher
<input type="checkbox"/> Banane	<input type="checkbox"/> Arachides	<input type="checkbox"/> Patates douces	<input type="checkbox"/> Graines de courge	<input type="checkbox"/> Sorgho
<input type="checkbox"/> Tabac	<input type="checkbox"/>	<input type="checkbox"/> Pois de terre	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Compensation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Salaire non Esso	<input type="checkbox"/> Artisanat	<input type="checkbox"/> Petits Boulots	<input type="checkbox"/> Grd Commerce (boutique)	<input type="checkbox"/>
<input type="checkbox"/> Salaire Esso	<input type="checkbox"/> Boissons	<input type="checkbox"/> Bois & Charbon	<input type="checkbox"/> Petit Commerce	<input type="checkbox"/> Autres Vivres
<input type="checkbox"/> Chasse	<input type="checkbox"/> Pêche	<input type="checkbox"/> Cueillette/Collecte	<input type="checkbox"/> Bœufs	<input type="checkbox"/> Petit Bétail
<input type="checkbox"/> Produits Maraîchers	<input type="checkbox"/> Vente produits de la Compensation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

40. Section 3 - DEPENSES DU MENAGE

Fournir la liste des principales dépenses du ménage en 2005, en Francs par an, sur la base de la classification suivante. Pour chaque dépense indiquer si c'est par an, par mois, par semaine ou par jour :

<input type="checkbox"/> Santé et soins (par an)	<input type="checkbox"/> Logement + Equipements maison et cuisine (par an)
<input type="checkbox"/> Frais de scolarité + Fournitures scolaires : (par an)	<input type="checkbox"/> Frais de logement et ration des élèves en ville (par mois)
<input type="checkbox"/> Cérémonies familiales et funéraires (par an)	<input type="checkbox"/> Habillement (par an)
<input type="checkbox"/> Mariages et dots (par an)	<input type="checkbox"/> Intrants agricoles : (semences, engrais) et main d'œuvre (par an)
<input type="checkbox"/> Dépenses téléphone mobile	<input type="checkbox"/> Total vivres question 37:

Observations

NOM du chef de ménage :

N° de la maison :

Pour ceux qui ont reçu la formation professionnelle

Nom :		Sexe		Age
En quelle année		En quelle ville		
Durée				

Est-ce que vous avez envoyé un parent/enfant pour faire la formation à votre place : Oui / Non

Si oui, est-ce que cet enfant arrive à vous aider financièrement avec le métier qu'il a appris ? : Oui / Non

Quel étaient les frais de formation qui vous ont été versés :

Allocations familiales :

Comment jugez vous la qualité de la formation : Bonne – Moyenne – Mauvaise

Comment jugez-vous le niveau/la difficulté de la formation : Facile – Moyenne – Difficile

Est-ce que vous exercez le métier pour lequel vous avez été formé :

X Tous les jours X Saisonnièrement X De temps en temps X Rarement

Combien vous avez gagné avec votre métier :

Depuis une semaine FCFA

Depuis un mois FCFA

Depuis un an FCFA

Qu'est-ce qu'il vous reste du matériel qu'on vous a donné

Matériel	Présent/absent	Etat de vétusté	Observations

Observations

Pour ceux qui ont reçu la formation agricole

Nom :		Sexe		Age
En quelle année				
Durée				

Quel étaient les frais de formation qui vous ont été versés :

Est-ce que vous avez envoyé un parent/enfant pour faire la formation à votre place : Oui / Non

Si oui, est-ce que cet enfant arrive à vous aider financièrement avec l'agriculture améliorée qu'il a apprise ? : Oui / Non

Comment jugez vous la qualité de la formation : Bonne – Moyenne – Mauvaise

Comment jugez-vous le niveau/la difficulté de la formation : Facile – Moyenne – Difficile

Avez-vous fini complètement le cours Oui - Non

Est-ce que vous les techniques pour lesquelles vous avez été formées :

X Tous les jours X Saisonnièrement X De temps en temps X Rarement

500 KF de crédit reçu Oui / Non. Quoi choisi :

Est-ce que vous achetez maintenant X semences améliorées X engrais

Combien vous avez gagné avec vos nouvelles techniques agricoles:

Depuis un mois FCFA , Depuis un an FCFA

Qu'est-ce qu'il vous reste du matériel qu'on vous a donné (discuter avec la personne pour connaître ce qu'il a reçu)

Matériel	Présent-absent	Etat de vétusté	Activité	Comment appliquée
			Culture atelée	
			Culture maraichères	
			Faire du compost	
			Usage d'engrais	
			Usage semences améliorés	
			Fabrication de savon	
			Fabrication de vin rouge	

Observations

Appendix H Village questionnaire

Village interview questionnaire / guideline (2 pages)

QUESTIONNAIRE SOCIO-ECONOMIQUE

Nom de l'enquêteur :

N° DU VILLAGE :

Date/...../ 2006.

Chef de village :

Village

Autres personnes présentes :

Arrondissement

Est-ce qu'il a des familles (des individus isolés) qui ont immigré vers le village depuis janvier 2000 ? Oui <input type="checkbox"/> Non <input type="checkbox"/>	Est-ce qu'il y a des familles (des individus isolés) qui ont quitté le village depuis janvier 2000 ? Oui <input type="checkbox"/> Non <input type="checkbox"/>
Pourquoi	Pourquoi

Principaux groupes ethniques	Principales langues parlées	Indiquez l'ordre d'importance de ces religions	
1.	1.	<input type="checkbox"/> Chrétiens	<input type="checkbox"/> Animistes
2.	2.	<input type="checkbox"/> Musulmans	<input type="checkbox"/> Autre
3.	3.

Est-ce qu'on attend le chef de terre pour semer au début de la saison des pluies ? Oui Non**Eglises présentes et leur matériel de construction (toits-Murs-Sol):**

<input type="checkbox"/> Catholique	<input type="checkbox"/> Protestant	<input type="checkbox"/> Autre
-------------------------------------	-------------------------------------	--------------------------------

Principales sources d'approvisionnement en eau

<input type="checkbox"/> Source	<input type="checkbox"/> Puits de surface	<input type="checkbox"/> Forage	<input type="checkbox"/> Rivière et eau de surface	<input type="checkbox"/> Borne/fontaine - adduction d'eau
---------------------------------	---	---------------------------------	--	---

Quelles sont les sources d'eau sur le tracé du pipeline/ notez si elles sont en amont ou en aval du tracé

<input type="checkbox"/> Source	<input type="checkbox"/> Puits de surface	<input type="checkbox"/> Forage	<input type="checkbox"/> Rivière et eau de surface	<input type="checkbox"/> Borne/fontaine - adduction d'eau
Amont/aval	Amont/aval	Amont/aval	Amont/aval	Amont/aval

Equipements donnés par Esso pour la compensation communautaire (CC) ou Programme de Dotation (PD)

<input type="checkbox"/> Forage	CC	PD	<input type="checkbox"/> Ecole	CC	PD	<input type="checkbox"/> Marché	CC	PD	<input type="checkbox"/> Salle Communautaire	CC	PD
<input type="checkbox"/> Autre			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>		

Stations de radio Nationales écoutées	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stations internationales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La réception radio est	<input type="checkbox"/> Bonne	<input type="checkbox"/> Moyenne	<input type="checkbox"/> Mauvaise/absente
La réception télévision est	<input type="checkbox"/> Bonne	<input type="checkbox"/> Moyenne	<input type="checkbox"/> Mauvaise/absente

<input type="checkbox"/> Écoute-t-on régulièrement la radio Oui / Non	<input type="checkbox"/> Regarde-t-on régulièrement la télévision? Oui / Non	
Toitures des maisons :	<input type="checkbox"/> Toitures sont surtout en tôles ondulées	<input type="checkbox"/> Toitures sont surtout en matériel local

Sources d'énergie pour faire la cuisine

<input type="checkbox"/> Bois	<input type="checkbox"/> Pétrole	<input type="checkbox"/> Gaz en bouteilles	<input type="checkbox"/> Autre
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Écoles présentes dans le village ou si absentes, à quelle distance et dans quelle ville peut-on en trouver

Au village : Quelles classes de cp1 à ; Nombre de maîtres de l'état _____ Maîtres volontaires _____ ;

École	<input type="checkbox"/> Aucune	<input type="checkbox"/> Primaire	<input type="checkbox"/> Collège (3e)	<input type="checkbox"/> Lycée (bac)	<input type="checkbox"/> Enseignement technique
Distance		À km	À Km	À Km	À Km
Ville		À	À.....	À.....	À.....

Nombre de personnes médicales présentes dans le village

Acoucheuses traditionnelles	Acoucheuses formées	Vendeurs de médicaments (Dr. Tchoukou)	Croix rouge Formées	Infirmiers Privés
-----------------------------	---------------------	--	---------------------	-------------------

Structures médicales présentes dans le village ou si absentes, à quelle distance et dans quelle ville peut-on en trouver

Structure	<input type="checkbox"/> Aucune	<input type="checkbox"/> Hôpital	<input type="checkbox"/> Case de santé	<input type="checkbox"/> Pharmacie	<input type="checkbox"/> Centre de santé développé
Distance		À Km	À Km	À Km	À Km
Ville					

Commerces présents dans le village Jours de marché..... Marché principal fréquenté.....

<input type="checkbox"/> Marché journalier	<input type="checkbox"/> Marché hebdomadaire	<input type="checkbox"/> Boutique
<input type="checkbox"/> Autres	<input type="checkbox"/> Aucun marché ou boutique	<input type="checkbox"/> Timbres

Transport disponible dans le village

<input type="checkbox"/> Occasions irrégulières	<input type="checkbox"/> Gare routière	<input type="checkbox"/> Passage journalier de taxis de brousse
<input type="checkbox"/>	<input type="checkbox"/> Autre	<input type="checkbox"/>

État des routes vers la ville principale de la région Nom de la ville:.....

<input type="checkbox"/> Route goudronnée	<input type="checkbox"/> Route latérite entretenue	<input type="checkbox"/> Piste passable en toute saison
<input type="checkbox"/> Mauvaise piste	<input type="checkbox"/> Piste coupée en saison pluvieuse	<input type="checkbox"/> Autre

Classer les activités suivantes selon leur importance (0 = absent ; 1 le plus important, etc.)

<input type="checkbox"/> Agriculture traditionnelle	<input type="checkbox"/> Cultures du coton	<input type="checkbox"/> Chasse	<input type="checkbox"/> Pêche
<input type="checkbox"/> Commerce	<input type="checkbox"/> Élevage	<input type="checkbox"/> Travail salarié	<input type="checkbox"/> Activités industrielles
Nbre de travailleurs dans le projet	<input type="checkbox"/> Permanents ____ personnes	<input type="checkbox"/> Temporaires ____ personnes	

Présence active dans le village de services chargés du coton –élevage

<input type="checkbox"/> Cotontchad	<input type="checkbox"/> Santé	<input type="checkbox"/> Services d'élevage (PSAP)	<input type="checkbox"/> Agriculture (ONDR)
<input type="checkbox"/> Eaux et forêts	<input type="checkbox"/> Garde chasse	<input type="checkbox"/>	<input type="checkbox"/> Autre

Existe-t-il dans le village des associations ou des GICs (Groupement d'intérêt Commun) qui s'occupent de

<input type="checkbox"/> Entraide en agriculture traditionnelle	<input type="checkbox"/> Cultures de rente (coton)	<input type="checkbox"/> Chasse	<input type="checkbox"/> Activités génératrices de revenu
<input type="checkbox"/> L'éducation	<input type="checkbox"/> La santé	<input type="checkbox"/> d'épargne	<input type="checkbox"/> Pêche
<input type="checkbox"/> Sport	<input type="checkbox"/> Chorale – activités artistiques	<input type="checkbox"/> Tontine	<input type="checkbox"/> Associations des ressortissants résidant en ville
<input type="checkbox"/> Associations des hommes	<input type="checkbox"/> Associations des Femmes	<input type="checkbox"/> Associations des jeunes	

Y a-t-il des pêcheurs dans le village **Oui Non****Le poisson est utilisé pour (plusieurs réponses possible)**

<input type="checkbox"/> La consommation domestique	<input type="checkbox"/> Le commerce
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Informations concernant l'élevage dans la zone traversée par le pipeline

Y a-t-il des éleveurs transhumants dans le village ?

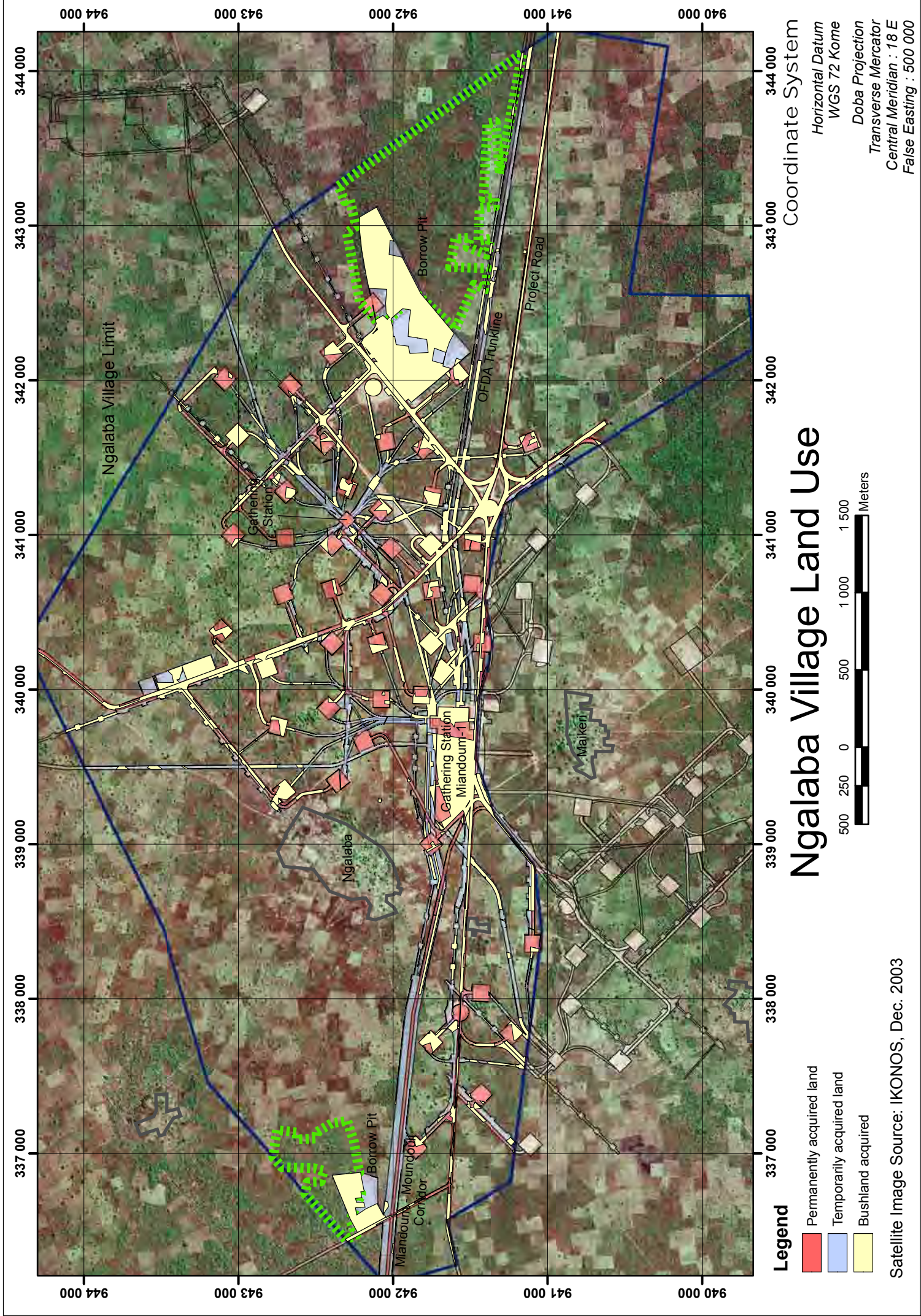
<input checked="" type="checkbox"/> Oui	<input type="checkbox"/> Non	Qui ? :	Présents entre les mois	et
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Y a-t-il des éleveurs transhumants dans le village ?

Histoire du village

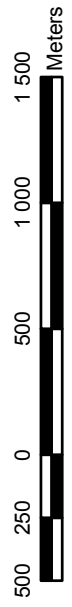
Changements perçus :**Impacts positifs du Projet Esso :****Impacts négatifs du Projet Esso :****Observations**

Appendix I Village Case Study Land Use Maps



Legend

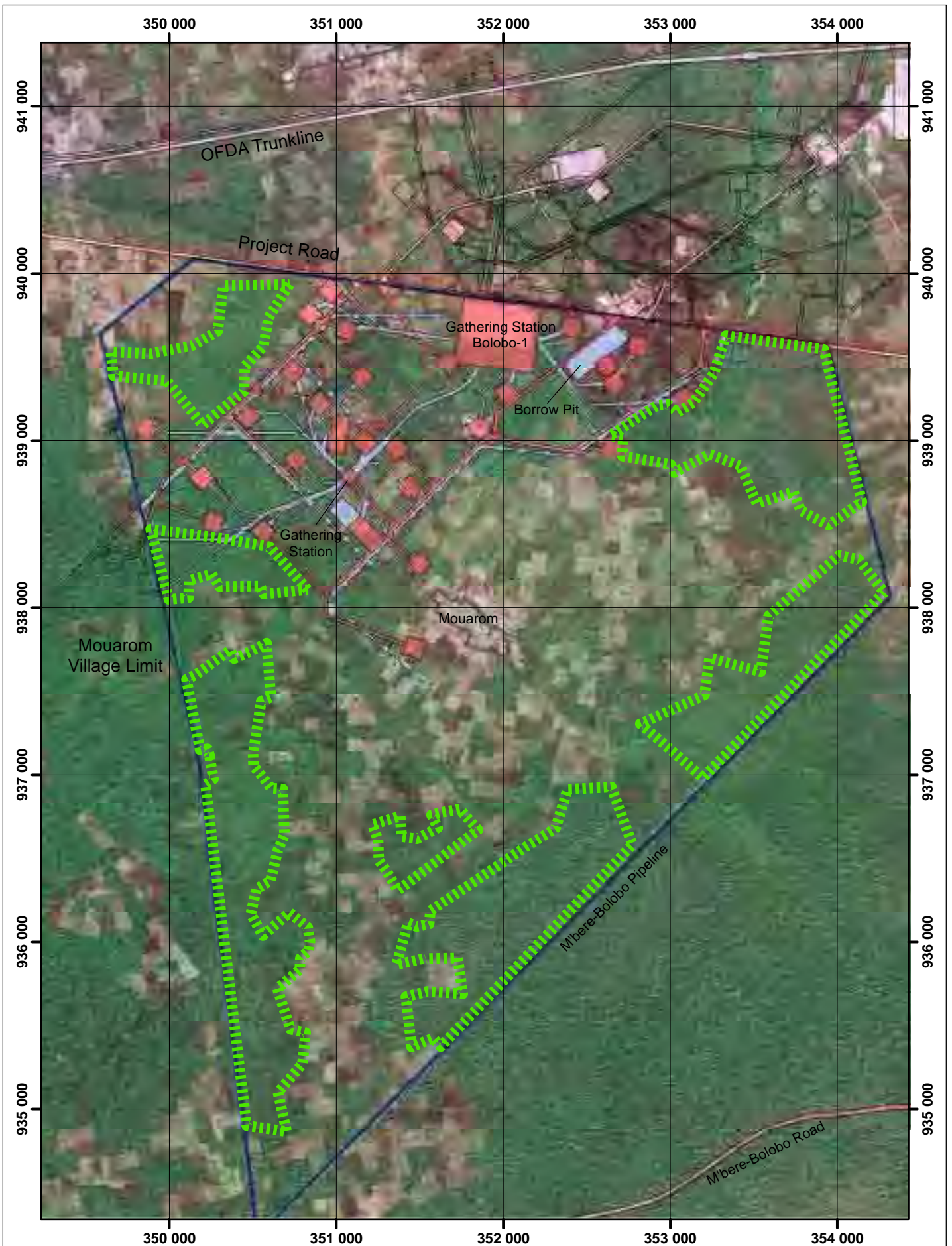
- Permanently acquired land
- Temporarily acquired land
- Bushland acquired



Ngalaba Village Land Use

Coordinate System
 Horizontal Datum
 WGS 72 Kome
 Doba Projection
 Transverse Mercator
 Central Meridian : 18 E
 False Easting : 500 000

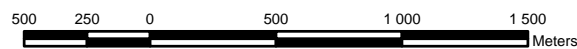
Satellite Image Source: IKONOS, Dec. 2003



Legend

- Permanently acquired land
- Temporarily acquired land

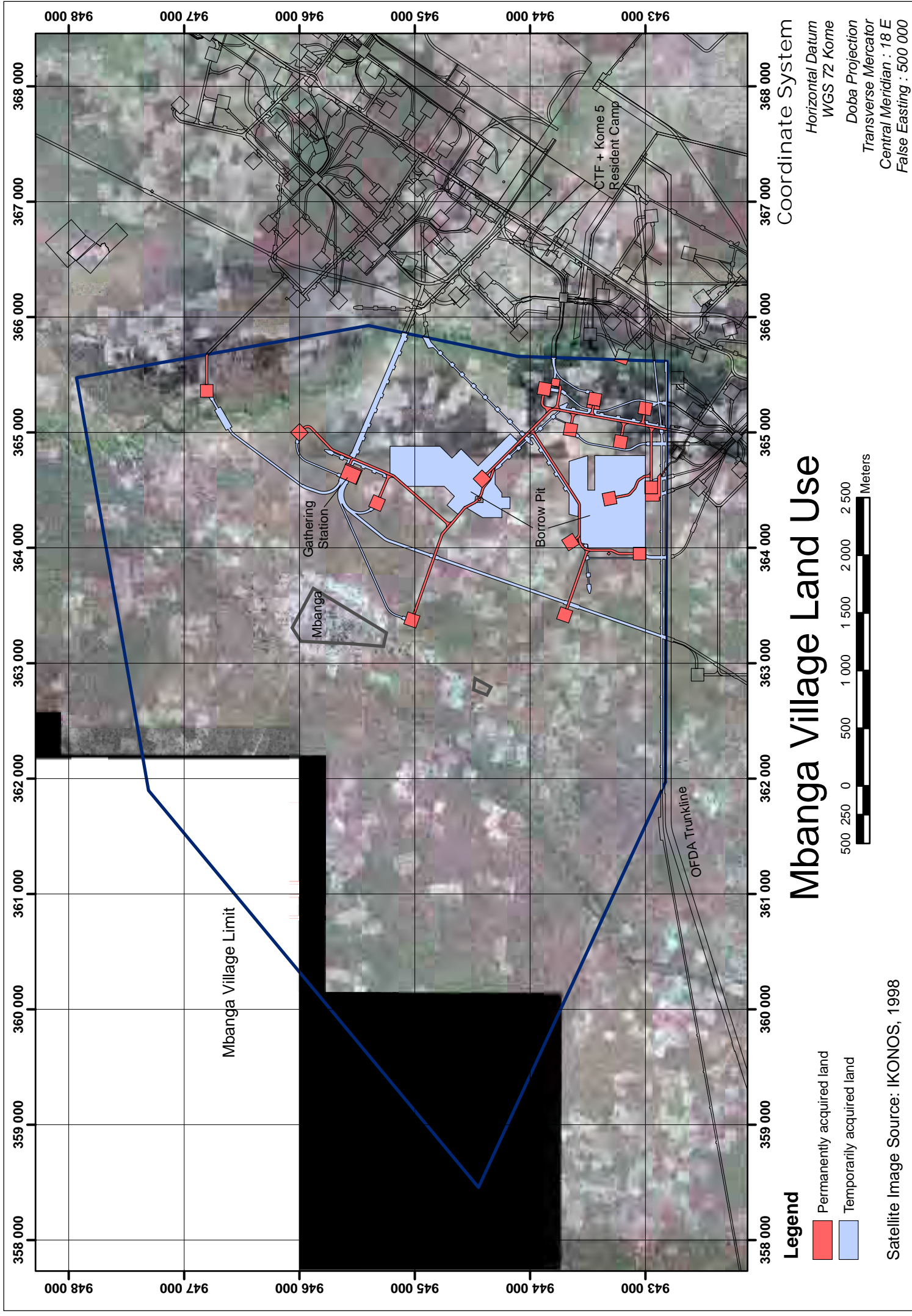
Mouarom Village Land Use



Coordinate System

*Horizontal Datum
WGS 72 Kome
Doba Projection
Transverse Mercator
Central Meridian : 18 E
False Easting : 500 000*

Satellite Image Source: IKONOS, Dec. 2003



358 000 359 000 360 000 361 000 362 000 363 000 364 000 365 000 366 000 367 000 368 000

948 000 947 000 946 000 945 000 944 000 943 000

Coordinate System
 Horizontal Datum
 WGS 72 Kome
 Doba Projection
 Transverse Mercator
 Central Meridian : 18 E
 False Easting : 500 000

Mbanga Village Land Use

- Legend**
- Permanently acquired land
 - Temporarily acquired land



Satellite Image Source: IKONOS, 1998

Mbanga Village Limit

Mbanga

Gathering Station

Borrow Pit

CTF + Kome 5
Resident Camp

OFDA Trunkline