Esso Exploration & Production Chad Inc.

Village Impact Quarterly Report

Land Use Mitigation Action Plan

4th Quarter 2010

Prepared by the EMP Department
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List of Acronyms & terms used in this report

HH	Household.
CdM	Household Chief (Chef de Ménage)
HHM	Household Member. Include the CdM and all it dependents, regardless their age.
LT	Land Take.
Eligible	Generic term to designate an individual that may be eligible to the EMP Resettlement Program.
Potential Eligible	Individual that may be eligible to the EMP Resettlement Program. Analysis must be completed.
True Eligible	Individual eligible to the EMP Resettlement Program.
EMP-IS	EMP Information System: manages Land Acquisition, Socioeconomic and Land return data.
Land Survey	Formally called Cadastre survey. Refer to the measurement of every field, fallow & house of households.
Project Footprint	Total area occupied by the project at a given time (e.g. Compensated but not returned land)

Executive Summary

The Quarterly Village Report provides information to Esso Exploration & Production Chad Inc (EEPCI) management and the International Finance Corporation (IFC) on the progress made in calculating, analyzing and reducing the EEPCI Oil Project (Project) land use impact on villages and households.

Tracking and analysis of land use impact is the purpose of Village Impact Classification and the "Watch List". The classification follows the movement of a village from one category to another in order to judge the effectiveness of Land Use Mitigation Action Plan (LUMAP) or to signal when ongoing project land take requires the Project to review the situation and adjust plans as per the Environmental Management Plan (EMP) principles.

The village impact classification (high, approaching high, medium and low) is also used to:

- Improve the targeting of mitigation activities by defining an OFDA village's specific problems.
- Determined eligibility (actual versus estimated land acquisition) for Supplemental Community Compensation.

The Fourth Quarter 2010 (4Q10) Village Impact summary:

- 4 high impact villages
- 5 approaching high villages
- 7 moderate impact villages
- 10 low impact villages

EEPCI EMP Socioeconomics maintains a "Watch List" (approaching high) that tracks village land take and return in villages as the in fill drilling continues. Current watch list villages are:

- Maikeri
- Dildo
- Bela
- Ngalaba
- Missimadji

The primary accomplishments of 4Q10 are:

- Completed the Generate New Farmland From Riverine Lowlands rice pilot test. This included a formal close out assessment performed by Africa Rice Center (report expected in late 1Q11).
- Completed the provision of the Rice Seed Bed reinforcement project to group of female Improved Agriculture Training graduates from Madjo village (COFEMAB) at the K 744 well pad site – reclaimed and upgraded to serve as a rice seed bed. Reinforcement included provision of two water wells, one motor pump, training in rice seed cultivation, training in market garden vegetable seed cultivation, and managing a small seed business.
- Pilot tested and commissioned a set of procedures for Socioeconomics investigators to identify land users for resettlement impact assessment during the land acquisition process (Synergy Team).
- Conducted resettlement impact assessments for all relevant 2010 land acquisition compensees (LUMAP Village Land Use Survey teams transitioned to IMPACT Assessment Teams).

- Initiated the Five Days of Reflection consultation process with the 2011 resettlement eligible persons to help them select their resettlement option.

The work plan for First Quarter 2011(1Q11) includes:

- Continue with the Synergy Teams and Impact Teams to identify land users and conduct resettlement impact assessments.
- Complete the Five Days of Reflection consultation process with the 2011 resettlement eligible persons.
- Initiate Basic Business Skills course for those 2011 resettlement eligible persons selecting a training option in late January.
- Support the train the trainer continuing education programs for the NGO providing the Basic Business Skill training in February and March.
- Initiate Improved Agriculture Training Rainy Season Training for 2011 promotion in late March.
- Initiate the Participatory Rural Appraisal process with the five (5) villages of the Maikeri Oil Field for first time Community Compensation and Supplemental Community Compensation at Maikeri village in February.
- Pilot test and develop work practices and work plan regarding new procedure to survey returned land use in January and February.
- Prepare Site Specific Plans for Maikeri and Poutouguem villages.
- Initiate second round of livelihood restoration monitoring of the verified 267 graduates of the resettlement training programs (2001 through 2008).
- Initiate first round livelihood restoration monitoring with the 2009 graduates of Improved Agriculture Training.

1.1. Summary

The Village classification is calculated using a land use (area of temporary and permanent take) and two socioeconomic criteria (less than 2/3 Corde (c) per HH Member (HHM) before project and currently). Each criterion classifies a village into one of four categories: High, Approaching High, Moderate and Low. **The final categorization** of a village is done **according to its worst placement by any of the criteria**. It should be noted that the socio-economic criterion made possible by investigation using the Village Land Survey methodology provides a more direct measure of impact. It shows land holdings per capita and the number of currently non-viable individuals among the total population of the village. For villages where the survey is not complete or is not being implemented, we have had to rely on declared data collected during land compensation in past years; therefore the criterion becomes individuals made non-viable by Project compared to the population of the village.

As per the LUMAP, a Site Specific Plan was developed for each of the most impacted villages (10 villages). After the site specific plan is completed, except for implementing resettlement options, which is a two year process, the modification in impact is shown on the table below, which represents the **current Quarter's situation**. Any residual impact in villages where Site Specific action other than resettlement is ongoing is reflected by not altering villages in the midst of SSP. Given the actual low socioeconomic impacts ascertained through the village land use surveys, going forward, the need for Site Specific Plans for other villages will be made on a case by case basis.

Table 1 : Village Classification Quarter Just Ended

Categories	Village
High	• Poutouguem • Dokaïdilti • Danmadja • Bero
Approaching High (Watch List)	• Maïkéri • Ngalaba • Dildo • Bela • Missimadji
Moderate	• Madjo • Mbanga • Madana Nadpeur • Mainani • Benguirakol • Ndoheuri • Begada
Low	• Bendo • Kaïrati • Kome Ndolobe • Meurmeouel • Miandoum • Morkete • Mouarom • Naïkam • Maïmbaye • Koutou Nya

What has changed?

- Missimadji continues to move between Moderate and Approaching High classification. Conservatively listed as Approaching High in the current report. Land take in this village is primarily borrow pit related. Borrow pit lands are high in laterite content near the surface and generally not farmed. The land take also included well pads for two high pressure water injection wells used to maintain formation pressure in the Kome oil field.

Table 2: Site Specific Plan Development

Village	Site Specific Plan Developed?	Site Specific Plan Implemented?	Residual Impact

Dokaidilti	Yes	In Progress	TBD
Dildo	Yes	Yes	Low
Ngalaba	Yes	Yes	Low
Bégada	Yes	Yes	Low
Béla	Yes	Yes	Low
Danmadja	Yes	Yes	Low
Mbanga	Yes	Yes	Low
Mouarom	Yes	Yes	Low
Madjo	Yes	Yes	Low
Bero 1-4	Yes	In Progress	TBD
Poutouguem	In Progress		
Maïkéri	In Progress		

TBD: To Be Determined

- Residual Impact aligned with Village Land Use Survey impact assessment (see Table 5b)
- Dokaidilti and Bero 3 will choose their Supplemental Community Compensation project in 2011. Once these projects are completed the table will be updated. The expected residual impact for these villages will be Moderate for Dokaidilti and Low for the Bero villages.
- Only 22 HH remain on the Physical Resettlement list (land replacement). 12 of the 22 reside in the above villages. The Physical Resettlement benefits are available for them to select. As stated in other reports, the villages have plenty of land available. The key will be these people working within the traditional village land allocation system and their extended families to acquire land access. The Physical Resettlement benefits are available to help them prepare their new lands for cultivation, assist them in accessing and using the land, and if need be relocating their household to another village.
- Site Specific Plans for Maikeri and Poutouguem are in preparation.
- Maikeri will receive Supplemental Community Compensation and Poutouguem will receive first time Community Compensation in 1Q11. The community compensation programs begin with the Participatory Rural Appraisal process. The villages will then have up to 2 years to decide on their project or combination of projects. Both villages will have 8 combinations of projects to consider during the MARP.

1.2. Land Use Criteria

This section covers the project land use part of the classification. The criterion is the **% of Permanent + Temporary Not Returned** area of the village. The thresholds for the different categories are shown in annex 4.1. Villages are sorted by % according to this criterion, from the highest to the lowest value. Note that some villages can pass from High to Moderate or Moderate to Low as temporary land is returned, or move up as land is acquired.

Table 3: Land Use by Village in OFDA.

Village	Total Village Area (ha)	Permanent + Temporary Not Returned		
		Past Quarter (% of Village Area)	Current Quarter (% of Village Area)	Delta (Hectares)
Dokaïdilti	812.4	**15.7**	**15.9**	**1.2**
Béro	4239.7	**14.3**	**14.2**	**0.8**
Bégada	2478.6	**14.0**	**13.9**	**-1.6**
Ngalaba	1879.4	**13.9**	**13.9**	**0.6**
Danmadja	449.4	**13.1**	**13.3**	**1.6**
Béla	2315.1	**9.4**	**9.6**	**9.7**
Mouarom	1585.4	**9.5**	**9.6**	**2**
Dildo	1961.3	**8.9**	**9.1**	**5.5**
Maïkéri	1208.1	**8.8**	**9**	**4.3**
Poutouguem	544.2	**7.8**	**8.8**	**6.5**
Madjo	1921.3	**6.9**	**7.3**	**8**
Missimadji	840.6	**6.7**	**7.2**	**4.3**
Mbanga	3050.4	**6.5**	**6.8**	**6.7**
Madanan N.	323.1	**5.2**	**5.2**	**0**
Benguirakol	1053.0	**4.9**	**4.9**	**0**
Maïnani	1696.2	**4.9**	**4.8**	**-1.3**
Ndoheuri	830.2	**3.0**	**3.7**	**5.4**
Kaïrati	179.9	**2.2**	**2.2**	**0**
Merméouel	1121.2	**1.9**	**1.9**	**-0.2**
Miandoum	4133	**1.9**	**1.9**	**-2**
Bendo	809.0	**1.7**	**1.8**	**1.2**
Naïkam	1773	**1.6**	**1.2**	**-6.4**
Komé	2569.3	**1.2**	**1.1**	**-2.2**
Morkété	524.2	**1.2**	**0.7**	**-2.9**

- Total balance of + 41 ha (acquired 41 ha more land than returned in 4Q10).
- As the rainy season ends, the well pad reclamation work will start again. At present EEPCI Construction is making excellent progress on the backlog of well pad reclamations generated during the rainy season.

Villages in the Kome oilfield field continue to have the majority land take due to in fill drilling. The calculation of additional land acquired is not straightforward: new facilities are now overlapping old facilities. Simple addition or subtraction would compute the same area twice to determine how much land has been acquired or returned (delta column) compared to the previous quarter.

The following charts detail land use in the High and "Approaching High" villages listed in Table 1. The classification in Table 1 is made according to the least favorable showing in either the "land use"

category or in the social impact on "agricultural viability". Some villages whose land use seems acceptable according to the charts below may have a number of HH which are not agriculturally viable.

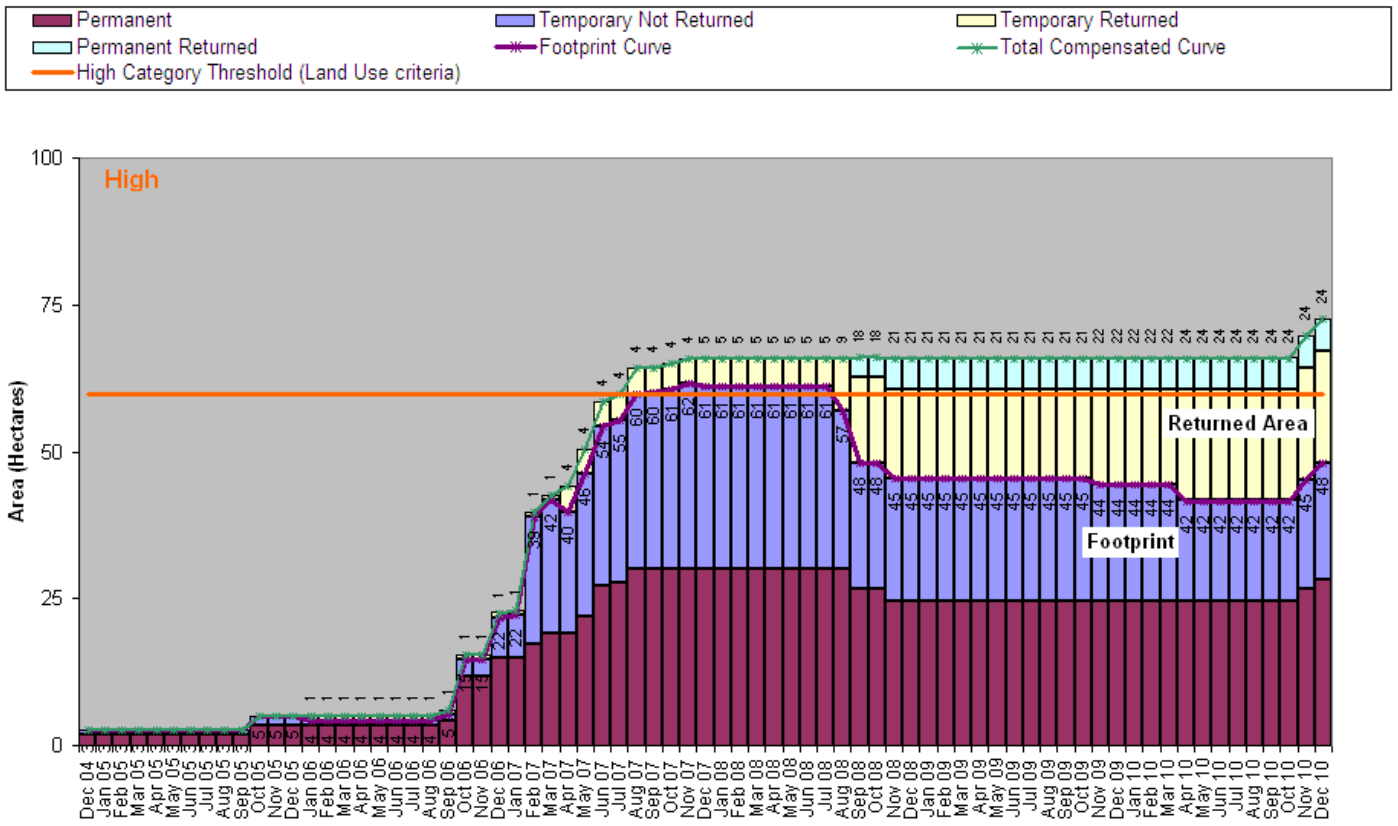


Chart 1: Land Acquired and Returned in Poutouguem

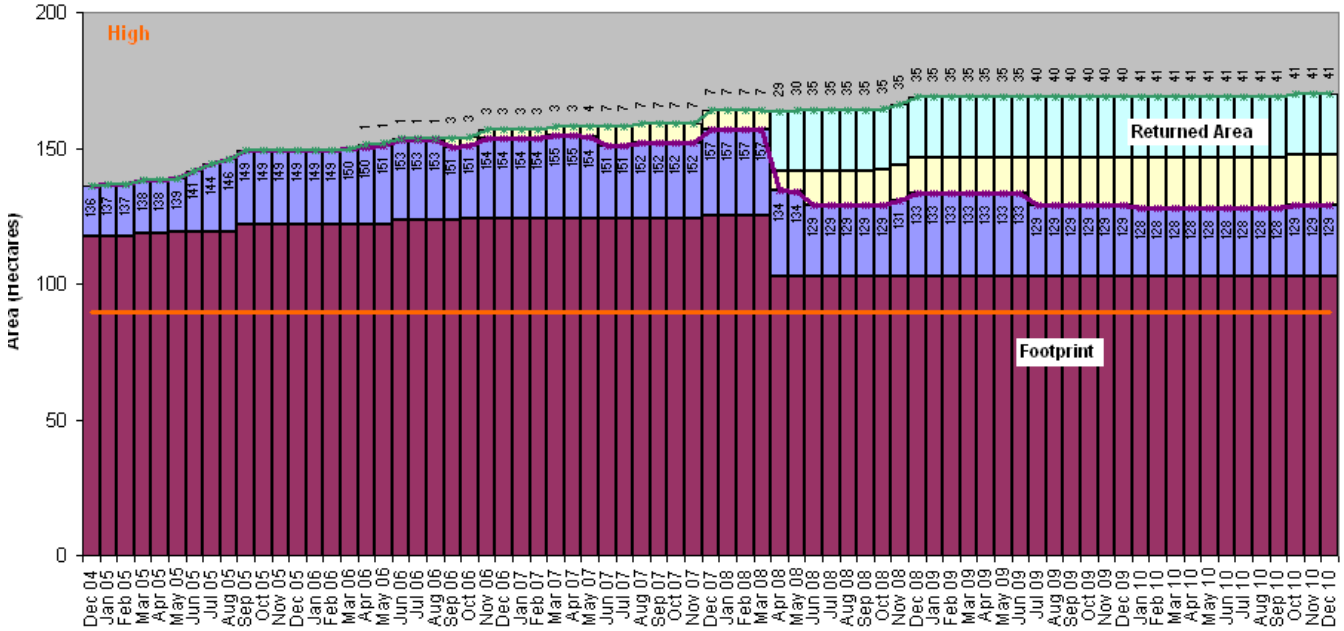


Chart 2: Land Acquired and Returned in Dokaïdilti

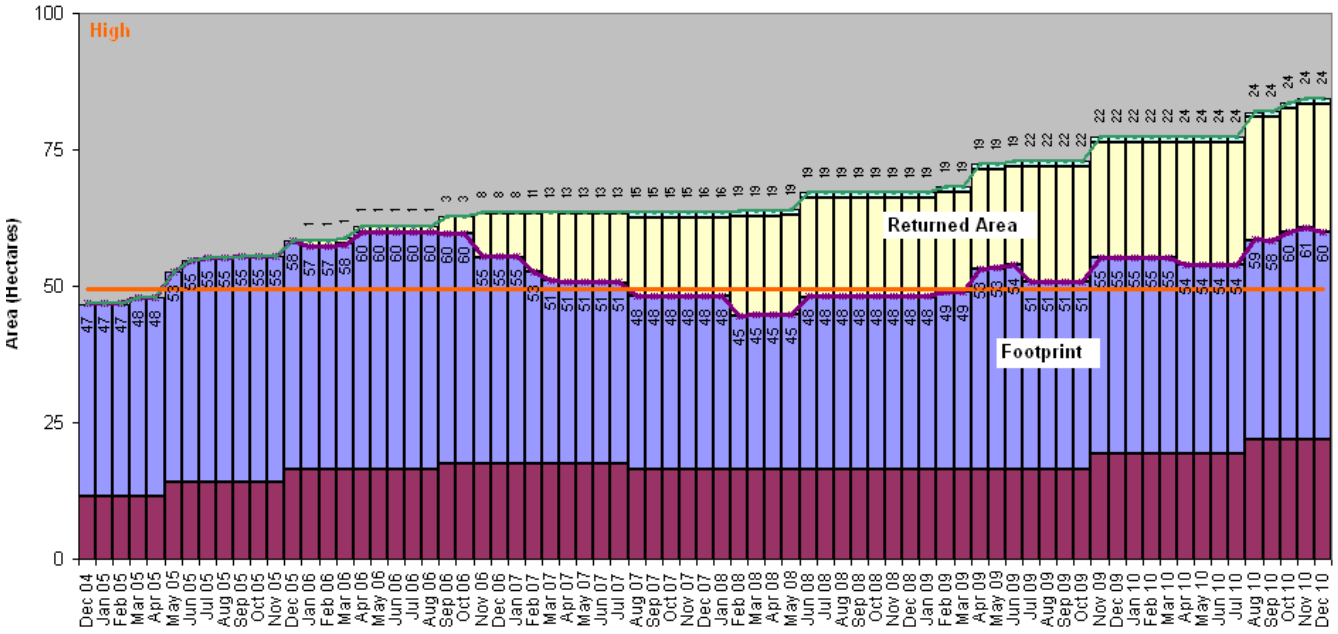


Chart 3: Land Acquired and Returned in Danmadja

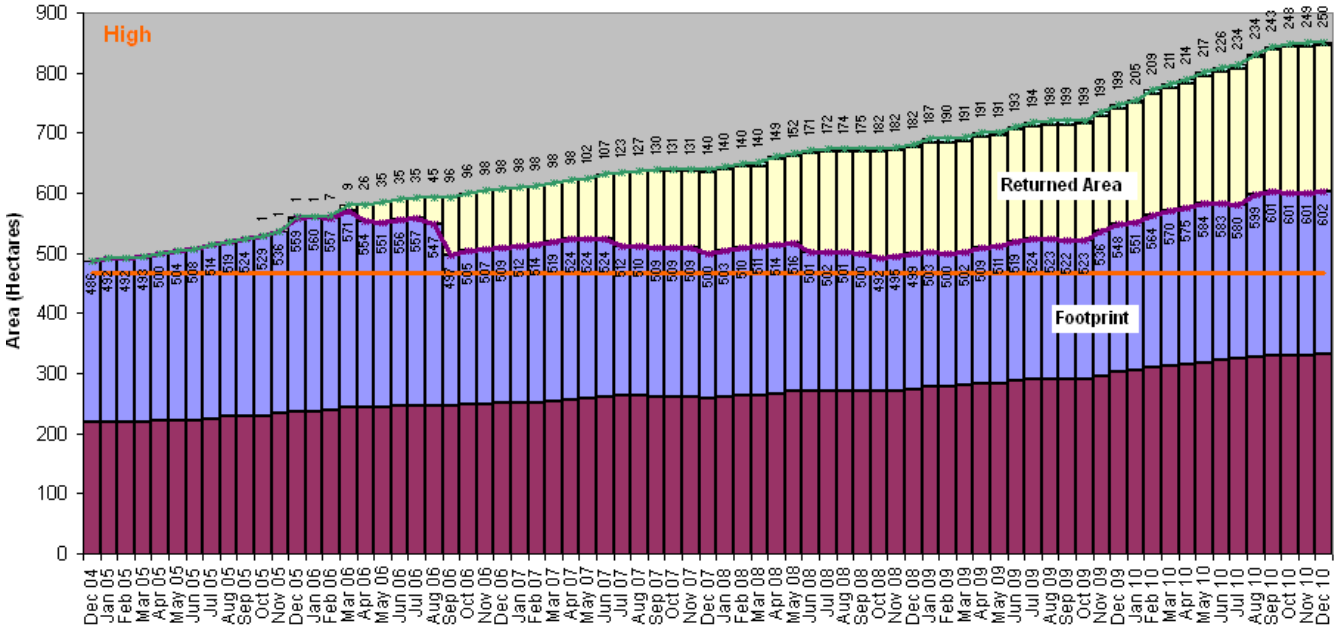


Chart 4: Land Acquired and Returned in Béro

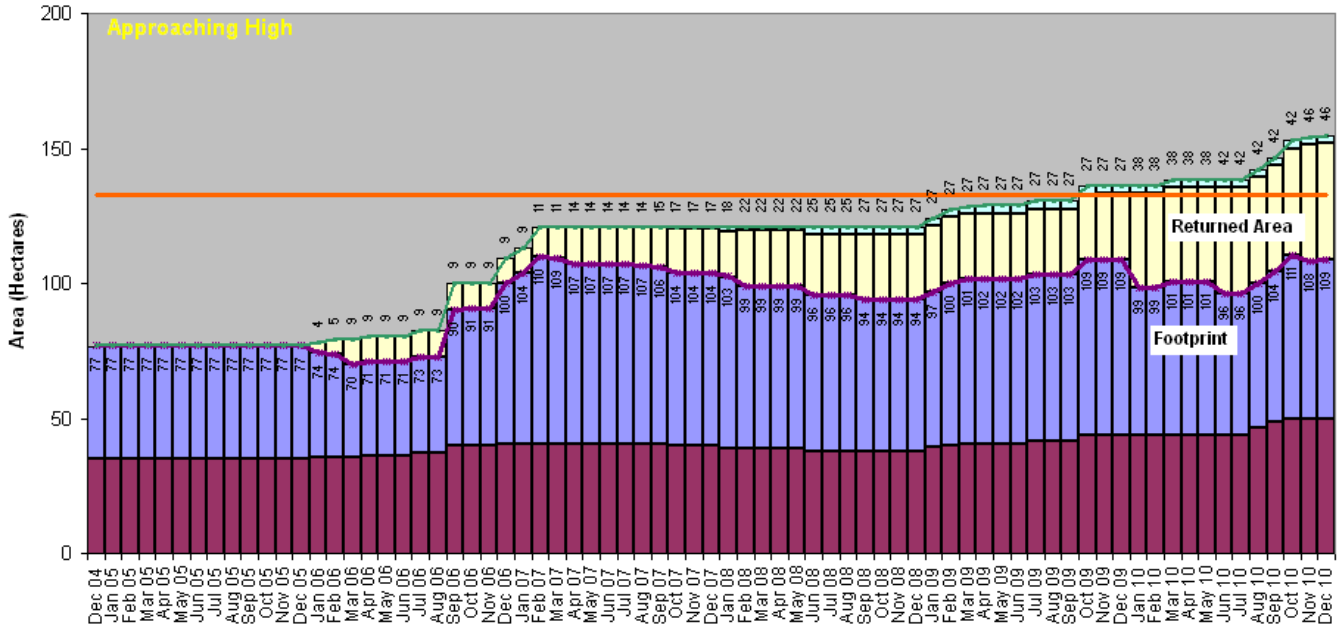


Chart 5: Land Acquired and Returned in Maïkeri

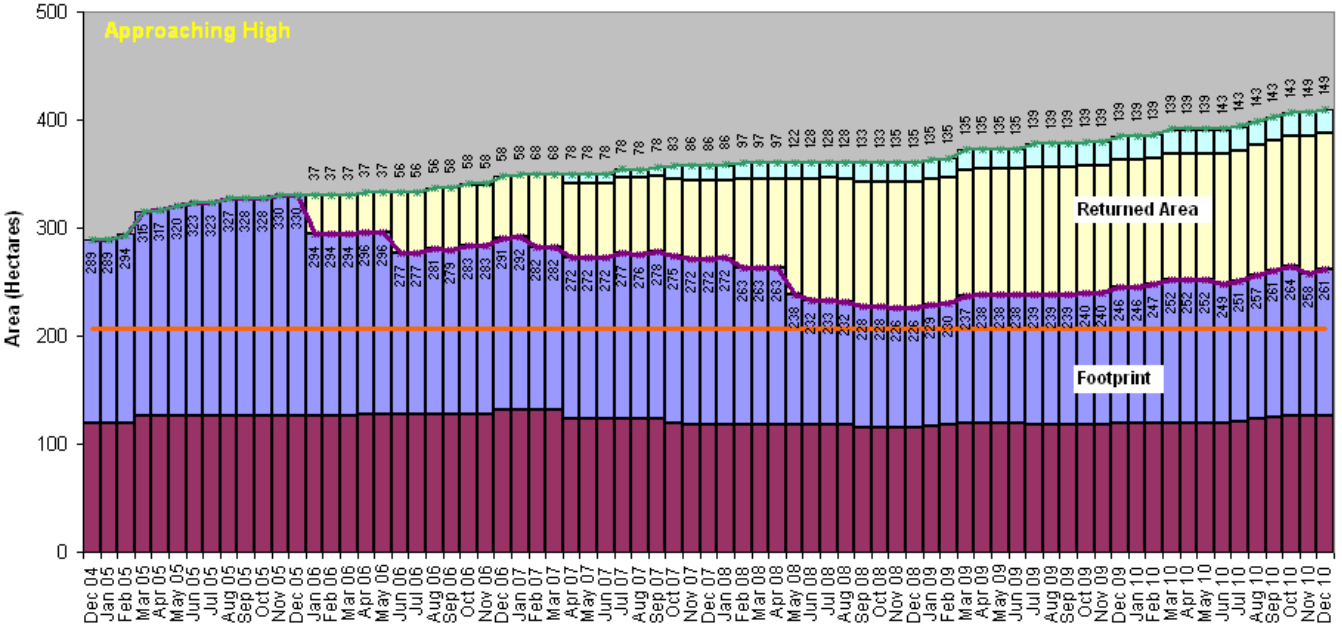


Chart 6: Land Acquired and Returned in Ngalaba

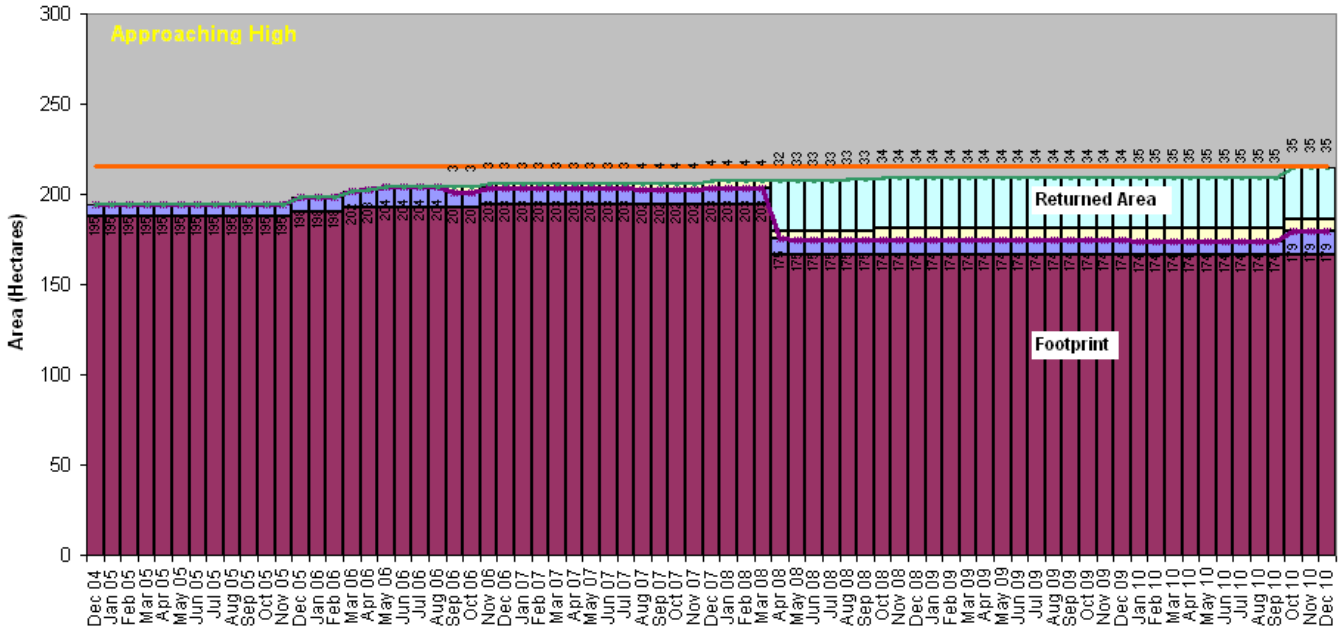


Chart 7: Land Acquired and Returned in Dildo

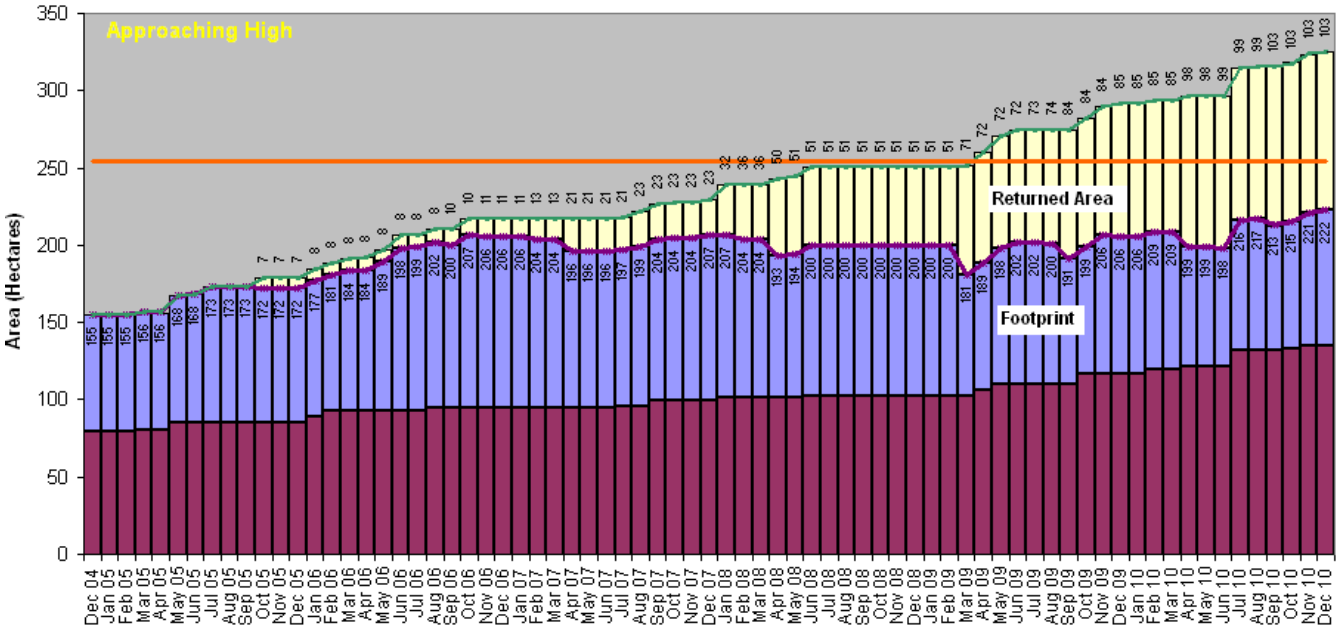


Chart 8: Land Acquired and Returned in Bela

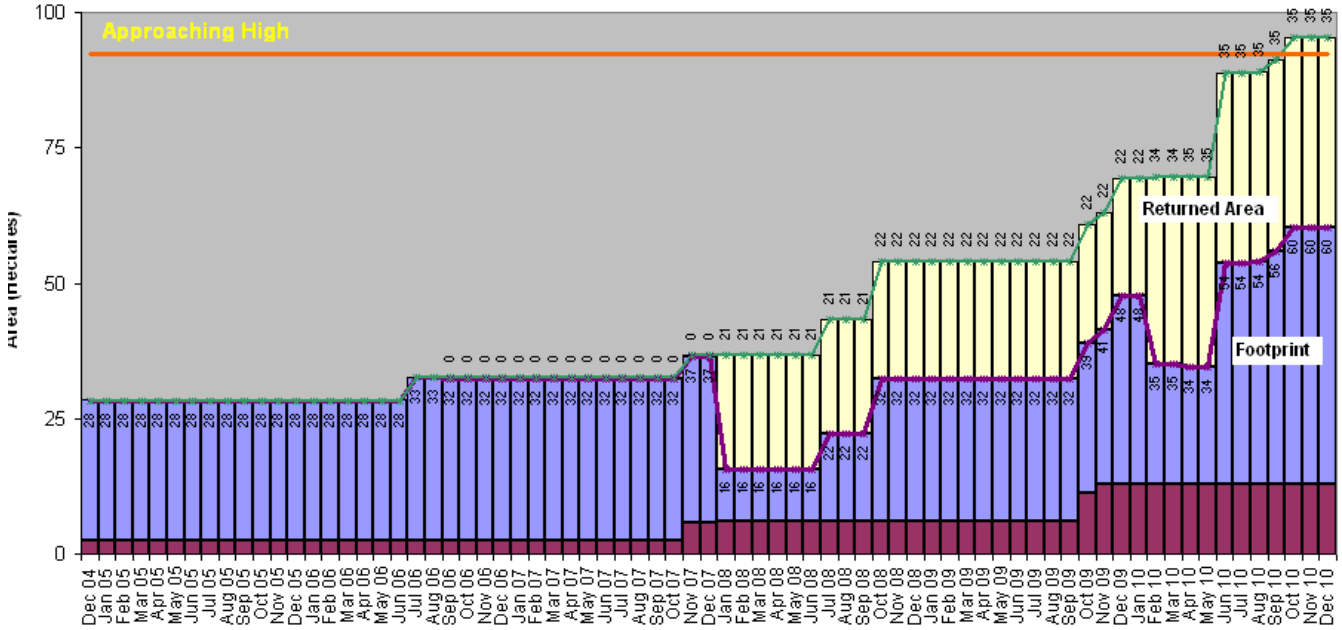


Chart 9: Land Acquired and Returned in Missimadji

1.3 Socioeconomic Criteria

Two socioeconomic criteria were originally used to calculate the Project's social impact indicated in the next table (Table 4). The data are derived from the compensation database (See the Annex 4 for more details):

1. Individuals already non-viable before they surrendered land to the project, and
2. Individuals made non-viable by project land-take.

Please note that the villages in this table are those where no village wide land survey has been completed or is not planned:

Table 4: Percentage of individual made non-viable by project land take according to compensation database

Total non-viable individuals today	Value Now	Since Last Quarter	Made non-viable by project	Value Now	Since Last Quarter
Missimadji	42%		Missimadji	15 %	↑ 1 %
Madanan Nadpeur	16 %		Madanan Nadpeur	4 %	
Maïmbaye	13 %	↓ 1 %	NDoheuri	3 %	
Bendo	13 %		Maïmbaye	2 %	
Morkété	8 %		Morkété	2 %	
NDoheuri	8 %		Bendo	2 %	
Miandoum	5 %		Merméouel	2 %	↑ 1 %
Merméouel	5 %		Kaïrati	1 %	
Kaïrati	3 %	↑ 1 %	Miandoum	1 %	

As highlighted by the table, villages with a slight percentage of increase are the ones impacted by the in fill drilling operations and by drilling new high pressure water injection wells, which are placed on the periphery of a fault block.

The number of non-viable households below 2/3 c. of land per HHM is much more reliable in villages with complete Village Survey data. The resettlement and livelihood monitoring data were extensively reviewed in 4Q10 and January/February 2011 resulting in a very clear picture of the actual resettlement training program status. Using this data to calculate the number of people in non-viable households gives the following results:

Table 5: Non-Viable Project Affected Individuals
Out of Entire Resident Population
Reclassification with Measured criterion from Village Survey.

Village	Measured Non-viable Project-affected Individuals (%)	Declared Non-viable Project-affected Individuals (%)
Bela	4.9	16.1
Bégada	4.2	21.8
Béro	11.1	20.2
Danmadjia	15.4	35.0
Dildo	4.4	5.4
Dokaidilti	15.8	22.2
Madjo	9.5	21.6
Maïkéri	11.4	11.8
Maïnani	1.2	12.4
Mbanga	4.3	18.0
Mouarom	1.3	10.9
Naïkam	0.0	4.4
Ngalaba	9.1	12.5
Poutouguem	20.3	Not Available
Kome	2.3	1.2

Only compensated vulnerable individuals who are still without resettlement benefits training are included in the numerator while compensated AND non-compensated individuals are included in the Entire Resident Population. The table also excludes individuals who have received a resettlement benefit and are, in principle, no longer non-viable. This table is updated to include the 2010 promotion that will graduate from Improved Agriculture training in 1H11 and the 2011 promotion that start their training in 1Q11:

Table 5.b: Village Level Impact of Non-Viable Project Affected Individuals Without Resettlement Option

Village	Measured Non-viable Project-affected Individuals*	Measured Non-viable Project-affected Individuals (including 2011 Promotion)
Poutouguem	20.3	3.3
Dokaidilti	9.8	9.8
Béro	8.2	0.8
Maïkéri	6.4	5
Madjo-Bero	5.7	1.9
Bégada	2.6	1.4
Kome	2.3	0

Danmadja	1.6	1.6
Maïnani	1.2	0.8
Mouarom	1.1	0.5
Mbanga	1	0
Ngalaba	0.7	0.4
Bela	0.4	0.4
Dildo	0.3	0.3
Naïkam	0	0

2. Acquired Land Monitoring

The following is a list of all compensated facilities (called by EMP "Compensation Subjects") during the quarter. For each subject a Land Take occurred.

Table 6: Summary of all compensated Subjects in Quarter.

Village	Land Acquired		Nbr Individual
	Permanent	Temporary	
Bégada	3.5	6.1	59
Béla	2.9	6.8	46
Bemboura			15
Bendo		1.9	22
Béro	3.3	4.7	42
Danmadja		2.3	21
Dildo		5.5	15
Dokaïdilti		1.2	11
Kaïrati			34
Komé			5
Madjo		8	53
Maïkéri	1	6.9	45
Maïnani	0.7	0.7	2
Mbanga	5.7	3.9	71
Mékapti I			12
Merméouel			3
Miandoum		1	9
Missimadji		4.3	
Mouarom	0.7	1.9	1
NDoheuri	1.1	4.7	
Ngalaba	1.1	5.8	81
Poutouguem	3.7	2.9	43
Total	**23.7**	**68.6**	**616***

*26 compensated individuals in Atan, Bébédjia, Doba, Dogoï, Madjo-Doba, Manboye and Moundou

Note that the "Nbr Individual" column refers to the farmer's village of residence, which is not necessarily the same village as the village area where the compensated land is located. An individual from one village can be compensated for land he/she owns/uses in another village. Note also that the "Total individuals compensated" line at the bottom of the chart does not match the actual sum of the number of individuals listed in "Nbr Individual" column because some individuals have been compensated more than once and have declared different villages of residency.

3. Socioeconomic monitoring

3.1. Village Land Survey

Table 7: Total number of HH Survey by village

Village	Impact Survey completed		Cadastral survey completed	Total HH Survey completed
	4th Quarter	Total		
Bégada	**47**	**98**	**264**	**409**
Béla	**27**	**29**	**145**	**201**
Bero	**72**	**204**	**600**	**876**
Danmadja	**10**	**22**	**102**	**134**
Dokaïdilti	**9**	**9**	**85**	**103**
Dildo	**21**	**21**	**275**	**317**
Mbanga	**17**	**68**	**270**	**355**
Ngalaba	**42**	**69**	**251**	**362**
Mouaroum	**1**	**32**	**85**	**118**
Madjo	**35**	**37**	**131**	**203**
Komé	**-**	**5**	**193**	**198**
Maikeri	**-**	**-**	**142**	**142**
Maïnani	**1**	**12**	**112**	**125**
Naïkam	**-**	**-**	**54**	**54**
Poutouguem	**-**	**-**	**42**	**42**
Total	**282**	**606**	**2751**	**3639**

Completed Villages

This section provides some analysis of the Village Land Use Survey Data for completed villages. The results have been put in a table to allow comparisons. Because more villages are being surveyed and additional information on land users from other villages is acquired, the tables below may also undergo changes in numbers from one quarter to another.

Table 8: Available Land.

	Dokaidilti	Dildo	Ngalaba	Danmadjia	Mouarom	Begada	Bela	Mbanga	Madjo	Bero
Village Area in Hectares	686	1887	2118	480	1352	3321	2200	3068	2148	5716
Settlement area in Hectares (% village)	24 (3%)	46 (2%)	97 (4.5%)	64 (13.5%)	23 (1.5%)	56 (1.5%)	35 (1.5%)	62 (2%)	27 (1%)	158 (3%)
Project Perm. Land Take + Temp. No Returned in Hectares (% village)	75 (11%)	188 (10%)	279 (13%)	64 (13.5%)	148 (11%)	313 (9.5%)	192 (8.5%)	219 (7%)	160 (7.5%)	669 (11.5%)
Available Land inside the village limit in Hectares (% village)	587 (86%)	1653 (88%)	1742 (82.5%)	352 (73%)	1181 (87.5%)	2952 (89%)	1973 (90%)	2787 (91%)	1961 (91.5%) incl 483 of Flooded Area	4889 (85.5%)
Available Land Density inside the village limit (Hectares/Person)	1.10	1.24	1.33	0.62	2.63	2.39	2.36	1.86	2.47 1.85 excl Flooded Area	1.31
Cultivated (Field) or Owned (Fallow) outside the village in Hectares (% of total land of the residents)	43 (8.5%)	133 (8.5%)	79 (5%)	123 (25.5%)	220 (25.5%)	127* (4.5%)*	88 (5.5%)	105 (4.5%)	101 (6%)	702 (13.5%)
Total Cultivated (Field) or Owned (Fallow) of the residents in Hectares	500	1589	1649	485	857	2785	1670	2311	1691	5133
Available Land Density inside and outside the village limit (Hectares/Person)	0.94	1.19	1.26	0.86	1.91	2.25	2.00	1.54	2.13 1.51 excl. Flooded Area	1.38

	Maikeri	Mainani	Naikam	Poutouguem	Kome
Village Area in Hectares	1250	1386	1445	562	2441
Settlement area in Hectares (% village)	46 (4%)	68 (5%)	23 (1.5%)	28 (5%)	81 (3.5%)
Project Perm. Land Take + Temp. No Returned in Hectares (% village)	111 (9%)	84 (6%)	20 (1.5%)	51 (9%)	26 (1%)
Available Land inside the village limit in Hectares (% village)	1093 (87%)	1234 (89%)	1402 (97%)	483 (86%)	2334 (95.5%)
Available Land Density inside the village limit (Hectares/Person)	1.52	2.05	5.10	1.58	2.48
Cultivated (Field) or Owned (Fallow) outside the village in Hectares (% of total land of the residents)	28 (3%)	455 (27.5%)	375 (33.5%)	7 (3%)	761 (20%)
Total Cultivated (Field) or Owned (Fallow) of the residents in Hectares	1002	1641	1115	238	3770
Available Land Density inside and outside the village limit (Hectares/Person)	1.39	2.73	4.05	0.78	4.01

Table 9: Use of Available Land.

	Dokaidilti	Dildo	Ngalaba	Danmadja	Mouarom	Begada	Bela	Mbanga	Madjo	Bero
Cultivated (Field) or Owned (Fallow) by non-residents inside the village limit in Hectares (% of available land inside village limit)	137 (23.5%)	140 (8.5%)	143 (8%)	16 (4.5%)	527 (44.5%)	280 (9.5%)	373 (19 %)	604 (21.5%)	552 (28%)	392 (8%)
Cultivated Field Farmed by Resident inside the village limit in hectares (% of available land)	309 (52.5%)	664 (40%)	1032 (59%)	240 (68%)	316 (27%)	1171 (39.5%)	750 (38%)	1121 (40%)	473 (24%)	2001 (41%)
Fallow Owned by Resident inside the village limit in hectares (% of available land)	148 (25%)	791 (48%)	539* (31%)	122 (34.5%)	359 (30.5%)	1487 (50.5%)	832 (42%)	1085 (39%)	1116 (57%)	2429 (49.5%)
Ratio Fallow/Field	0.48	1.19	0.52	0.51	1.14	1.27	1.11	0.97	2.36	1.21

	Maikeri	Mainani	Naikam	Poutouguem	Kome
Cultivated (Field) or Owned (Fallow) by non-residents inside the village limit in Hectares (% of available land inside village limit)	188 (17%)	143 (11.5%)	765 (54.5%)	249 (51.5%)	372 (16%)
Cultivated Field Farmed by Resident inside the village limit in hectares (% of available land)	634 (58%)	526 (42.5%)	94 (6.5%)	152 (31.5%)	1130 (48.5%)
Fallow Owned by Resident inside the village limit in hectares (% of available land)	340 (31%)	661 (53.5%)	647 (46%)	79 (16.5%)	1879 (80.5%)
Ratio Fallow/Field	0.54	1.26	6.88	0.52	1.66

* 63 Ha of bush included in fallow

Table 10: Social summary for Completed Village Land Survey

	Dokaidilti	Dildo	Ngalaba	Danmadja	Mouarom	Begada	Bela	Mbanga	Madjo	Bero
Nbr of Residents	531	1333	1309	565	449	1237	836	1496	794	3721
Men	243	651	667	283	216	582	432	717	384	1851
Women	288	682	642	282	233	655	404	779	410	1870
Avg Age in Years	21.3	22.1	21.6	20.6	21.2	20.8	20.1	20.3	19.3	19.1
Nbr HH	85	272	248	101	85	255	145	269	129	592
Avg. HH size	6.3	4.9	5.3	5.7	5.3	4.9	5.8	5.6	6.2	6.3
Avg. cordes Land per HH inside and outside village	11.3	11.3	12.6	9.5	19.6	21.2	22.8	16.7	16.1	14.8
Avg. Resettlement Factor (Based on all land inside and outside village)	1.80 Corde/HHM	2.31 cordes/HHM	2.38 cordes/HHM	1.68 Corde/HHM	3.69 cordes/HHM	4.36 cordes/HHM	3.90 cordes/HHM	2.96 cordes/HHM	2.61 cordes/HHM	2.34 cordes/HHM
% Area cultivated (Field) or owned (Fallow) by women out of total area "owned" by village residents inside and outside village	15%	18%	32%	22%	14%	30%	11%	22%	21 %	19%

	Maikeri	Mainani	Naikam	Poutouguem	Kome
Nbr of Residents	720	602	275	306	940
Men	382	323	138	155	476
Women	338	279	137	151	464
Avg Age in Years	20.8	20.1	20	19.7	20.5
Nbr HH	140	109	54	61	192
Avg. HH size	5.2	5.6	5.1	5.1	5.0
Avg. cordes Land per HH inside and outside village	11.9	23.1	39.5	7.4	26.8
Avg. Resettlement Factor (Based on all land inside and outside village)	2.3 Corde/HHM	4.16 cordes/HHM	7.76 cordes/HHM	1.46 Corde/HHM	5.35 Corde/HHM
% Area cultivated (Field) or owned (Fallow) by women out of total area "owned" by village residents inside and outside village	25%	8%	13%	19%	16%

The following tables present Resettlement Factor distribution of the compensated households surveyed in all completed and analyzed villages.

Table 11: Land Distribution for compensated households

Resettlement Factor Range	Bégada				Mbanga			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	6	35	3.2	3.5	6	36	2.8	2.7
0.500 - 0.667	3	17	1.6	1.7	5	29	2.2	2.2
0.668 - 0.999	9	73	4.9	7.3	13	120	6.0	9.1
1.000 - 1.499	42	252	22.6	25.2	65	487	29.8	36.9
1.500 - ...	126	624	67.7	62.3	129	647	59.2	49.1
Total	186	1001	100	100	218	1319	100	100

Resettlement Factor Range	Béla				Ngalaba			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	3	23	3.2	3.9	8	48	3.7	4.0
0.500 - 0.667	2	18	2.2	3.1	10	71	4.7	6.0
0.668 - 0.999	1	3	1.1	0.5	15	89	7.1	7.5
1.000 - 1.499	18	134	19.4	22.7	86	555	40.6	46.7
1.500 - ...	69	412	74.2	69.9	93	425	43.9	35.8
Total	93	590	100	100	212	1188	100	100

Resettlement Factor Range	Mouarom				Danmadjia			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	1	2	1.4	0.5	7	55	8.0	10.2
0.500 - 0.667	1	4	1.4	1.0	5	32	5.7	5.9
0.668 - 0.999	3	16	4.2	4.0	12	71	13.6	13.2
1.000 - 1.499	29	169	40.3	42.0	44	298	50.0	55.3
1.500 - ...	38	211	52.8	53.0	20	83	22.7	15.4
Total	72	402	100	100	88	539	100	100

Resettlement Factor Range	Dokaidilti				Dildo			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	5	51	6.8	10.3	4	29	3.5	4.5
0.500 - 0.667	4	33	5.5	6.7	5	29	4.3	4.5
0.668 - 0.999	11	78	15.0	15.8	19	128	16.5	19.7
1.000 - 1.499	32	254	43.9	51.4	51	293	44.4	45.1
1.500 - ...	21	78	28.8	15.8	36	170	31.3	26.2
Total	73	494	100	100	115	649	100	100

Resettlement Factor Range	Madjo				Béro			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	8	48	7.1	6.6	40	281	8.7	9.1
0.500 - 0.667	5	27	4.5	3.7	21	132	4.6	4.3
0.668 - 0.999	9	58	8.0	7.9	44	337	9.5	11.0
1.000 - 1.499	50	362	44.7	49.5	172	1217	37.2	39.6
1.500 - ...	40	236	35.7	32.3	185	1106	40.0	36.0
Total	112	731	100	100	462	3073	100	100

Resettlement Factor Range	Maïkeri				Naikam			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	11	82	9.9	13.1	0	0	0.0	0.0
0.500 - 0.667	0	0	0.0	0.0	0	0	0.0	0.0
0.668 - 0.999	4	44	3.6	7.0	0	0	0.0	0.0
1.000 - 1.499	44	260	39.6	41.5	1	8	4.2	6.1
1.500 - ...	52	240	46.9	38.4	23	124	95.8	93.9
Total	111	626	100	100	24	132	100	100

Resettlement Factor Range	Mainani				Poutouguem			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	2	7	2.4	1.5	4	38	7.7	13.5
0.500 - 0.667	0	0	0.0	0.0	4	24	7.7	8.5
0.668 - 0.999	4	29	4.9	6.1	11	60	21.1	21.3
1.000 - 1.499	17	103	20.7	21.7	22	131	42.3	46.4
1.500 - ...	59	336	71.9	70.7	11	29	21.2	10.3
Total	82	475	100	100	52	282	100	100

Resettlement Factor Range	Kome			
	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	2	22	4.3	7.0
0.500 - 0.667	0	0	0.0	0.0
0.668 - 0.999	2	21	4.3	6.7
1.000 - 1.499	13	79	27.7	25.2
1.500 - ...	30	191	63.8	61.0
Total	47	313	100	100

When the vulnerable HH data from the Village Land Surveys is computed, the results are as follows; note this information pertains only to compensated HH; uncompensated vulnerable HH have not been included because they do not demonstrate to what extent the Project has counterbalanced Project impact through resettlement options. It is important to note that the number of HH counted as having a trained HHM are HH whose members received an option **before 2 Q 2008.** Household members with options after that date are still in training or have not yet started training.

Table12: Non-Viable Project Affected Individuals (minus HHM of HH with Resettlement Option) Out of Entire Resident Population Reclassification with Measured criterion from Village Survey.

Village	% Trained Non-viable Project-affected HH out of All Non-viable Project-affected HH	% Trained Non-viable Project-affected HH out of All Non-viable Project-affected HH (including 2011 Promotion)
Bégada	33	67
Bela	80	80
Béro	21	92
Danmadjia	92	100
Dildo	89	100
Dokaidilti	44	44
Kome	0	100
Madjo	23	69
Maïkéri	27	36
Maïnani	0	50
Mbanga	73	100
Mouarom	50	50
Ngalaba	89	94
Poutouguem	0	88

- 22 HH of the above HH not yet trained are on the Physical Resettlement list and will not enter a resettlement training program. All of these HH do not have sufficient land for the resettlement training options to adequately help them restore livelihood.
- 29 of the above HH not yet trained are currently on the enrollment for the 2012 resettlement promotion.

Land Return Monitoring in 3-Fields[1]

3.2. Compensated and Returned Land by Land Use Type

This section presents the compensated and returned areas. The compensated land is divided in four Land Use Types:

1) Permanent with Public Access } Permanent Land Use

[1] 3-Fields Area includes the oil concessions of Miandoum, Bolobo and Komé

2) Permanent with No Public Access
3) Temporary Returned Without Restriction
4) Temporary Returned With Restriction

} Temporary Land Use

The chart in Figure 4.1 shows the current portion of each Land Use Type out of the total Compensated Land. The land returned is noted only in the table and does not appear in the pie chart. The "Returned" column shows the number of hectares returned (on the left) and the percentage of returned area out of the total compensated area (on the right), for each land use type.

	Total areas in Hectares			*4Q10*		
Land Use Type	***Compensated***	***Returned***		***Compensated***	***Returned***	
1) Permanent With Public Access	683.7	30.0	4%	10.8	0.4	4%
2) Permanent With No Public Access	958.0	89.5	9%	9.3	0.0	0%
Sub Total Permanent	**1641.7**	**119.5**	**7%**	**20.1**	**0.4**	**2%**
3) Temporary Returned Without Restriction	499.7	352.9	71%	0.5	0.0	0%
4) Temporary Returned With Restriction	1765.6	703.3	40%	64.5	42.6	66%
Sub Total Temporary	**2265.3**	**1056.2**	**47%**	**65.0**	**42.6**	**66%**
TOTAL (Permanent + Temporary)	***3907.0***	***1175.7***	30%	***85.1***	***43.0***	51%

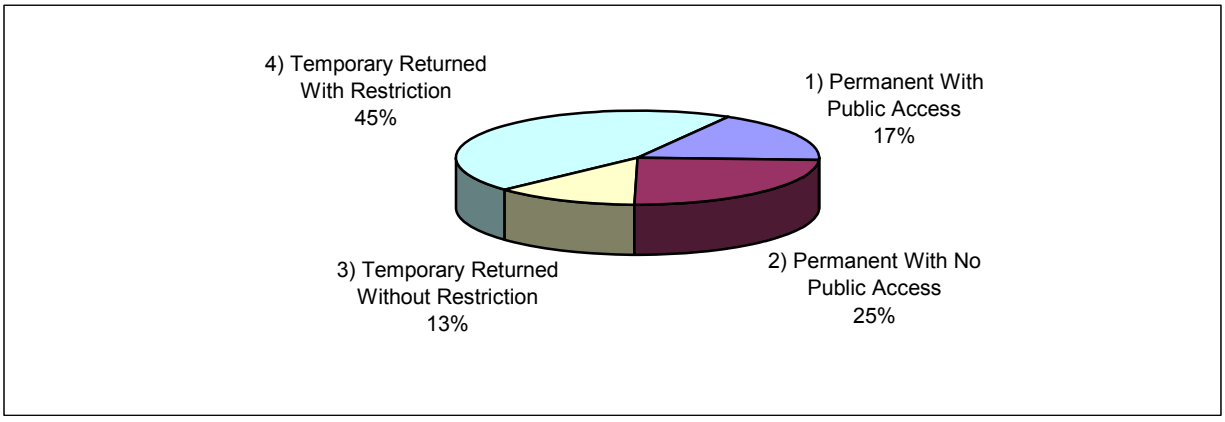


Figure 2: Total Compensated and Returned Land in OFDA

- The column "total areas in hectares: compensated" shows the total area compensated since the project started up to the end of the quarter covered in this report.
- "Total areas in hectares: returned" shows the total area returned since the project started up to the end of the quarter covered in this report.
- "4Q2010: Compensated" shows the total hectares compensated during the quarter covered in this report.
- "4Q2010: Returned" shows the total hectares returned during the quarter covered in this report.

3.3. Compensated and Returned Land by Facility Type

The tables and charts on the next pages show the different types of facility in each of the four land use types, as well as their acquired or returned status. Since the infill program brings new wells in areas already drilled, it is not rare to see that the new pads will fall on existing roads or flowlines right of way. Therefore the area already acquired for an initial facility type (or land use) is just transferred to another one, without affecting the global footprint.

	Total Compensated			4Q10		
Facility Type	Compensated	Returned		Compensated	Returned	
Main Road	71.2	0.0	0.0%	0.0	0.0	0.0%
Access Road	609.3	30.0	4.9%	10.8	0.4	3.7%
Total	680.5	30.0	4.4%	10.8	0.4	3.7%

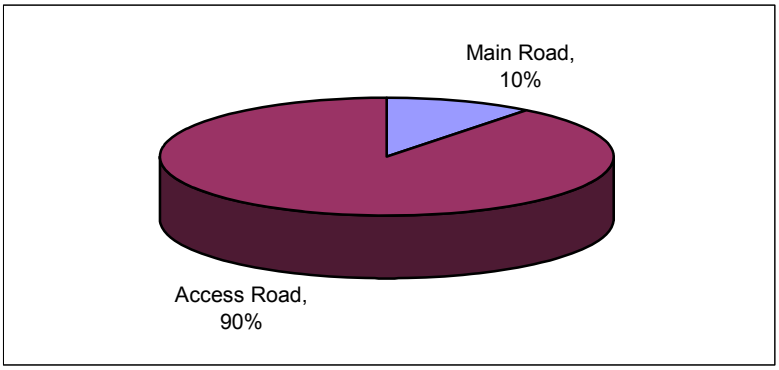
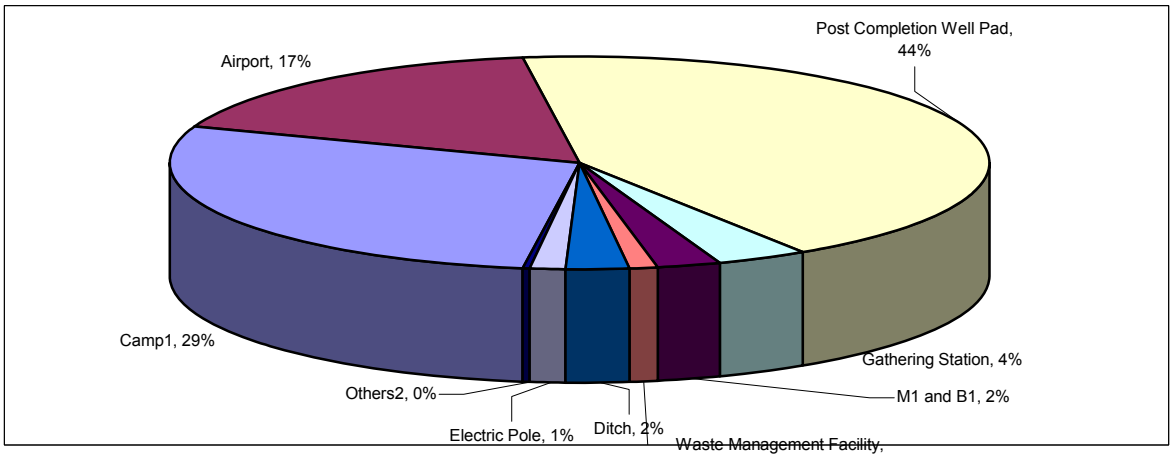


Figure 3: Land Use Type 1) Permanent with Public Access (Areas in hectares)

The main road, although it occupies a substantial area, now serves as an economic artery, second only to the national highway, for moving local production from the OFDA region, zones south of the OFDA, and bordering portions of the Central African Republic. Farmers going to their fields heavily use the project's secondary, access roads, which are frequented by the many bicycles, hand carts; oxcarts and motorcycles inhabitants have acquired with their compensation money.

	Total Compensated			4Q10		
Facility Type	Compensated	Returned		Compensated	Returned	
Camp[1]	271.4	0.0	0.0%	0.0	0.0	0.0%
Airport	163.9	63.9	39.0%	0.0	0.0	0.0%
Post Completion Well Pad	410.8	13.0	3.2%	9.1	0.0	0.0%
Gathering Station	35.2	4.4	12.5%	0.2	0.0	0.0%
M1 and B1	22.5	8.1	36.0%	0.0	0.0	0.0%
Waste Management Facility	12.2	0.0	0.0%	0.0	0.0	0.0%
Ditch	22.3	0.0	0.0%	0.0	0.0	0.0%
Electric Pole	13.4	0.1	0.7%	0.0	0.0	0.0%
Others[2]	3.4	0.0	0.0%	0.0	0.0	0.0%
Total	955.1	89.5	9.4%	9.3	0.0	0.0%

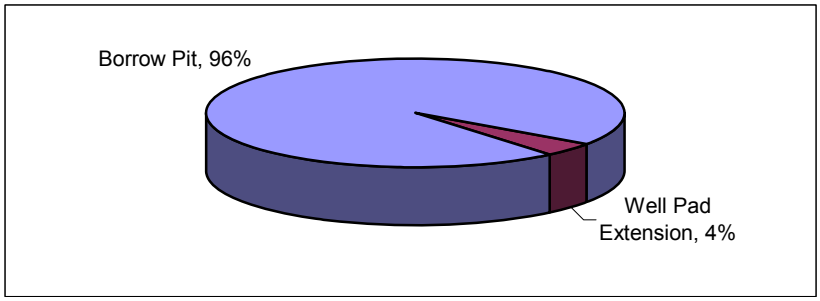


1. Kome Base, Kome 5, Lagoon, Leach Field
2. Piezometers, Service Area, Water Well

Figure 4: Land Use Type 2) Permanent with No Public Access (Areas in hectares)

Even if the original land use of category 2 is "Permanent with no public access", when a piece of land is not needed by the project the land is returned to population. 10% of the area compensated as "permanent with no public access" has therefore been returned.

	Total Compensated			*4Q10*		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Borrow Pit	479.3	342.1	71.4%	0.0	0.0	0.0%
Well Pad Extension	19.9	10.8	54.3%	0.5	0.0	0.0%
Others[1]	0.3	0.0	0.0%	0.0	0.0	0.0%
TOTAL	499.5	352.9	70.7%	0.5	0.0	0.0%

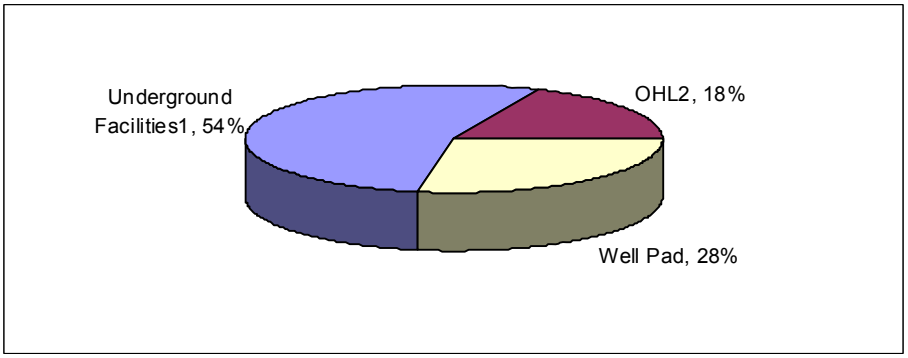


1. Water Line Access & Soil Boring

Figure 5: Land Use Type 3) Temporary Returned Without Restriction (Areas in hectares)

Current borrow pit reclamation work is returning quality arable land to the villagers even though the arable quality of these land areas prior to laterite mining by the Project was very low.

	Total Compensated			*4Q10*		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Underground Facilities[1]	948.3	231.7	24.4%	52.9	38.0	71.8%
OHL[2]	320.0	73.2	22.9%	0.0	0.0	0.0%
Well Pad	493.9	398.4	80.7%	11.7	4.6	39.3%
TOTAL	1762.2	703.3	39.9%	64.6	42.6	65.9%



1. Flowline, Gathering Line, Water Injection Line, Trunkline, Pipeline, Underground cable
2. 33 Kv, 66 Kv, 132 Kv

Figure 6: Land Use Type 4) Temporary Returned With Restriction (Areas in hectares)

The export pipeline right of way in the OFDA is 47.2 ha (30 m x 15.8 km). Half of the total right of way (23.6 ha) has been returned without restriction; only 7.5 m on each side of the center line has been returned with restrictions.

The restrictions on using land covering underground facilities are not onerous. No planting of trees, digging of holes, or construction of buildings, all of which might damage the lines or prevent easy access when needed. Otherwise any cultivation is allowed.

Acquisition of a special work-over rig for well maintenance has further reduced the well pad area from the 1 Ha. used for drilling and no restrictions apply to the restored and returned portion.

The areas under the 66Kv and 33Kv and other electrical lines present more of a challenge. The greatest problem is accessing the power poles for repairs (frequent enough in this lightning-prone area) namely:

- Growth of high grasses or normal crops during the rainy season impedes visibility for repair crews and security patrols, who could risk colliding with people, cars, animals, bicycles, etc. making their way along the obscured footpaths. The risk would be increased at night.
- Crops or grasses may be burned off intentionally by the villagers or by bush fires at the end of the agricultural season, depositing carbon on the lines and increasing the probability of short circuits.

EEPCI resolved this seeming dilemma by returning the land to the community but with restrictions on the types of crops (short cycle, short stemmed) and an access corridor for Project to gain access when necessary.

3.4. Project Footprint

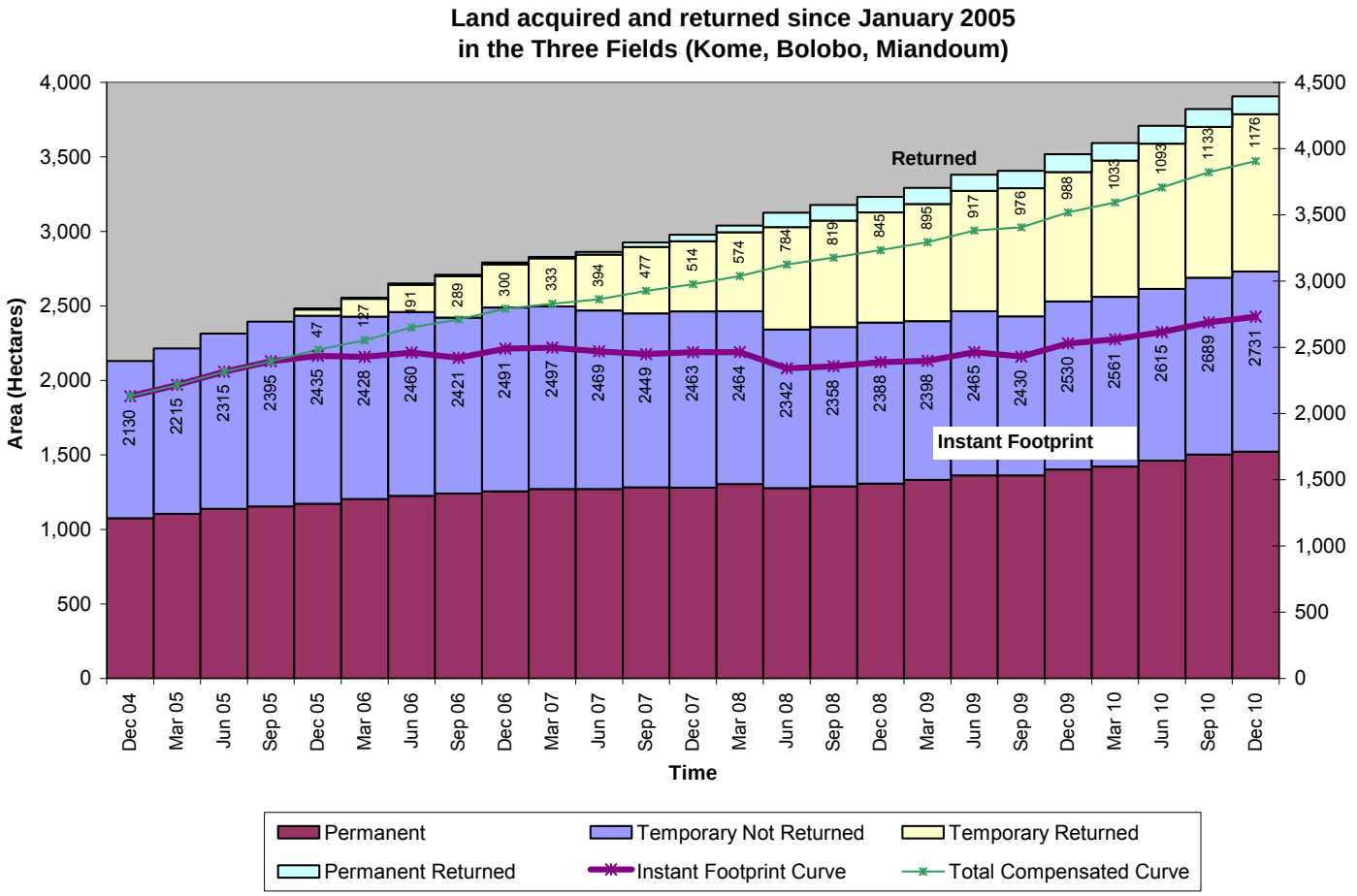


Chart 8: Footprint Chart

The footprint of permanently and still temporarily occupied acquired land continues to show a slight increase again in 4Q10. Generally speaking the Project footprint is not increasing significantly in spite of the in fill drilling program.

The land returned is not the only factor that counterbalances the infill land take. The second factor is because the infill wells are in areas previously drilled. An area already compensated for an initial facility type is simply reused for the in fill, without requiring much additional land acquisition. Working by the fault block approach in reclaiming land i.e. postponing reclamation until the work in the fault block has been completed, reduces the risk of wasting top soil by re-acquiring newly reclaimed land. Top soil in the OFDA and elsewhere in southern Chad is scarce.

4. Annex

4.1. Land Use Criteria

The criteria concerning Land Use impact represents the percentage of village area used by the project within each village. The boundaries of the village used to set the village area are not official and are computed based on a global survey of the village limits. The thresholds between levels of impact represent "natural breaks" or large numerical gaps in between villages.

Calculation of Land Use Impact

The final percentage used to classify the village's level of impact is computed by adding the "temporary" land not yet returned land to the land permanently used by the project

$$\frac{\sum \text{Permanent Not Returned} + \text{Temporary Not Returned}}{\sum \text{Village Area}}$$

Thresholds	
High	≥11%
Approaching High	7% - 10.9%
Moderate	3% - 6.9%
Low	0% - 2.9%

4.2. Socioeconomic Criteria

Village level impact of project land take depends both on absolute amounts of land taken or returned and the way in which land resources are divided within the village. In some villages people depend mainly on farming for their livelihood. In others a portion of the inhabitants depend on fishing as well as farming; fishing families in these villages often have (and need) less farmland than in inland villages and may already be below the general threshold of agricultural viability (2/3 corde per HHM). Attributing all household non-viability to Project land acquisition in these villages would overstate the Project impact.

To reflect the difference in project impact in these two types of villages, the social criteria using compensation database information were set according to 1) the number of people **already non-viable** before they were compensated for land and 2) those who were **made non-viable** when they lost land to the project.

Completed village land surveys have demonstrated that the declarative data used to calculate non-viability often overstates the number of people dependent on the household's land and understated the amount of land available. Therefore the number of non-viable households found through a village survey presents a more accurate picture of project impact. Such data was not available when the Land Use Impact list was first calculated but now, as measured data has become available for each village, the pre-project non-viability criterion has been dropped. When the survey is complete and village is

open to **reclassification** only the current but accurate criterion of currently non-viable HH (compensated and not compensated) has been used.

Changes in a village's position within the land use impact table therefore reflect both the measured return / continued acquisition of land and the measured number of households currently non-viable because of limited land access. Although this picture does not allow a **retrospective** view of a household's situation the first time it seceded land to the project, the accuracy of the data on the non-viability of households overrides the interest in distinguishing impact in fishing-farming and simple farming villages.

4.2.1 Initial Classification with Compensation Data

Criterion 1: % all non-viable individuals / all individuals in the village

Description: Percentage of all project-affected individuals in the village currently below the resettlement factor of 2/3.

Rule:

$$\frac{\sum \text{(All individuals below 2/3 corde after land take)}}{\text{Village Population}}$$

Threshold:

Threshold Criteria 1		
	Min	Max
High	50.1%	100%
Approaching High	30.1%	50%
Moderate	20.1%	30%
Low	0%	20%

This criterion includes people who were already non-viable before the Project.

Criterion 2: % individuals in the village made non-viable by project land take / all individuals in village

Description: Percentage of the number of individuals that were economically viable before surrendering land/feeling any project impact (the resettlement factor > 2/3) but who became agriculturally non-viable upon surrendering land/ after project impact (the resettlement factor < 2/3).

Rule:

$$\frac{\Sigma \text{ (All individuals that were not eligible } \textbf{before} \text{ land take \& are eligible } \textbf{after} \text{ Land take)}}{\text{Village Population}}$$

Threshold:

Threshold Criteria 2		
High	20.1%	100.00%
Approaching High	15.1%	20.00%
Moderate	9.1%	15.00%
Low	0%	9%

This criterion cannot be calculated with village land survey results and is no longer applied when a change in village impact classification is calculated.

4.2.2 Reclassification with Village Survey data

Description: When a village reclassification is calculated and village survey data is available, a single criterion is used. This criterion represents all the members of the non-viable compensated households compared to the population of the village

Rule:

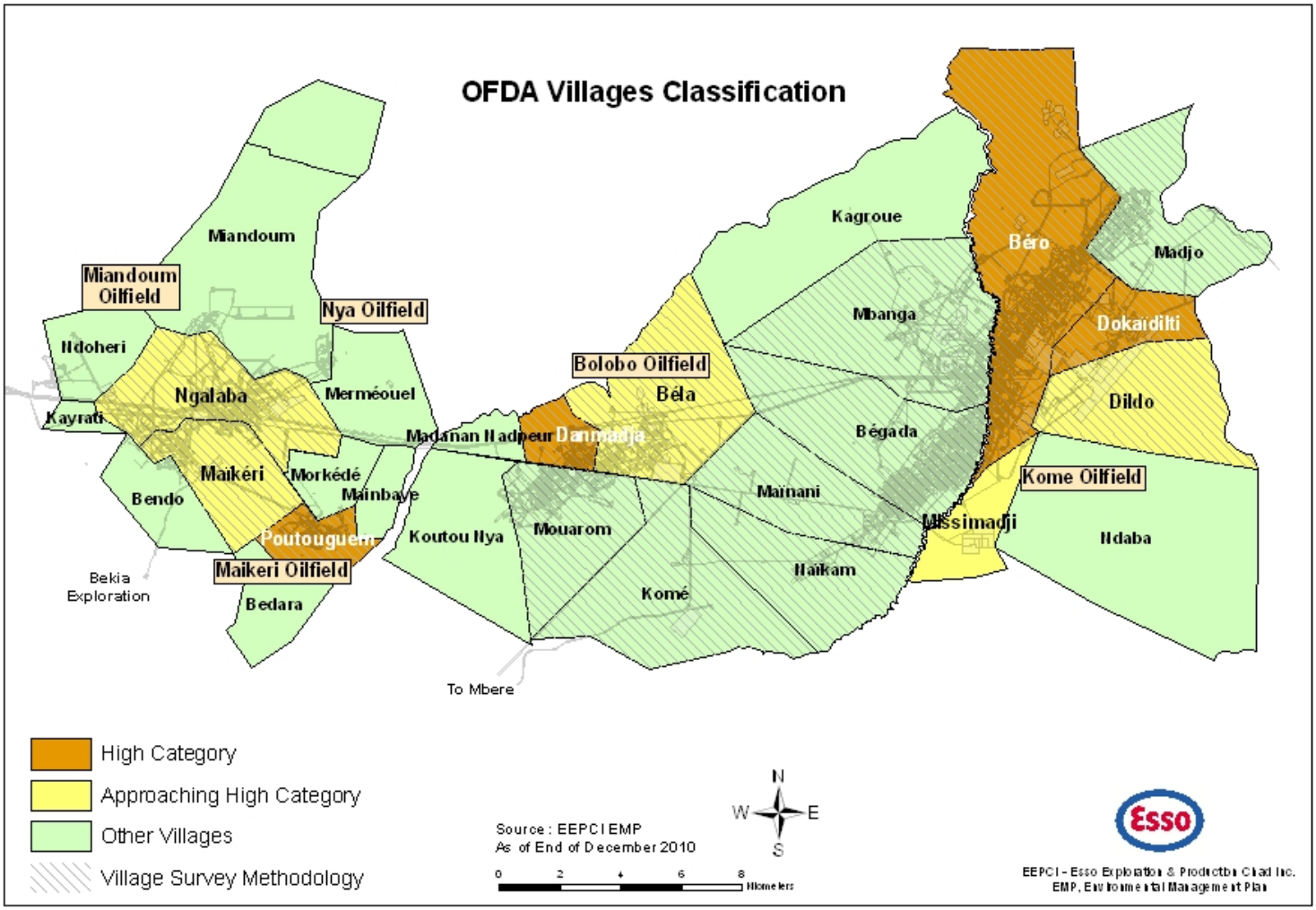
$$\frac{\Sigma \text{ All members of non-viable compensated Households}}{\text{Village Population}}$$

*This statistic excludes non-viable households with resettlement options

Threshold:

Threshold Criteria 3		
High	**15.1%**	**100.00%**
Approaching High	**10.1%**	**15.0%**
Moderate	**5.1%**	**10.0%**
Low	**0%**	**5.0%**

4.4. OFDA Village Map



4.5. Fault Block Concept

Definition of a Fault Block

The infill drilling program is to be implemented in sections called “Fault Blocks”. A Fault Block is a geologic feature of an oilfield. A discrete section of the field, called a Fault Block, shares the same oil-bearing formation and characteristics. The formation and characteristics are first defined through seismic exploration but more thoroughly defined and understood through the behavior of oil wells as they continue to produce. Thus the comprehension of the extent and nature of fault blocks increases with experience in the oilfield.

With this developing understanding Reservoir Engineers attempt to optimize production of increasingly clearly defined portions of the oil field. They develop strategies for dealing with the characteristics of each particular Fault Block. Working on these small, defined geological areas they are able to exploit the good producing areas while making decisions not to disturb other, less productive areas.

How working with Fault Blocks reduces impact

The Reservoir Engineers have also grown sensitive to minimizing land take. Fault block by fault block, Reservoir is giving the EMP team the location of all the wells which need to be drilled within the footprint of the Fault Block while in the past, locations of wells were known only one request at a time. The fault block process allows the minimization of land required for access roads, flowlines and electrical lines. Because land in a fault block has already been used for well pads, roads and facilities, these can be reused or reconfigured to minimize land take. Reservoir is working with the Environmental Management Plan group and with Construction to use over again or to modify existing construction – access roads to well pads, electric and flow lines. Much of the land to be used in a fault block is land already in use as pads, roads, electrical lines etc. From the construction standpoint it also becomes possible to recycle the laterite construction material already laid down from less productive areas of the fault block. This reuse means new areas of land do not need to be disturbed by mining. This is a bonus as finding nearby sources of laterite is difficult and moving it long distances is expensive.

Working by fault block allows most construction, drilling and initial reclamation work to be done within a shorter and limited period of time.

- Reuse takes less time than new construction.
- Moving laterite from abandoned area to new construction; moving topsoil from new construction to reclaim abandoned area, recycles already acquired land, reduces EEPCI costs and speeds up reclamation.
- Reduces BP surface area.
- Allows efficient and effective one time reclamation and return rather than continuous reopening of same trenches where land has been restored, returned and then reacquired and reused.
- Reduces loss of topsoil from reclaimed land that is then reopened.
- Less disruption to community and to farming as work occurs within limited time.
- More efficient use of construction equipment/labor is good for EEPCI.
- Reduces number of quitus whose signature process has begun but not finished before the land is requested again. I.e. fault blocks costs the farmer nothing & reduces EMP paperwork/legwork.

By working block-by-block, the project will be able to optimize the pattern of access roads, flowlines and electrical lines, regulate the amount of land required, and reduce the period of construction needed to continue development of Chad's oil.

How to assess social impact using fault blocks

A fault block defines the maximum degree, or "worst case scenario" of impact on land and people. Only land within the fault block will be used and only those using this land will be affected. Fault blocks define where to look for people who will be impacted. With satellite photography and the EMP-IS database and maps the EMP team can identify who is farming in the fault block area, their houses, shelters, etc. Any area within a fault block for which such EMP-IS information has not yet been collected can be (and has been) immediately targeted for inclusion in the EMP-IS.

Working by fault blocks reduces the need for additional land, as discussed above. It also facilitates the identification of social impacts. On the surface the subsurface layout of productively producing areas

circumscribes the area of land that will be targeted for more intensive exploitation. From the social standpoint this means that fewer people will be impacted because construction has already removed some land from agricultural use. It means, in fact, that the same people already impacted are most likely those who will be impacted again. The number of HH impacted will not increase by much, but the same HHs will be impacted again.

Fault Blocks outline who may be impacted but not the degree of impact

Initial understanding of who could be impacted in a fault block can be rapid but approximate even without full village mapping. If EMP-IS identifies people already compensated for land in the fault block and already knows their resettlement status (based on earlier compensation data and resettlement choices), then it is likely these people could lose additional land, so EMP knows it must ensure that non-viable HH are still able to pursue effectively their chosen resettlement option, or else offer other options.

But determining the degree of impact on a household using land in a fault block depends on mapping all a household's fields. Individuals classically pursue a strategy of cultivating land in several areas in order to minimize crop risks; if pests get one field, or the river floods another, there will still be other fields elsewhere that escape. Taking land within the fault block does not, therefore, necessarily deprive a farmer of all his land (though it can).

The reason for which EMP Impact Teams were created is to measure all the fields of a person/household just identified for compensation and enter the up-to-date information into the EMP-IS. The new land acquisition is subtracted from the holdings and viability calculated. If non-viable the social team advises on resettlement options.

The Impact Team's information is a step in defining the impacted household's status. But for a clear picture of each household's land holdings LUMAP experience with mapping for the Village Site Specific Plans shows that mapping all the fields within a village area is needed for an accurate picture. As the mapping covers more and more of the area, the landholders of those fields that have not been claimed are identified and their total land holdings are known with accuracy. Hidden fields are uncovered that belong to seemingly "non-viable" households.

Predicting who will be impacted and by what degree

Given the agricultural system used in the OFDA, the use of a piece of land shifts frequently between field and fallow, the contours change depending on the crop being planted and the energy of the planter. The planters change as well between different members of the family, neighbors, and relatives from other villages, etc. Who is cultivating what exactly where cannot be known until the compensation identification team hits the ground and makes an identification.

What complete village mapping does do is offer a tool for predicting impact. When a village is surveyed everyone's approximate status is known:

1. Already non-viable
2. Near threshold (between just over 2/3 corde/HHM to 2.5 c./HHM)
3. Land rich (2.5 cordes/ HHM)
4. Non-agricultural income sources

The maps reveal the land holdings of everyone within the fault block at the time of the mapping. Most of the people identified will be the people that will be affected by the new land requests. The impact of the request on their situation can also be evaluated. The EMP-IS can list:

1. The number of, and identity of, non-viable HH within the fault block
2. Same for HH near the threshold of becoming non-viable
3. The number of land-rich HH who are most unlikely to be greatly affected
4. HH with additional non-agricultural income sources to offset land take

The EMP-IS indicates the households that need to be monitored – categories 1 and 2. The EMP-IS can also indicate the large landholders with land OUTSIDE any fault block, to whom non-viable individuals can be oriented for 3rd party land.

Once the compensation team has brought up to date the people farming in the impacted area, then for recently mapped areas the EMP-IS can define the actual impact, subtracting the new compensated area from the amount available to the household. For areas not yet mapped, the Impact Team sets to work, but unless all the fields in the village have been identified it is less able to accurately define impact and more likely to overestimate a household's non-viability. But in either case any resettlement actions can be undertaken immediately.

For example, Fault Block 3-4, involving the village of Begada, shows how the possible impact can be predicted.

Potential Impact of Begada Infill		
HH status	# HH in Fault Block	%
# HH already < 2/3	6	5
# viable HH	22	20
# land-rich HH	34	31
# potentially at risk	22	20
# houses/structures in FB	0	0

Definitions:

- HH already < 2/3 c. Any additional land take will worsen their already non-viable status. Are the resettlement measures already taken still sufficient?
- Viable HH: HH with between 2/3c and 2.5 c of land per HHM. Depending on their current holdings and the amount of land to be surrendered they may become non-viable
- Land-rich HH: HH with more than 2.5 c per HHM. Only a massive land take would make a HH non-viable.

In fact all the construction requests for Fault-Block 3-4 have been received and the actual impact has been defined. Because the land take is occurring within the confined area of a fault block and where a number of people have already been compensated, then:

Actual Impact of Begada Infill		
HH status	# HH in Fault Block	%
# HH already < 2/3	6	5
# viable HH	22	20
# land-rich HH	34	31
# new non-viable HH	0	0
# houses/structures touched	0	0

Land take in the Begada Fault Block for Infill Drilling did not put any marginal HH below the viability threshold. Therefore the only resettlement action needed is to check with the HH already involved in resettlement about the continued tenability of their choice of option.

Conclusion:

- Working by fault block is the natural outcome of a learning process aimed at maximizing production and minimizing investment in drilling and construction.
- Construction is, additionally, minimized through the reuse and modification of existing project infrastructure above the fault block areas being maximized.
- Intensifying the use of an area means that the people already compensated for land in that area are most likely the people who will be affected again.
- The EMP-IS allows EMP to predict in advance the people who will probably be impacted and the probably outcome of that impact:
    - For HH already non-viable their situation can be monitored and resettlement options readjusted – in any case this happens automatically with resettlement monitoring.
    - For HH near the threshold, once compensation identification has been done then their resettlement status can be calculated and resettlement initiatives started.
    - For large land holders their situation will be recalculated to check that they remain viable.