Esso Exploration & Production Chad Inc.

Village Impact Quarterly Report

Land Use Mitigation Action Plan

Second Quarter 2009

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 the 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) mitigation measures or to signal when the effect of 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 EMP mitigation activities in the OFDA
- Determine and/or validate eligibility (actual versus estimated) for Supplemental Community Compensation
- Alert EMP Team on the need for Site Specific Plans and Land Survey needs

Second Quarter 2009 (2Q09) Village Impact Assessments status:

- 5 high impact villages
- 3 approaching high villages
- 4 moderate impact villages
- 12 low impact villages

LUMAP maintains a "Watch List" (approaching high) that tracks village land take and return. As of June 2009, three (3) of the moderate impact villages are approaching the high category because of continuing land acquisition and number of people eligible:

- Bela
- Maikeri
- Mouarom

The primary accomplishments of this quarter are:

- Completion of village surveys of Begada, Bela, Mbanga
- Near completion of Madjo village survey
- Kome and Bolobo oil fields infill drilling program progressing on a fault block by fault block basis. An explanation of the fault block infill drilling program and the village land use survey process is described in Annex 5.5
- The manner in which the fault block infill drill program interfaces and aligns with the goals of the LUMAP to rapidly identify At Risk households and ensure appropriate Resettlement options is also described in Annex 5.5. The Village Land Use Surveys are scheduled according to the fault block infill drilling schedule so that the landholding status of anyone touched by infill drilling is known as soon as that person's land is needed.

The village land use survey work plan for the 3rd quarter of 2009 includes:

- Multiple teams working in Madjo with expected completion in third quarter.
- Multiple teams working in Béro to speed completion.

Village classification

1.1. Summary

The Village classification is calculated using a land use (area covered by temporary and permanent take) and a 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, and Moderate & Low. **The final categorization** of a village is done **according to its worst placement** by the land use **or** socio-economic criteria. The socio-economic criterion made possible by the investigation of the village, using the new Village Land Survey methodology, is the number of non-viable individuals among the total population of the village. For villages where the survey is not completed, we have to rely on declarative data collected from the affected people during compensation; therefore the criterion used to interpret declarative data becomes the number of individuals made non-viable by Project according to the individual's declaration compared to the population of the village.

Once the Village Land Use Survey is complete in a given village, a Site Specific Plan is developed to address heavy impacts. After the site specific plan is executed, the modification in impact is shown on the table below, which represents the **current Quarter's situation** and any residual impact on Site Specific completed villages.

Table 1: Village Classification Quarter Just Ended

Categories	Village
High	• Bégada • Ngalaba • Béro • Madjo • Danmadja
Approaching High (Watch List)	• Mouarom • Maikeri • Béla
Moderate	• Mbanga • Madana Nadpeur • Maïnani • Missimadji
Low	• Dokaidilti • Dildo • Kaïrati • Bendo • Ndoheuri • Komé • Miandoum

	• Naïkam • Merméouel • Morkété • Koutou Nya • Maïmbaye

The Mbanga village survey has been completed during the second Quarter and it turns out that the socio-economic situation is better than what declarative compensation data indicated; as detailed in following section, Mbanga has moved from the high to the moderate category.

Table 2: Site Specific Plan Development

Village	Site Specific Plan Developed?	Site Specific Plan Implemented?	Residual Impact
Dokaidilti	Yes	Yes	Low
Dildo	Yes	Yes	Low
Ngalaba	Yes	In Progress	TBD
Bégada	Yes	In Progress	TBD
Béla	Yes	In Progress	TBD
Danmadja	Yes	In Progress	TBD
Mbanga	In Progress	In Progress	TBD
Mouarom	Yes	In Progress	TBD

TBD: To Be Determined

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 this category are shown in annex 6.1. Villages are sorted by their % of Village Area value, 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.

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	**16.5**	**16.5**	
Bégada	2478.6	**12.3**	**13.1**	**+ 26.6**
Ngalaba	1879.4	**12.8**	**12.9**	**+ 0.8**
Béro	4239.7	**12.2**	**12.5**	**+ 18.2**
Danmadja	449.4	**11.1**	**12.2**	**+ 4.9**
Mouarom	1585.4	**9.6**	**9.7**	**- 3.2**
Béla	2315.1	**8.1**	**9.0**	**+ 20.9**

Dildo	1961.3	**9.0**	**9.0**	
Maïkéri *	1208.1	**8.5**	**8.5**	**+ 0.2**
Mbanga	3050.4	**6.5**	**6.4**	**- 4.0**
Madjo**	1921.3	**5.5**	**5.6**	**+ 3.6**
Madanan N.	323.1	**5.2**	**5.2**	
Maïnani	1696.2	**4.6**	**4.6**	**- 1.5**
Missimadji	840.6	**3.7**	**3.7**	
Kaïrati	179.9	**2.2**	**2.2**	
Ndoheuri	830.2	**2.1**	**2.1**	
Merméouel	1121.2	**1.8**	**1.8**	
Miandoum	4133	**1.6**	**1.6**	
Bendo	809.0	**1.4**	**1.4**	
Naïkam	1773	**1.1**	**1.4**	**+ 6.4**
Komé	2569.3	**0.9**	**1.0**	**+ 2.2**
Morkété	524.2	**0.7**	**0.7**	
Koutou Nya	1819.6	**0.6**	**0.6**	

We can see that Begada, Bela and Bero are the villages where most of the land acquisition related to infill drilling has occurred. In Mouarom, where the first infill wells were drilled in Bolobo oilfield, land return has started and more land has been returned than acquired.

It is also important to understand that the new facilities are now overlapping old facilities. To avoid computing the same area twice (take the example of a new well pad in a borrow pit: we don't want to count this area as a borrow pit anymore, therefore the area of the borrow pit will decrease without any land return), simple addition or subtraction of the land acquired or returned (delta column) cannot be applied to the value of the previous quarter to compute the percentage of village used for the actual quarter.

The following charts detail land use in the "High" and "Approaching High" villages listed in Table 1

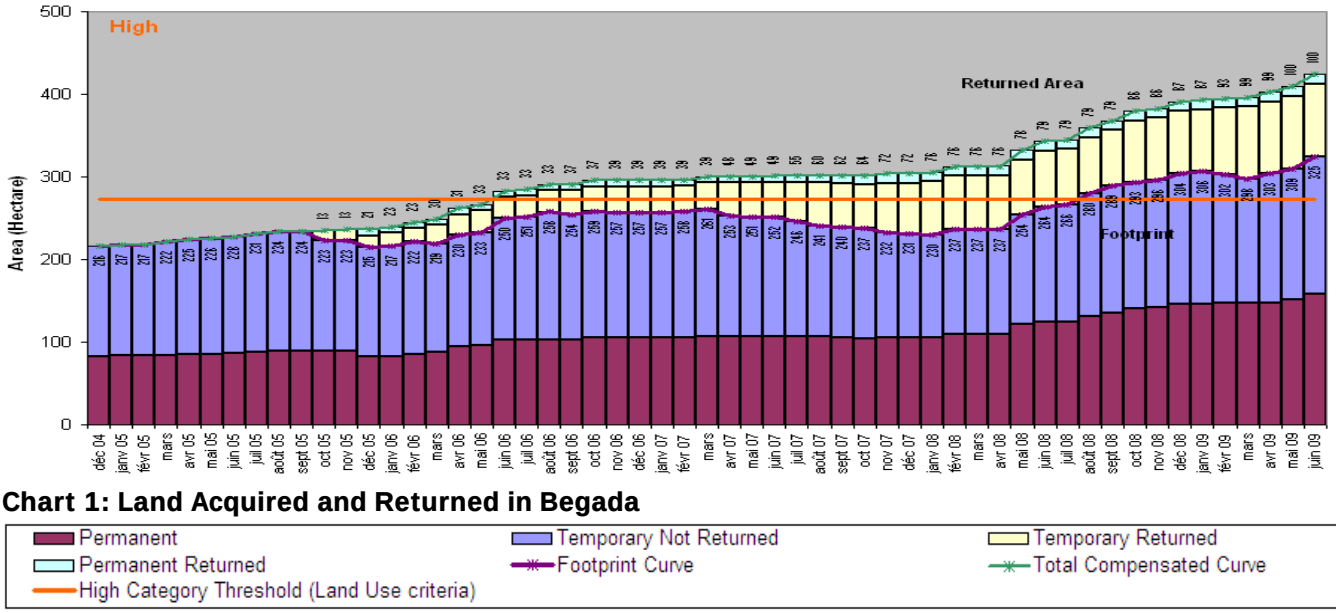


Chart 1: Land Acquired and Returned in Begada

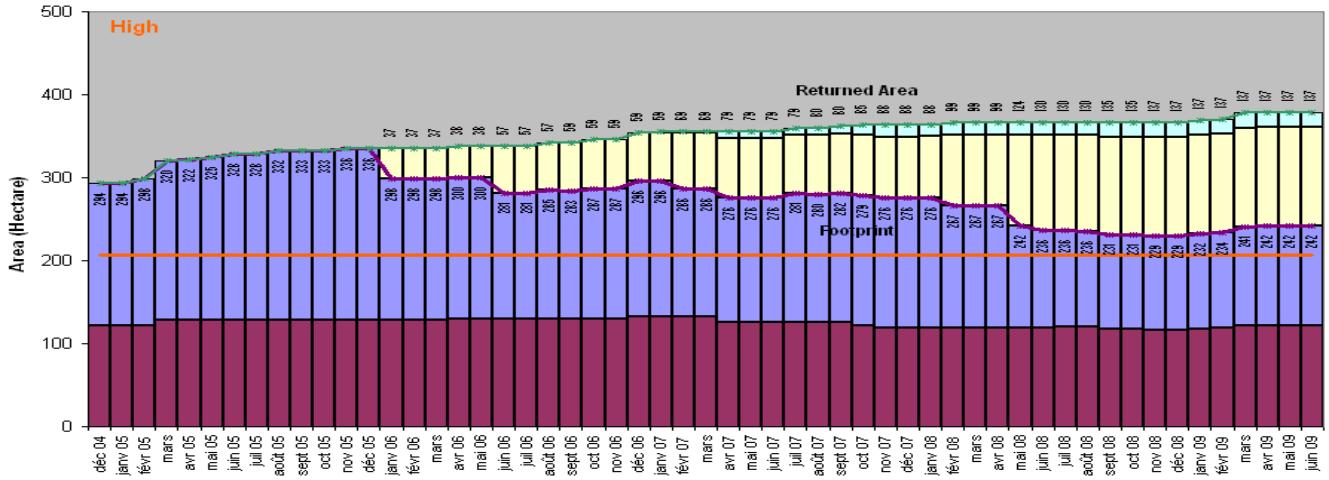


Chart 2: Land Acquired and Returned in Ngalaba

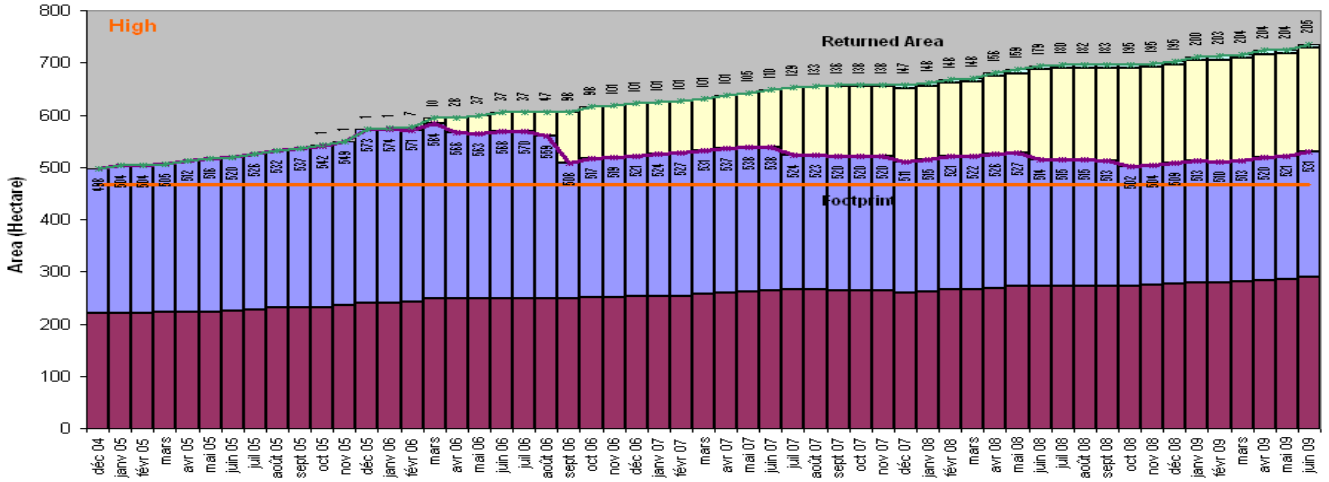


Chart 3: Land Acquired and Returned in Bero

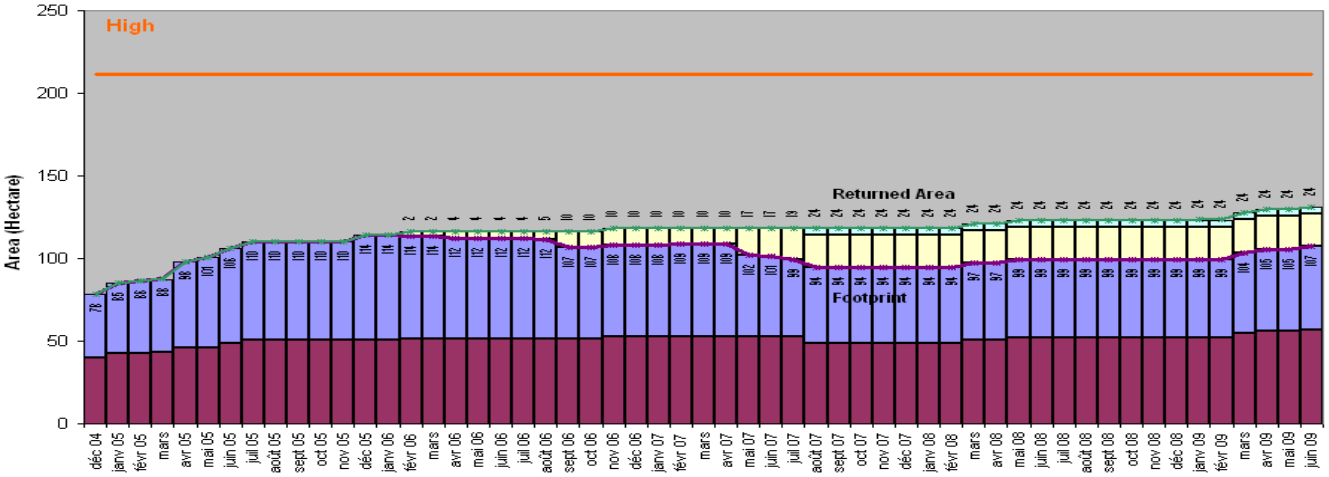
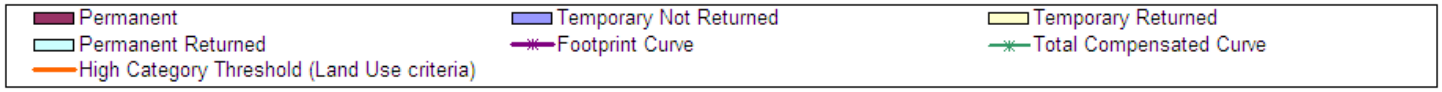


Chart 4: Land Acquired and Returned in Madjo



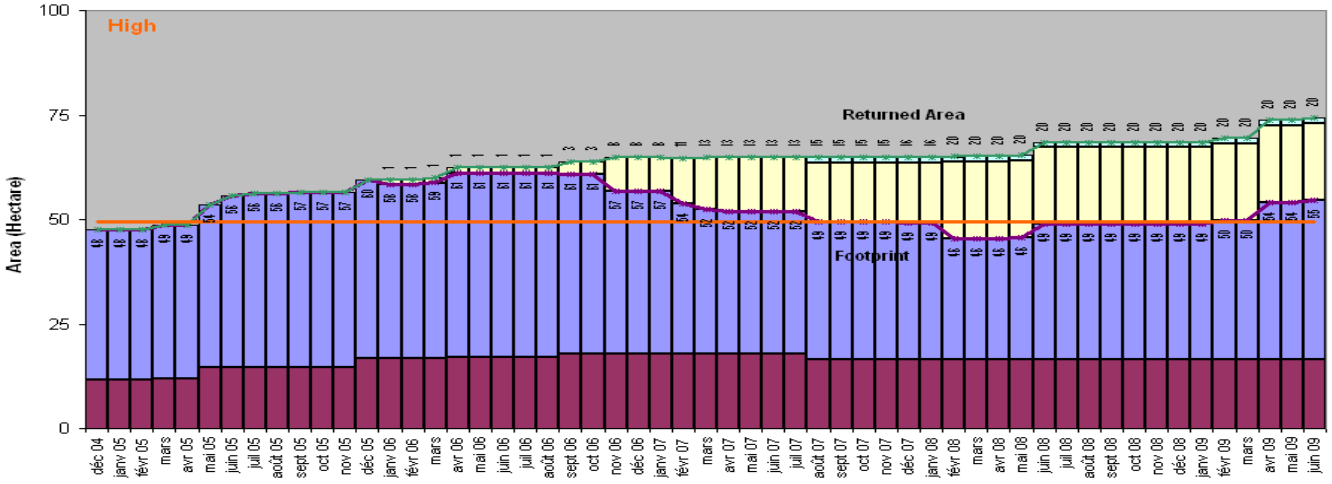


Chart 5: Land Acquired and Returned in Danmadjia

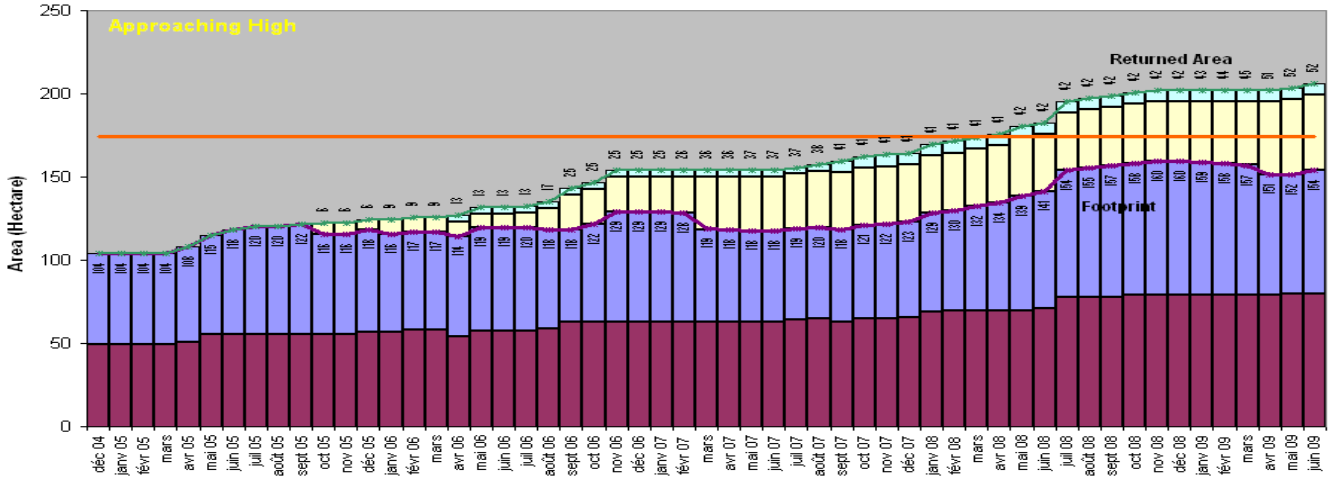


Chart 6: Land Acquired and Returned in Mouarom

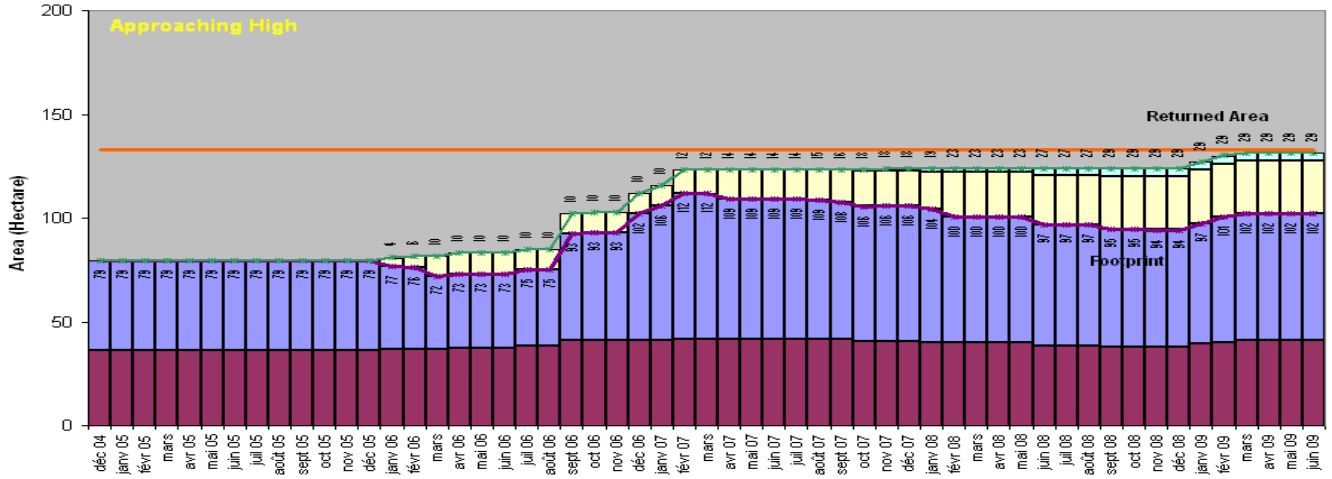
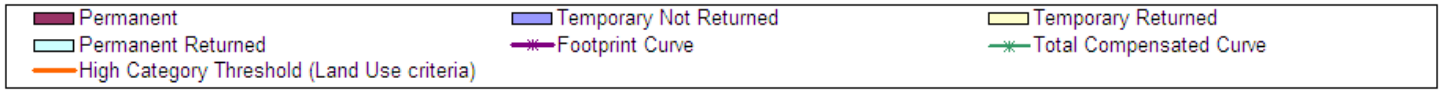


Chart 7: Land Acquired and Returned in Maikeri



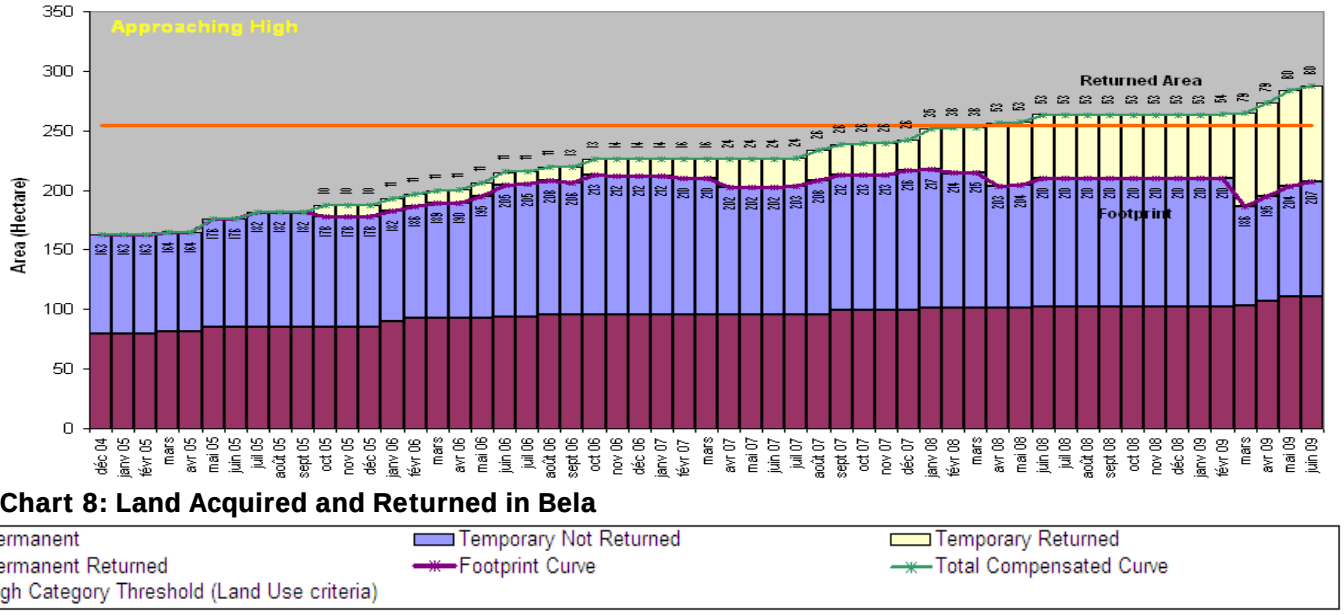


Chart 8: Land Acquired and Returned in Bela

1.3 Socioeconomic Criteria

Two socioeconomic criteria were 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 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

Table 4: Percentage of individuals 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
Madjo	78 %		Madjo	19 %	↓ 1 %
Béro	47 %	↑ 1 %	Béro	18 %	
Missimadji	29 %		Missimadji	13 %	
Maïnani	19 %	↑ 4 %	Maïnani	12 %	↑ 1 %
Bendo	15 %		NDoheuri	2 %	
Madana N.	13 %		Morkété	2 %	
NDoheuri	8 %		Madanan Nad.	2 %	
Miandoum	5 %		Miandoum	1 %	
Komé	4 %	↑ 1 %	Kaïrati	1 %	
Merméouel	4 %		Merméouel	1 %	
Morkété	4 %		Komé	1 %	
Kaïrati	2 %		Naïkam	1 %	
Naïkam	1 %		Bendo	0 %	

As highlighted by the table, villages with a slight percentage change are the ones impacted by the infill operations. Because this categorization is based on declarative data, villages have remained in the same category as past quarter.

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. Using this data when available 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
Bégada	2.0%	11.5%
Bela	1.0%	6.5%
Danmadjia	11.0 %	19%
Dildo	2.5 %	7 %
Dokaidilti	11.0 %	15%
Mbanga	4.0%	19.0%
Mouarom	0.5 %	14%
Ngalaba	6.5 %	16%

*This number excludes all non-viable households with a resettlement option

Completed during the second quarter of 2009, Bégada, Bela and Mbanga are new in this list. Section 3 presents the first results for these villages.

- Data presented indicates that none of these eight villages is in the high impact category based on the socioeconomic impact criterion of number of vulnerable individuals.
- Table 5 uses, as the original calculation for Table 4 also did, only the amount of land accessible to the HH and the number of HHM, without any other alleviating additional income data.
- Column with declarative data (right) is computed by using data (declared Area cultivated, declared Number of dependents) gathered in the compensation database and the census data used in Table 4.
- The middle column gives the number of affected Individuals using precisely measured land and HH surveys that exclude anyone from belonging to more than one HH in the same village yields very different and less dire results.
- A Resettlement Option will be offered to each of the HH remaining as non-viable Project-affected but not yet assisted HH.

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 take (ha)		Nbr Individual
	Permanent	Temporary	
Abassana			37
Atan			5
Bébédjia			1
Bégada	11.7	16.3	100
Béla	7.8	14.5	38
Béro	8.6	11	69
Danmadja		4.9	41
Doba			1
Komé		2.2	15
Madjo	2.2	1.4	6
Maïkéri		0.2	2
Maïnani		2.5	2
Mbanga		3.2	30
Mouarom	0.8	3	9
Moundou			1
Naïkam		6.4	
Ndjamena[1]			1
Ngalaba		0.8	11
Total	**31.1**	**66.4**	**364**

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 that 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	Survey completed		Total HH expected	Status	Theoretical % completed
	2nd Quarter	Total			
Bégada I	-	**151**		**Completed**	100%
Bégada II	-	**106**		**Completed**	100%
Béla I	-	**79**		**Completed**	100%

[1] A person in the nation's capital, N'Djamena, at the time of compensation so residence cannot be established.

Béla II	-	65		Completed	100%
Dokaïdilti	-	85		Completed	100%
Dildo	-	275		Completed	100%
Mbanga I	-	152		Completed	100%
Mbanga II	-	107		Completed	100%
Ngalaba	-	249		Completed	100%
Danmadja	-	102		Completed	100%
Mouaroum	-	85		Completed	100%
Bero	194	336	626	In progress	54%
Madjo*	23	95	127	In progress	75%
Total	217	1887	2209		

* Village surveyed with the "Impact Survey Method"

The three completed villages (Begada, Bela, and Mbanga) are presented at section 3.3.

It was decided at the end of the second quarter that all Bero's Households will be surveyed, moving from the Impact to the Village Survey method. The main reason was the difficulty in controlling data quality by doing only a partial survey of the village. The expected data quality from the Village Survey method should be the same in Bero as other villages but harder to achieve because Bero is so large. The 626 households is accurate given the current (Sept 09) known HH count.

All compensated households residing in Madjo have already been surveyed as well as those not yet compensated but with land within Madjo's fault block. However, in order to improve data quality and to get a better, more detailed picture of the situation, we decided to continue on to survey all HH in the village until the rainy season makes the village inaccessible. The expectation is to complete the whole village in the next 2 months. The third 2009 Quarterly Report should present results for this village.

The following section shows the progression of each team since July 2008.

3.2. Socio economic survey integrated into the EMP Information System

The following graph is slightly different from the one presented in previous quarterly reports. Rather than showing production rate by named month, the graph now shows production by the number of months spent in each surveyed village.

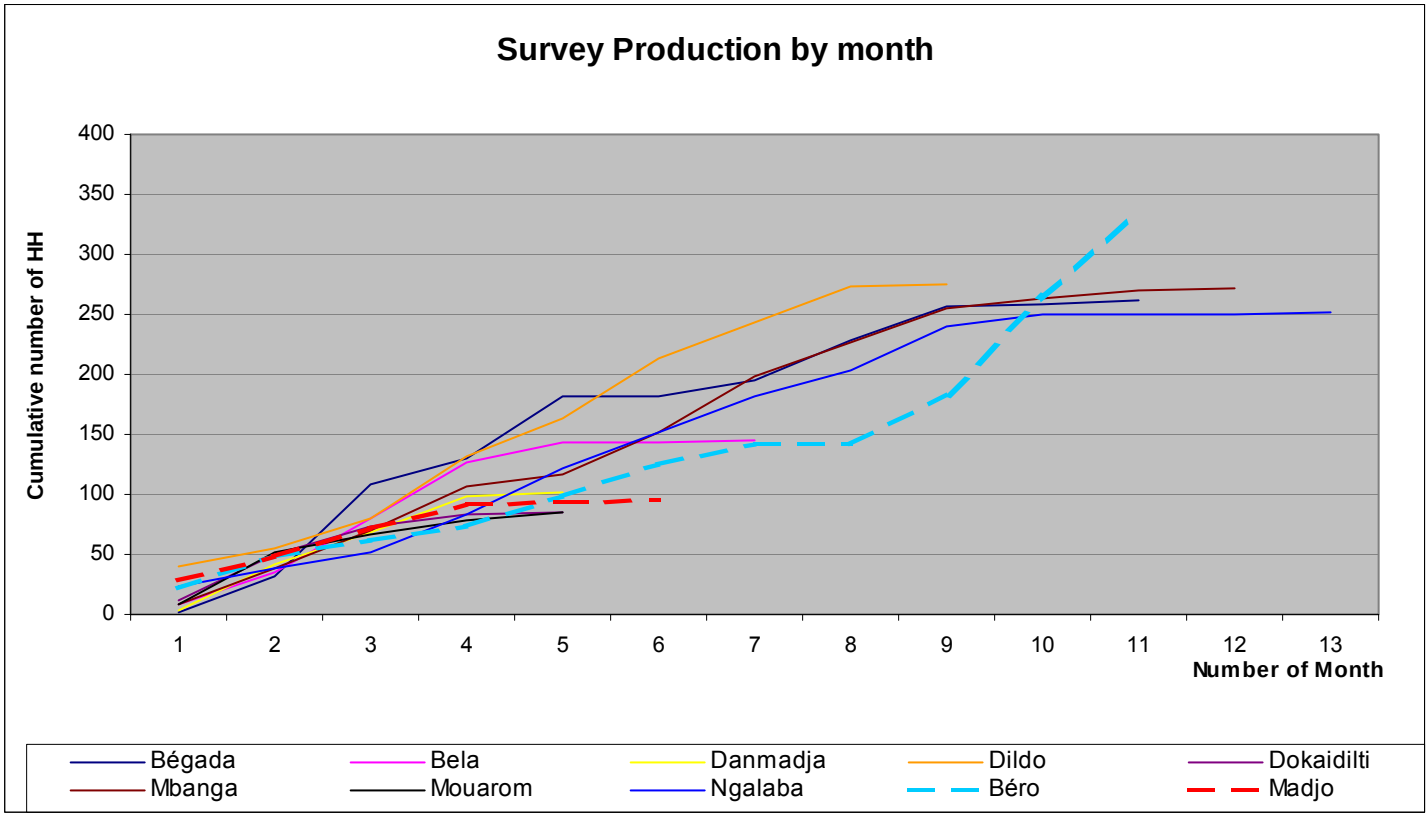


Figure 1 : Graphical and tabular views of survey progression according to captured survey in the EMP Information System.

By observing the graph, 3 general trends appear: a slow rate when a village survey begins, a higher rate of surveys by month for a certain period and finally a slower pace at the end. At the beginning, each team assigned to a village must get familiar with the villagers and the village. At the end the teams are busy identifying the land of holders who have been reluctant to declare all their holdings, so the pace again slows. The two dashed curves are for the remaining villages: Bero and Madjo. The high productivity at Bero in the last quarter is explained by the fact that many teams have been assigned to this village since all other villages are complete. Survey teams investigating Madjo, a riverine village prone to flooded farm fields, have been increased with the objective to complete it August ahead of the heavy rains.

3.3. 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.

Table 8: Available Land.

	Dokaidilti	Dildo	Ngalaba	Danmadja	Mouarom	Begada	Bela	Mbanga
Village Area in Hectares	686	1887	2118	480	1352	3321	2200	3068
Settlement area in Hectares (% village)	24 (3%)	46 (2%)	97 (5%)	34 (7%)	23 (2%)	56 (2%)	35 (2%)	62 (2%)
Project Perm. Land Take + Temp. No Returned in Hectares (% village)	79 (12%)	185 (10%)	253 (12%)	61 (13%)	149 (11%)	288 (7%)	172 (8%)	189 (6%)
Available Land inside the village limit in Hectares (% village)	583 (85%)	1656 (88%)	1768 (83%)	385 (80%)	1180 (87%)	2977 (90%)	1993 (91%)	2817 (92%)
Available Land Density inside the village limit (Hectares/Person)	1.09	1.23	1.34	0.68	2.64	2.32	2.38	1.88
Cultivated (Field) or Owned (Fallow) by Residents outside of village in Hectares (% of total land of the residents)	40 (8%)	106 (6%)	69 (4%)	122 (23%)	217 (26%)	76 (3%)*	73 (4%)	70 (3%)
Total Cultivated (Field) or Owned (Fallow) by Residents in Hectares (% of total land of the residents)	490	1561	1601	487	850	2763	1666	2270
Available Land Density inside and outside the village limit (Hectares/Person)	0.92	1.16	1.21	0.85	1.90	2.15	1.99	1.51

Table 9: Use of Available Land.

	Dokaidilti	Dildo	Ngalaba	Danmadja	Mouarom	Begada	Bela	Mbanga
Cultivated (Field) or Owned (Fallow) by non-residents inside the village limit in Hectares (% of available land inside village limit)	121 (21 %)	141 (9 %)	141 (8 %)	17 (4 %)	531 (45%)	272 (9%)	389 (20%)	577 (20%)
Cultivated Field Farmed by Resident inside the village limit in hectares (% of available land)	302 (52 %)	668 (40 %)	1043 (59 %)	241 (63 %)	291 (25%)	1190 (40%)	755 (39%)	1122 (40%)
Fallow Owned by Resident inside the village limit in hectares (% of available land)	149 (26 %)	792 (48 %)	553* (31 %)	124 (32 %)	342 (29%)	1497 (50%)	838 (42%)	1078 (38%)
Ratio Fallow/Field	0.49	1.19	0.53	0.51	1.18	1.26	1.11	0.96

* 63 Ha of bush included in fallow

Table 10: Social summary for Completed Village Land Survey.

	Dokaidilti	Dildo	Ngalaba	Danmadja	Mouarom	Begada	Bela	Mbanga
Nbr of Residents	534	1346	1324	570	447	1285	837	1501
Men	243	657	668	284	216	608	434	718
Women	291	689	656	286	231	677	403	783
Avg Age in Years	19	20	20	19	19	19	18	18
Nbr HH	85	275	250	101	85	259	144	269
Avg. HH size (# HH Members)	6.3	4.9	5.3	5.7	5.3	5.0	5.9	5.6
Avg. cordes Land per HH inside and outside village	11.3	11.2	12.6	10.3	19.6	20.7	22.8	16.6
Avg. Resettlement Factor (Based on all land inside and outside village)	1.80 Corde/HhM	2.29 cordes/HHm	2.39 cordes/HhM	1.8 Corde/HhM	3.69 cordes/HhM	4.17 cordes/HhM	3.88 cordes/HhM	2.95 cordes/HhM
% Area cultivated (Field) or owned (Fallow) by women out of total area "owned" by village residents inside and outside village	15%	17%	29%	22%	14%	30%	12%	22%

The new villages completed are Begada, Bela and Mbanga, three neighbors and, as far as their land parameters go, similar villages:

- All three villages have a similar total area, Bela being a little bit smaller.
- They all have between 6% and 8% of their total land used by the project at the moment.
- Just a small percentage (3%-4%) of their land in cultivation or fallow is outside the village limit.
- Within the village limit, there is a little bit more land in cultivation than in fallow (0.96 ha of fallow for each ha of cultivated) in Mbanga, while there is a little bit more fallow in Begada and Bela.
- Bela and Mbanga have both a relatively big amount of land cultivated by non-residents (both 20%), while Begada has only 9%.

Bigger differences appear when we look at the social data, especially because the population in Mbanga is about twice the number of Bela and 17% larger than Begada, but the average age and the ratio of men/women is about the same.

- The population difference results in a higher density (1.88 ha/individual) in Mbanga than in Bela and Begada (2.38 and 2.32 ha/individual).
- Even if Bela has more land per HH on average (22.8 cordes), the average eligibility factor is smaller than Begada because the average HH size is about 1 individual more in Bela (5.9 ind. Vs 5.0 ind.).
- Because of the large population in Mbanga (1501 individuals), the average amount of land is smaller than in the two other villages (16.6 cordes).

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

Table 11: Land Distribution

Resettlement Factor Range	Bégada				Mbanga			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	7	39	3.8	3.82	5	32	2.37	2.47
0.500 - 0.667	3	32	1.63	3.13	5	29	2.37	2.24
0.668 - 0.999	9	75	4.89	7.34	13	120	6.16	9.25
1.000 - 1.499	40	239	21.74	23.39	64	486	30.33	37.47
1.500 - ...	125	637	67.93	62.33	124	630	58.77	48.57
Total	184	1022	100	100	211	1297	100	100

Resettlement Factor Range	Béla				Ngalaba			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	2	20	2.44	3.76	8	48	3.85	4.0 %
0.500 - 0.667	3	25	3.66	4.70	8	62	3.85	5.3 %
0.668 – 0.999	1	3	1.22	0.56	15	92	7.21	7.8 %
1.000 – 1.499	16	114	19.51	21.43	85	552	40.87	46.7 %
1.500 - ...	60	370	73.17	69.55	92	427	44.23	36.2 %
Total	82	532	100	100	208	1181	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	1.39	0.5 %	5	40	5.75	7.5 %
0.500 - 0.667	1	4	1.39	1 %	6	38	6.9	7.1 %
0.668 - 0.999	3	16	4.17	4 %	13	74	14.94	13.8 %
1.000 - 2.499	29	167	40.28	41.8 %	41	277	47.13	51.8 %
2.500 - ...	38	211	52.78	52.8 %	22	106	25.29	19.8 %
Total	72	400	100	100	87	535	100	100 %

Resettlement Factor Range	Dokaidilti				Dildo			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 – 0.499	5	52	6.85	10.5 %	5	33	4.85	5.5 %
0.500 – 0.667	4	33	5.48	6.6 %	6	34	5.83	5.7 %
0.668 – 0.999	12	87	16.44	17.5 %	16	119	15.53	19.9 %
1.000 – 1.499	31	247	42.47	49.7 %	45	269	43.69	44.9 %
1.500 - ...	21	78	28.77	15.79 %	31	144	30.1	24.0 %
Total	73	497	100	100 %	103	599	100	100 %

By comparing Land Distribution data, Bela presents a low number and percentage of At-Risk households. More than 90% of the population is above a factor of 1 corde/HhM, which is a ratio that can be compared with healthy villages like Mouarom. Begada and Mbanga have a number and percentage of At-Risk households similar to all the other surveyed villages. As discussed in the previous Quarterly report, In Fill Drilling continues to not significantly increase the number of At-Risk households as highlighted in the above discussion of the three village surveys completed in the second quarter.

4. Land Return Monitoring in 3-Fields[2]

4.1. 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
2) Permanent with No Public Access

} Permanent Land Use

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 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			*2Q08*		
Land Use Type	***Compensated***	***Returned***		***Compensated***	***Returned***	
1) Permanent With Public Access	616.2	27.5	4%	11.9	0.1	1%
2) Permanent With No Public Access	871.6	86.1	10%	19.2	0.2	1%
Sub Total Permanent	**1487.8**	**113.6**	**8%**	**31.1**	**0.3**	**1%**
3) Temporary Returned Without Restriction	429.9	305.9	71%	7.5	9.3	124%
4) Temporary Returned With Restriction	1555.1	538.3	35%	55.0	12.7	23%
Sub Total Temporary	**1985.0**	**844.2**	**43%**	**62.5**	**22.0**	**35%**
TOTAL (Permanent + Temporary)	***3472.8***	***957.8***	28%	***93.6***	***22.3***	24%

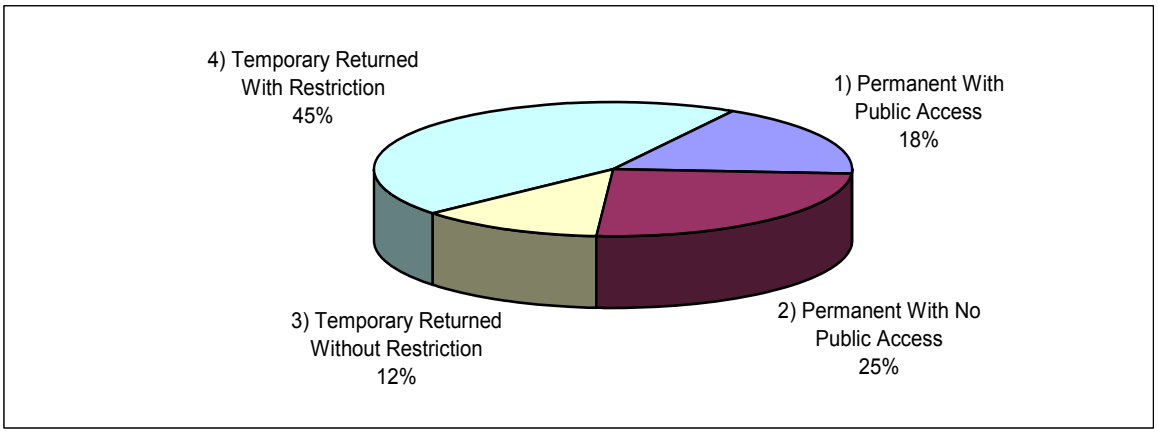


Figure 2: Total Compensated and Returned Land in OFDA

4.2. 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

[2] 3-Fields Area includes the oil concessions of Miandoum, Bolobo and Komé

already drilled, it is not rare to see that the new pads will fall on top of existing roads or flowline right of way. Therefore the area already acquired for an initial facility type (or land use) is not acquired but is just transferred from one category of acquired land to another one, without affecting the global footprint.

	Total Compensated			*4Q08*		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Main Road	74.3	0.0	0.0%	0.0	0.0	0.0%
Access Road	541.9	27.5	5.1%	11.9	0.1	0.8%
Total	616.2	27.5	4.5%	11.9	0.1	0.8%

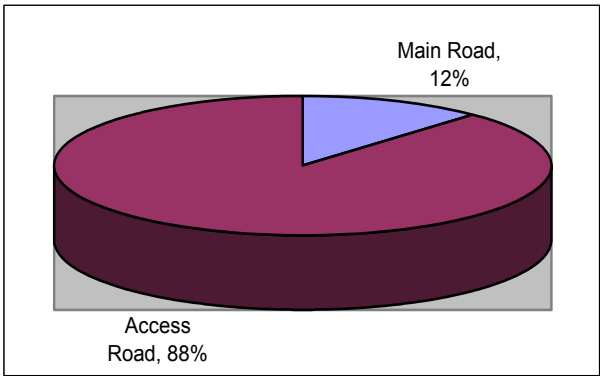
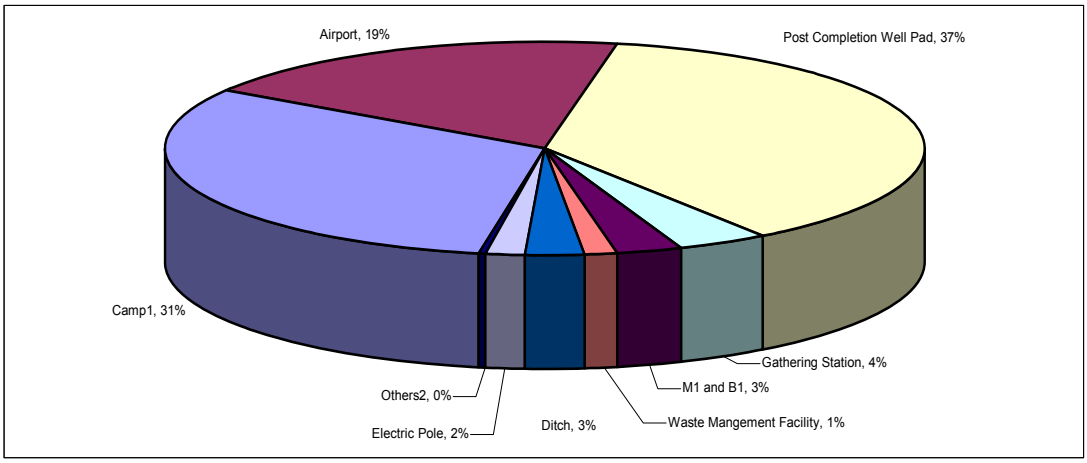


Figure 3: Land Use Type 1) Permanent with Public Access (Areas in hectares)

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			4Q08		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Camp[1]	272.0	0.0	0.0%	0.0	0.0	0.0%
Airport	165.3	67.4	40.8%	0.0	0.0	0.0%
Post Completion Well Pad	321.9	12.4	3.9%	19.2	0.2	1.0%
Gathering Station	34.3	4.6	13.4%	0.0	0.0	0.0%
M1 and B1	24.1	4.5	18.9%	0.0	0.0	0.0%
Waste Mangement 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	13.3	0.0	0.0%	0.0	0.0	0.0%
Others[2]	3.2	0.0	0.0%	0.2	0.0	0.0%
Total	868.6	88.9	10.2%	19.4	0.2	1.0%

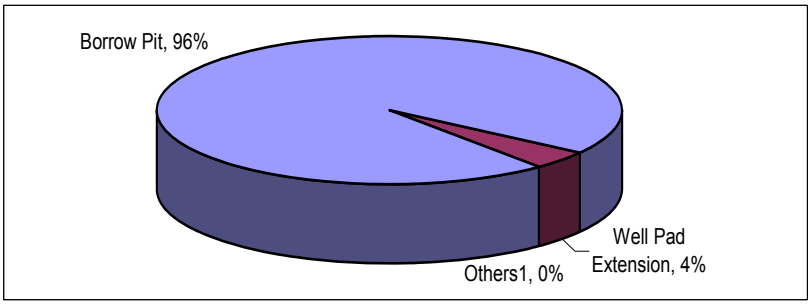


1. Kome Base, Kome 5, Lagoon, Leach Field
2. Piezometers, Service Area, Water Well

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 facilities are returned to population. 10% of the area compensated as "permanent with no public access" has therefore been returned.

	Total Compensated			4Q08		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Borrow Pit	412.1	295.3	71.7%	7.2	6.5	90.3%
Well Pad Extension	17.5	10.5	60.0%	0.3	2.7	900.0%
Others[1]	0.3	0.0	0.0%	0.0	0.0	0.0%
TOTAL	429.9	305.8	71.1%	7.5	9.2	N/A

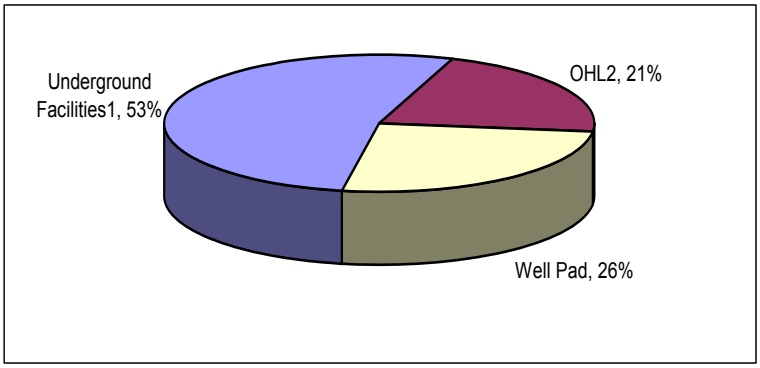


1. Water Line Access & Soil Boring

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			*4Q08*		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Underground Facilities[1]	818.4	154.7	18.9%	31	0.0	0.0%
OHL[2]	332.3	63.7	19.2%	0.0	0.0	0.0%
Well Pad	400.7	319.8	79.8%	24.0	12.7	52.9%
TOTAL	1551.4	538.2	34.7%	55.0	12.7	23.1%



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 * 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. How access is achieved is constrained by hazards related to safety: the growth of high grasses or normal crops during the rainy season impedes visibility for repair crews and security patrols, who risk colliding with people, cars, animals, bicycles, etc. making their way along the obscured footpaths. The risk is increased at night. Secondly, crops or grasses will be burned off intentionally or by bush fires at the end of the agricultural season, depositing carbon on the lines and increasing the probability of short circuits. EEPCI plans to resolve this seeming dilemma by planting the OHL ROW in low growing forage crops that will be used during the rainy season by children gathering fodder for their tied-up domestic animals and by the animals themselves once the rains have stopped.

4.3. Project Footprint

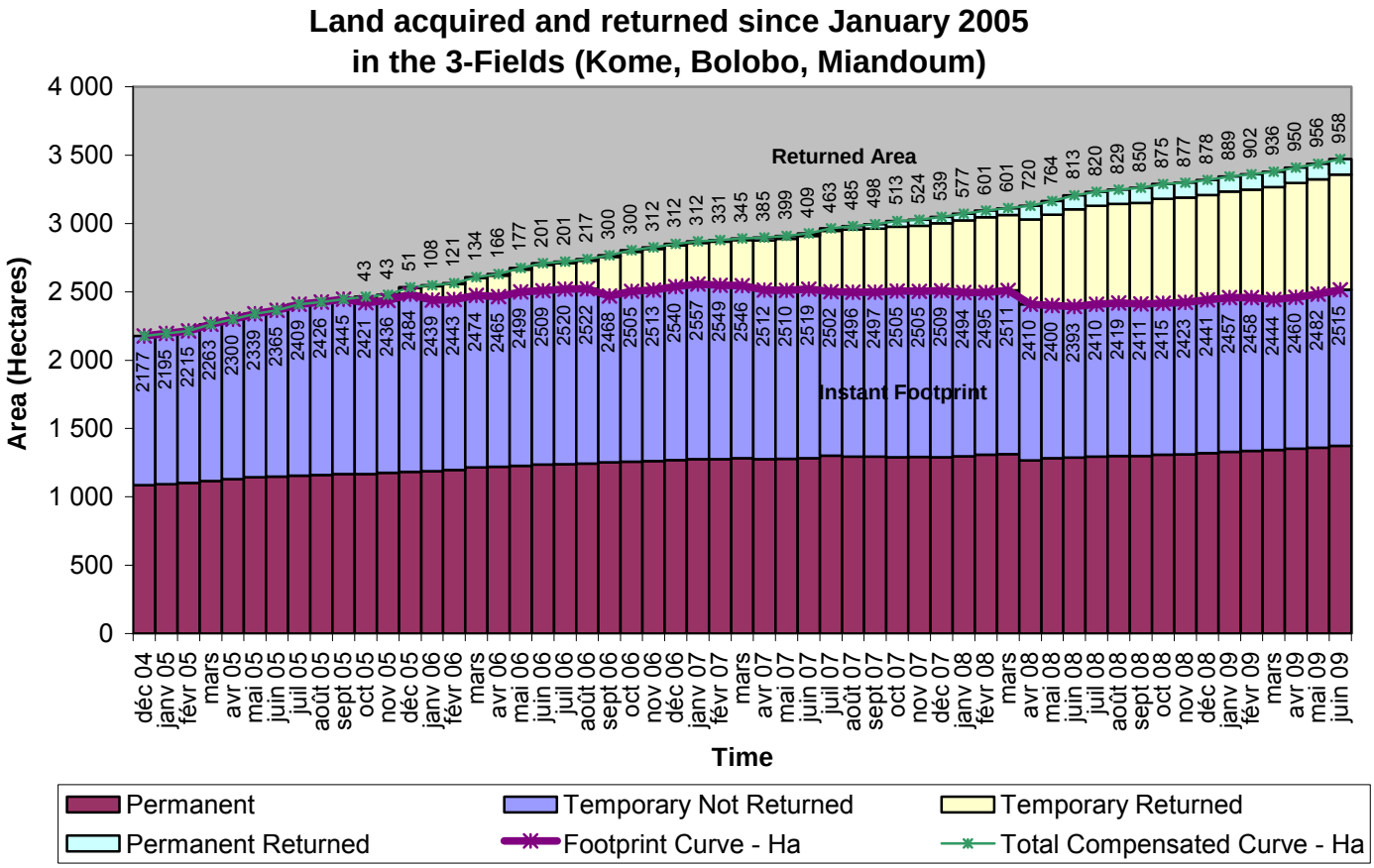


Chart 9: Footprint Chart

- Highlights
- Infill impact has been counterbalanced
- Change in trend
- Why trend changed

In the second quarter, the project footprint has increase by about 70 ha due to the focus on acquiring enough land for a number of well pads to be built ahead of the rainy season. Each year a sufficient stock of well pads is needed to keep the drilling rigs working through the rainy season.

Because the wells will be drilled throughout the rainy season, land reclamation and return has to wait for the drilling to be completed and for the rains to stop so construction can restart. Once the rainy season ends, the Project will reduce the well pad size of the newly drilled wells and reclaim the land for return to the villages. In this way reclamation and return will counterbalance the infill acquisition.

In addition to the reclamation and return of parts of the new well pads, reclamation is ongoing in the laterite borrow pits BBP 7 and KBP 9 scheduled for land return in 3Q09.

5. Annex

5.1. 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%

5.2. 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 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.

An important learning from the completed village land surveys is that the declarative data used to calculate non-viability often overstated the number of people dependent on the household's land and understated the amount of land available. Therefore using the number of non-viable households found during a village survey presents a more accurate picture of project impact in the village. But such data was not available when the Land Use Impact list was first calculated. For each village, as such data has become available, the pre-project criterion has been dropped and only the current but accurate criterion of currently non-viable HH (compensated and not compensated) has been used when a village is open to **reclassification.**

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.

5.2.1 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 2		
	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:

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

Threshold:

Threshold Criteria 3		
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.

5.2.2 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:

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

*This statistic excludes non-viable households with resettlement options

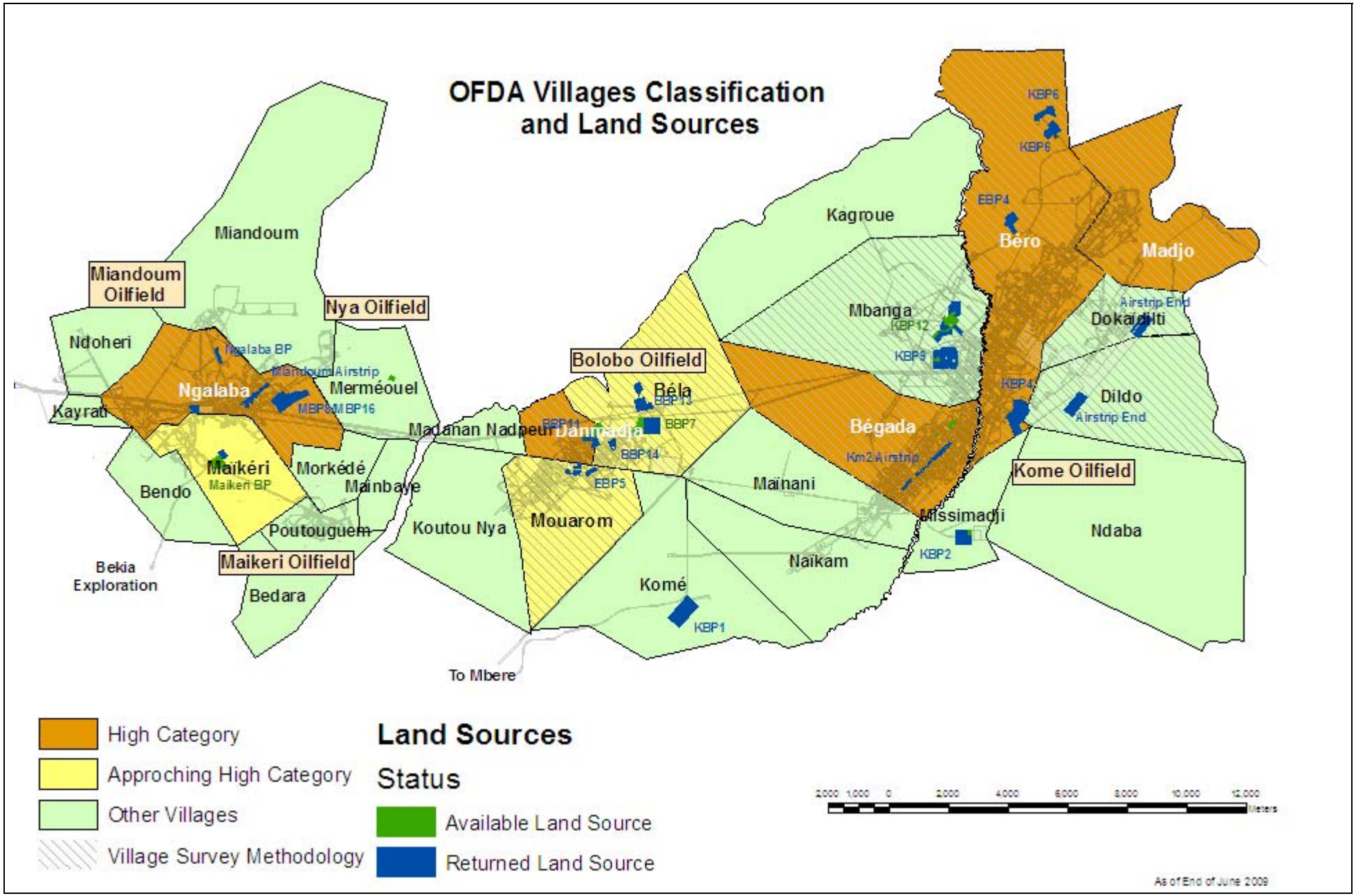
Threshold:

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

5.3. List of Severely impacted Household in Dildo, Ngalaba, Danmadjia and Mouarom with and without Resettlement Option

Village	Quarter	Household	CdM	ID	Age	Nbr Comp	Area Comp	Training	On F.	Off F.	Last Survey	Survey	Nbr Field	Area Now	HhM	Fct Now
Dildo	Dildo	HH000197	Mme.	ID030048	39	2	0.358				11/3/2007	ES003163	0	0	5	0
Dildo	Dildo	HH000239	M.	ID020144	34	3	3.395				12/16/2007	ES003210	2	4.36	7	0.623
Dildo	Dildo	HH000242	M.	ID033717	24	1	0.565				12/27/2007	ES003213	1	3.185	5	0.637
Dildo	Dildo	HH000515	M.	ID021425	29	4	1.649	1		2004	5/28/2008	ES003925	2	4.27	8	0.534
Dildo	Dildo	HH000580	M.	ID021745	27	1	1.873				3/23/2008	ES003592	1	1.572	4	0.393
Dildo	Bayande	HH000615	M.	ID029953	28	1	0.109				2/20/2008	ES003629	2	4.606	10	0.461
Dildo	Bayande	HH000634	Mme.	ID036168	44	3	1.929	1		2006	2/17/2008	ES003648	4	4.047	7	0.578
Dildo	Bayande	HH000640	M.	ID020146	39	4	5.197				1/23/2008	ES003654	2	1.04	10	0.104
Dildo	Bayande	HH000674	M.	ID000029	50	1	7.78				3/2/2008	ES003688	1	2.25	4	0.563
Dildo	Bayande	HH000731	M.	ID022581	40	2	0.096				1/27/2008	ES003745	1	1.477	4	0.369
Dildo	Dildo	HH000846	Mme.	ID022590	33	2	0.246	1		2006	1/14/2008	ES003867	1	1.575	3	0.525
Ngalaba	Ngalaba	HH000125	M.	ID032743	26	1	0.004				9/29/2007	ES003077	1	1.977	3	0.659
Ngalaba	Ngalaba	HH000131	M.	ID020240	28	3	0.633				9/29/2007	ES003083	1	1.175	3	0.392
Ngalaba	Ngalaba	HH000149	M.	ID021002	29	3	1.3				10/31/2007	ES003114	1	1.259	5	0.252
Ngalaba	Ngalaba	HH000178	M.	ID023626	38	3	0.375				11/23/2007	ES003144	2	3.62	7	0.517
Ngalaba	Ngalaba	HH000179	Mme.	ID020974	34	6	1.111				11/23/2007	ES003145	2	4.368	7	0.624
Ngalaba	Ngalaba	HH000475	Mme.	ID029275	44	1	0.078				11/24/2007	ES003466	2	3.762	6	0.627
Ngalaba	Ngalaba	HH000523	M.	ID021504	32	3	1.268	1		2004	12/16/2007	ES004005	4	6.116	10	0.612
Ngalaba	Ngalaba	HH000526	M.	ID020231	32	6	1.196	1		2004	12/9/2007	ES004002	4	7.948	14	0.568
Ngalaba	Ngalaba	HH000700	Mme.	ID021096	40	3	0.574				1/11/2008	ES003714	3	2.404	7	0.343
Ngalaba	Ngalaba	HH000709	M.	ID028655	21	4	0.5				12/11/2007	ES003723	1	2.913	7	0.416
Ngalaba	Ngalaba	HH000716	M.	ID013639	33	6	1.104				12/14/2007	ES003730	2	4.917	10	0.492
Ngalaba	Ngalaba	HH000724	Mme.	ID029270	50	1	0.81				12/16/2007	ES003738	3	3.322	5	0.664
Ngalaba	Ngalaba	HH000737	M.	ID021396	23	5	1.778				12/15/2007	ES003751	4	5.428	10	0.543
Ngalaba	Ngalaba	HH000837	M.	ID023896	31	3	0.728				3/11/2008	ES003858	3	4.716	8	0.59
Ngalaba	Ngalaba	HH000924	M.	ID021206	22	7	1.678				5/9/2008	ES003950	1	3.715	7	0.531
Ngalaba	Ngalaba	HH001061	M.	ID023895	23	1	0.219				6/6/2008	ES004088	1	1.156	3	0.385
Maïnani	Maïnani	HH000297	M.	ID021802	38	4	0.525				12/18/2007	ES003278	3	4.523	14	0.323
Maïnani	Maïnani	HH000300	M.	ID021323	37	3	1.951				12/18/2007	ES003281	4	5.489	18	0.305
Maïnani	Maïnani	HH000305	M.	ID022252	37	3	1.315				12/18/2007	ES003287	3	3.153	8	0.394
Maïnani	Maïnani	HH000994	M.	ID022253	60	2	0.776				6/21/2008	ES004034	3	2.619	7	0.374
Maïnani	Maïnani	HH001000	M.	ID021800	26	18	5.409	1		2007	6/13/2008	ES004040	4	5.123	8	0.64
Mouarom	Mouarom	HH001253	M.	ID022991	26	4	2.156	1	2008		8/29/2008	ES004287	4	2.25	4	0.563
Mouarom	Mouarom	HH001288	M.	ID039978	29	2	0.238				9/7/2008	ES004329	4	0.713	2	0.357

5.4. OFDA Village Map



5.5. 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/labour 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.