Esso Exploration & Production Chad Inc.

Village Impact Quarterly Report

Land Use Mitigation Action Plan

First Quarter 2011

Prepared by the EMP Department
May 2011

Table of Contents

Executive Summary 3

1.0 Village Classification 6
- 1.1. Land Use Criteria 9
- 1.2. Socio-Economic Criteria 11

2.0 Acquired Land Monitoring 14

3.0 Socio-Economic Monitoring 15
- 3.1. Village Surveys 15
- 3.2. Completed Villages 18
- 3.3. Compensated and Returned Land by land Use Type 20
- 3.4. Compensated and Returned Land by Facility Rype 22

Conclusion 26

Annex

1 Land Use and Socio-Economic Criteria 27
2 OFDA Village Map 30
3 Detailed Data Footprint Maps for Villages 31
4 Detailed Calculation of Resettlement Factors for VLUS Villages 40
5 Resettlement Factor Distribution of the Compensated Households in VLUS Villages 44
6 Maps Of Villages Not Previously Published 47

List of Acronyms & terms used in this report

BBS	Basic Business Skills Training
CRCP	Chad Resettlement and Compensation Plan
CdM	Household Chief (Chef de Ménage)
EEPCI	Esso Exploration & Production Chad Inc (the Project)
Eligible	Generic term to designate an individual that may be eligible to the EMP Resettlement Program.
EMP	Environmental Management Plan
EMP-IS	EMP Information System: manages Land Acquisition, Socioeconomic and Land return data.
ECMG	External Compliance Monitoring Group
HH	Household
HHH	Head of Household
HHM	Household Member. Include the CdM and all it dependents, regardless their age.
IFC	International Finance Corporation
LCC	Local Community Contact
MARP	Participatory Rural Assessment process
NGO	Non Governmental Organization
Potential Eligible	Individual that may be eligible to the EMP Resettlement Program. Analysis must be completed.
Project Footprint	Total area occupied by the project at a given time (e.g. Compensated but not returned land)
True Eligible	Individual eligible to the EMP Resettlement Program.
VLUS	Village Land Use Survey previously called Cadastral survey. Refer to the measurement of every field, fallow & house of households.
WBG	World Bank Group

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.
- Determine eligibility (actual versus estimated land acquisition) for Supplemental Community Compensation.

The First Quarter 2011 (1Q11) Village Impact summary:

- 4 high impact villages (Poutouguem, Dokaidilti, Danmadja, Bero)
- 5 approaching high villages
- 7 moderate impact villages
- 10 low impact villages

Should be noted that while some villages have changed their position within a category no village actually changed category during the first quarter of 2011 (1Q11).

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

- Maikeri
- Dildo
- Bela
- Ngalaba
- Missimadji

The primary accomplishments of 1Q11 are:
Published Site Specific Plans (SSP) for Maikeri and Poutouguem villages.

Initiated new survey program for Land Return, e.g. who is farming land returned and how the land is being used (farmed, fallow, abandoned).

Resettlement Program

- Completed the Five Steps of Reflection Process with the 90 eligible Project affected people (PAP) of 2011 promotion. It should be noted that all have opted for the improved agriculture training program.
- A group of individuals who had previously opted for the Physical Resettlement option of the program requested to change their option to Improved Agriculture Training. 22 of these individuals did not have the 0.5 cordes of land/Household Member (HHM) that is required to participate in Improved Agriculture. These people were allowed to seek sufficient land to qualify. They asked for individual documents that specified how much land they needed to qualify. Within a few weeks 20 of the 22 secured and proved to

EMP that they had permanent rights to land equal or greater to the amount they needed to qualify for Improved Agriculture Training. The two that could not make up the shortfall this year have informed us that they are still attempting to find the required land. We have in turn confirmed to them that if they make up the short fall before October 31st 2011, they will be integrated into the 2012 class OR they remain qualified to make up the shortfall as long as Improved Agriculture Training is offered.

This situation demonstrates that if given a clear objective in terms of land requirement and if they feel the prize (in this case improved agriculture training) is of sufficient interest they will find the required land. For the project this is clearly a success story. After many years of attempting to encourage individuals on the land replacement program to find land we may have identified a strategy which will allow us to restore the livelihood of impacted individuals who only have limited land resource at present.

- A continuing education training program was put in place to enhance the skills and knowledge of the staff of APROFODEL and CEDIFOP. The two local Non Governmental Organizations (NGO) provide the Improved Agriculture and Basic Business Skills (BBS) training programs respectively. This training focused on the management of micro-enterprises, literacy training and taking ownership of one's future.
- The BBS program was started on January 31st. The 90 resettlement eligible people and 96 of their spouses were enrolled into this program. The first stage of the program should be completed by April 15th. At present, an additional 259 of these people's neighbors are auditing the classes (classes are held in the villages and are open to their neighbors joining in).
- The 56 members of the 2010 promotion completed their dry season training. They have all received their equipment and livestock grants. They will be monitored starting January 2012 in order to evaluate their level of livelihood restoration.
- APROFODEL initiated making contact with the 90 eligibles of the 2011 promotion in preparation for the rainy season training which should start in late May 2011.
- Livelihood Restoration Monitoring of the 263 at risk and non viable eligible's, who had completed improved agriculture training, was started in early February. By the end of the first quarter 74 eligible's had been surveyed.
- A continuous improvement to the process leading to and including the 5 Steps of Reflection is underway and should be completed by the end of the second quarter 2011.

Community Compensation and Supplemental Community Compensation Program

- A training program was put in place for all of the EMP team (ISM Consult, Socioeconomics, LUMAP and Local Community Contacts) regarding the new streamlined MARP process. An approach used to enhance community participation in the selection of their community and supplemental community compensation packages. The training included workshops and a hand on real time session in Morkete village.
- 3 MARP sessions were held in late February and March resulting in 3 communities making a final choice as to their first community compensation. Not only did this modified process make it possible to obtain a consensus around the selected option (all three resulted in a consensual decision) these were completed in less than a week each. The choices made were:
    - Morkete - Flour Mill
    - Maikeri – Three Classroom School plus furniture
    - Poutouguem - Three Classroom School plus furniture
- The ISM Consult sub-contract for construction of Maikeri school was awarded in late March, construction started in April and should conclude early third quarter 2011. Children of Maikeri should start their next school year in this new school.
- The ISM Consult sub-contract for construction of the Morkete Flour Mill was awarded in April with construction scheduled to begin in May.

The work plan for Second Quarter 2011(2Q11) includes:

- Complete the integration of the land use data (V2) from all of the impact surveys completed in 2010. Preliminary results generated from this data should be presented in our second quarterly report for 2011.
- Have sufficient number of monitoring surveys completed to gain some insight as to level of livelihood restoration achieved by Improved Agriculture Training graduates.
- Initiate pilot test on the level and type of use of fragmented land parcels.
- Continue integration and development of the land return surveys.
- Conduct a Village Land Use Survey at Missidmadji, Missimadji is comprised of about 20 households. This survey should give us a more precise idea of the impact we have had on this community and on producers of the eastern part of Begada, who appear to migrate back and forth between the two communities.
- Complete MARP process in the four remaining impacted villages of the Maikeri oilfield.
- Complete construction of the Maikeri school and of the Morkete Flour Mill.
- Start construction of Poutouguem school and Bekia 2 Flour Mill.

1.0 Village Classification

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 Use Survey (VLUS) 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 declarative 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.

Table 1 : Village Classification Quarter Just Ended

Categories	Villages - 1Q11	Villages – 4Q10
High	• **Poutouguem** • **Dokaïdilti** • **Danmadja** • **Bero**	• **Poutouguem** • **Dokaïdilti** • **Danmadja** • **Bero**
Approaching High (Watch List)	• **Maïkéri** • **Ngalaba** • **Bela** • **Dildo** • Missimadji	• **Maïkéri** • **Ngalaba** • **Dildo** • **Bela** • Missimadji
Moderate	• **Mbanga** • **Madjo** • Benguirakol • Madana Nadpeur • Maïnani • Ndoheuri • **Begada**	• **Madjo** • **Mbanga** • Madana Nadpeur • Maïnani • Benguirakol • Ndoheuri • **Begada**
Low	• Bendo • Kaïrati • Kome Ndolobe • Meurmeouel • Miandoum • Morkete • **Mouarom** • Naïkam • Maïmbaye • Koutou Nya	• Bendo • Kaïrati • Kome Ndolobe • Meurmeouel • Miandoum • Morkete • **Mouarom** • Naïkam • Maïmbaye • Koutou Nya

Villages in bold have a Site Specific Plan (SSP)

While no village actually changed impact category during the last quarter 7 villages actually changed their position within their original category, some inching forward others downward. These shifts in positioning may be due to a number of occurrences:

- New land take or land return affecting the foot print of the Project in the communities.
- New land take creating new non-viable households.

- Completion of a given VLUS and use of this data instead of the declarative data. As declarative data tended to increase the number of non-viable households (HH), the VLUS generally reveal reduced numbers of non-viable HH.

As per the LUMAP, a Site Specific Plan was developed for villages which were deemed to have been or had the potential to be significantly impacted (12 villages). Villages for which an SSP was prepared are presented in bold in Table 1 (page 5). In all SSPs which were completed and fully implemented, only low residual impacts remain.

In Table 2 (below), the four SSP's which are still in the process of implementation in 1Q11 are listed. Given the actual low socioeconomic impacts ascertained through the VLUS, going forward, the need for SSP for other villages will be made on a case by case basis (for example: Missimadji will be determine once the VLUS and data analysis is complete).

Table 2: Site Specific Plan Development

Village	Site Specific Plan Developed?	Site Specific Plan Implemented?	Residual Impact
Dokaidilti	Yes	In Progress	TBD
Bero 3	Yes	In Progress	TBD
Poutouguem	Yes	In Progress	TBD
Maïkéri	Yes	In Progress	TBD

TBD: To Be Determined

A brief description of the situation in villages where Site Specific Plans are presently being implemented follows:

- Maikeri: This village went through the MARP process in mid March. They chose a three room school with classroom furnishings. Construction is presently underway; it should be completed in the early part of the third quarter. Maikeri's children should start their next school year in their new school.

  No impacted non-viable uncompensated household heads remained in Maikeri as of November 2010. Any individuals impacted or identified since then will become eligible for training with the 2012 class. The picture illustrates the level of completion of the school on the 18th of May.

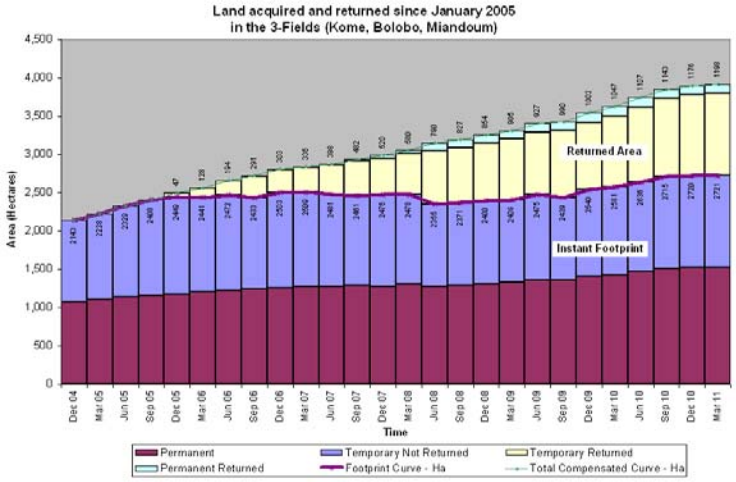
- Poutouguem: This village went through the MARP process on the 26th of March. They chose a three room school with classroom furnishings. Construction is presently underway; it should be completed towards the end of the third quarter. Poutouguem's children should start their next school year in their new school.

As of November 2010, 5 impacted non-viable household head were eligible for training. After the 5 Steps of Reflection process they all opted for BBS and Improved Agriculture Training.

- Morkete: While a low impact village Morkete also went through the MARP process in late February. They unanimously opted for a Flour Mill as their Community Compensation project. Construction of their mill started in May, the building should be completed and equipped in June.

1.1. Land Use Criteria

Figure 1: Overall footprint of the Project in hectares



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 3 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.

As shown in figure 1, the footprint of permanently and still temporarily occupied acquired land continues to show a slight increase again in 1Q11. 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.

Villages in the Kome oilfield 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 charts detailing land use in the High and "Approaching High" villages listed in Table 1 (page 7) are presented in annex 3. 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 presented in annex 3 and 4 may have a number of HH which are not agriculturally viable.

When we consider the information presented in table 3 (page 11) we can easily note that the very limited growth in our footprint is not only limited to the case of villages located in the three original fields (Kome, Bolobo and Miandoum) but it also reflects the situation of villages located in the newer development areas of the OFDA (Nya and Maikeri oil fields).

Between the fourth quarter of 2010 and the first quarter of 2011, 11 villages saw an actual reduction in the Project's footprint on their territory, 7 saw no change and only 6 villages were affected by a net increase of the Project's footprint.

Of this last group the case of Mbanga stands out. In this village the project's footprint grew by more than 17 ha. This is due to the addition of a number of wells, flow line and access roads as part of the In-fill program. It must be noted that the area required by the project in this community will be significantly reduced over the next two

quarters as much of this land is reclaimed and returned. Furthermore, these installations were all located in an area bordering the limits of the village of Béro, an area that had already been targeted for development. In this way these new installations have not caused disturbances in areas not previously affected by the Project. As the synergy teams report are not yet fully available, data concerning land use patterns of the land users still having to be validated, it is not yet possible to confirm by how much various land users have been affected and who they are.

Table 3: Land Use by Village in OFDA.

Village	Total Village Area (ha)	Permanent + Temporary Not Returned					
		Maximum land use (ha)	Land use Q4-2010 (ha)	Land use Q1-2011 (ha)	Past Quarter (% of Village Area)	Current Quarter (% of Village Area)	Delta (ha)
Dokaïdilti	812.4	157	129	128	15.9	15.7	-1.2
Béro	4239.7	603	602	600	14.2	14.1	-2.1
Bégada	2478.6	348	344	342	13.9	13.8	-1.9
Ngalaba	1879.4	330	260	255	13.9	13.6	-5.4
Danmadja	449.4	60	60	59	13.3	13.2	- 0.7
Béla	2315.1	225	222	225	9.6	9.7	3
Mouarom	1585.4	159	152	152	9.6	9.6	0
Poutouguem	544.2	62	48	51	8.8	9.4	3
Maïkéri	1208.1	112	109	112	9	9.3	3.9
Dildo	1961.3	203	178	174	9.1	8.9	-5.5
Mbanga	3050.4	253	207	223	6.8	7.3	17.3
Madjo	1921.3	140	140	133	7.3	6.9	-7.3
Missimadji	840.6	60	60	56	7.2	6.7	-4.0
Benguirakol	1053.0	96	52	58	4.9	5.5	6.8
Madana N.	323.1	17	17	17	5.2	5.2	0
Maïnani	1696.2	83	81	82	4.8	4.8	0.4
Ndoheuri	830.2	31	31	30	3.7	3.7	0
Kaïrati	179.9	6	4	4	2.2	2.2	0
Meurmeouel	1121.2	22	21	21	1.9	1.9	0
Miandoum	3189.1	62	59	59	1.9	1.9	- 0.5
Bendo	809.0	17	15	13	1.8	1.6	- 1.9
Naïkam	1773	28	21	21	1.2	1.2	0
Komé	2569.3	81	28	28	1.1	1.1	0
Morkété	524.2	7	4	4	0.7	0.7	0
TOTAL	37 354.1	3161	2841	2846	7.66	7.3	5
Total in three original fields		2721	2720	2721	2.	3.	1

As the Impact and Land-Return Survey processes become fully operational identification of the impacted land users will be done in real time. As part of the present work calendar, the Impact Survey data will be integrated into the system by the end of the second quarter at which time we will be able to make full use of it. We are hopeful that we will be able to take advantage of this new dataset by our 2Q11 report. Full integration of the data gathered as part of the Land-Return survey process will probably not be possible before the end of the year.

If we consider the maximum land use the project has had in each village we find that in 21 villages out of 24, on which data is presented in the table 3 (page 9), the project has actually reduced its footprint in relation to its' land use peak. In the three other villages we are presently at our maximum land use level. We must thus note

that although 5 villages have seen the project's footprint increase, on a quarter to quarter basis, in the case of two of these villages we have returned more land over the last few years than we are presently taking. This is the case for Mbanga which as seen the most activity over the first quarter.

1.2 Socio-economic Criteria

Village level impact 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). Others are recently established households who will progressively gain access to land from the land trust, such household may appear to be non-viable or marginal while this is only a transitional phase.

Attributing all household non-viability to Project land acquisition in these villages would overstate the Project impact.

To distinguish between these two types of situations, the social criteria using compensation database information were initially 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 most villages, 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.

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

Total non-viable individuals today	Value Now	Since Last Quarter	Made non-viable by project	Value Now	Since Last Quarter
Missimadji	42.2 %		Missimadji	14.7 %	
Madanan Nadpeur	15 .9%		Madanan Nadpeur	3.7 %	
Maïmbaye	13.4 %		NDoheuri	2.8 %	
Bendo	13.4 %		Maïmbaye	2.2 %	
Morkété	7.6 %		Morkété	1.8 %	
NDoheuri	7.5 %		Bendo	2.1 %	
Miandoum	5.2 %		Merméouel	1.6 %	
Merméouel	4.9 %		Kaïrati	1.0 %	
Kaïrati	3.6 %	↑ 1 %	Miandoum	1.0 %	

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.

Please note that the villages in this table are those where no village wide land survey has been completed.

The number of non-viable households below 2/3 corde of land per HHM is much more reliable in villages with complete VLUS 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 results presented in Table 5.

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. Table 5a was updated to include the 2010 promotion that will graduate from Improved Agriculture training in 1Q11 and the 2011 promotion that start their training in 1Q11.

Table 5b gives the perfect example of the concerns that have arisen regarding the value/accuracy of the declarative data. For thirteen out of the fifteen villages presented below, reliance on the declarative data would have resulted in a significant overestimation of the number of non-viable households in the community. In one case, being Poutouguem, the declarative data could not be used as the village was created after completion of the declarative survey. Komé is the only village where the use of the declarative data would have resulted in an underestimation of the number of non-viable households.

In a number of cases we are not talking about a few % points difference we are talking about orders of magnitude larger. For example in Mainani the declarative data would have let us believe that almost 12 % of the population was non-viable from an agricultural stand point while the cadastral survey demonstrated that this was in fact the case for only slightly more than 1% of the population. Sadly this is not an isolated case.

While no better tool, than the declarative surveys, is available for the villages presented in table 4 it must be noted that excessive reliance on this data could lead the reader to some serious interpretation errors.

Table 5a: 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	16.4
Bégada	4.4	22.8
Béro	11.4	19.8
Danmadja	15.4	35.0
Dildo	4.4	5.5
Dokaidilti	15.6	22.2
Madjo	8.2	21.3
Maïkéri	11.1	12.8
Maïnani	1.2	11.9
Mbanga	3.5	19.7
Mouarom	1.3	10.9
Naïkam	0.0	4.4
Ngalaba	9.0	12.4
Poutouguem	20.3	Not Available
Kome	2.3	1.5

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

Village	% Non-Viable Project Affected Individuals without Resettlement Option out of village residents number
Dokaidilti	9.6%
Poutouguem	4.9%
Maïkéri	4.7%
Béro	3.1%
Bégada	2.0%
Madjo-Bero	1.9%
Bela	0.6%
Maïnani	0.8%
Ngalaba	0.4%
Danmadja	0%
Dildo	0%
Kome	0%
Mbanga	0%
Mouarom	0%
Naïkam	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 (ha)		Nbr Individual
	Permanent	Temporary	
Bégada		1.9	68
Béla		3.0	7
Bemboura			9
Bendo			2
Béro	0.9	5.2	120
Dildo			2
Kaïrati			16
Komé			14
Maïkéri	1.0	4.2	24
Maïnani		0.4	1
Mbanga	1.3	16.7	152
Mékapti I			3
Ngalaba		1.9	5
Poutouguem		3.0	15
Other villages			166
Total	**12.2**	**41.1**	**604**

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 uses in another village.

As the integration of impact survey data is completed, all impacted individuals who are deemed to have been made non-viable by the project or who were already non-viable before being impacted by the project will be integrated into the roster of the 2012 Resettlement Promotion.

As we are forging ahead to complete the integration of the tools and processes developed under the LUMAP into the daily routine of socio-economics/EMP team we have also undertaken a complete review of the processes leading to and including the Five Steps of Reflection. This review should bring about a further integration of all of the individuals involved in the process such as the LCCs, the Socio-economic monitor, the survey teams (Synergy, Impact, Fragmentation and Land Return) and the staff of the subcontractor responsible for delivery of these programs. Our goal is to further enhance the interconnection between the various players and ultimately improve relations with the communities and eligible individuals.

3. Socioeconomic monitoring

3.1. Village Surveys

Table 7: Total number of HH Survey by village

Village	Cadastral survey completed	Impact Survey completed		Land return survey completed	Total HH Survey completed	Monitoring Surveys completed Q1-2011
		1st Quarter 2011	Total			
Bégada	**264**	**11**	**96**	**38**	**409**	**6**
Béla	**145**	**6**	**35**	**1**	**201**	**3**
Bero	**600**	**9**	**150**	**20**	**876**	**30**
Danmadja	**102**	**5**	**24**	**9**	**134**	**9**
Dokaïdilti	**85**	**-**	**9**		**103**	**9**
Dildo	**275**	**-**	**33**		**317**	**18**
Mbanga	**270**	**45**	**98**		**355**	**9**
Ngalaba	**251**	**12**	**97**		**362**	
Mouaroum	**85**	**-**	**1**	**22**	**118**	**2**
Madjo	**131**	**2**	**64**	**10**	**203**	**8**
Komé	**193**	**1**	**1**		**198**	**1**
Maikeri	**142**	**22**	**22**	**24**	**142**	**1**
Maïnani	**112**	**1**	**2**		**125**	**2**
Naïkam	**54**	**-**	**-**		**54**	
Poutouguem	**42**	**19**	**19**	**23**	**42**	
Other villages				**77**		**12**
Total	**2751**	**133**	**651**	**202**	**3841**	**110***

* Out of 265 to be surveyed or 41.51% completed

The objective is to use the data generated by these various surveys and investigation to track each community and household over time. Ensuring that the specific impact, whether negative (land takes) or positive (land return) are accounted for and that the Resettlement option selected as achieved its livelihood restoration goal. The contribution of each of these processes could be as follow:

- Village Land Use Surveys (cadastral survey): The VLUS serves as a form of base line for the 15 villages where it has been completed. Not only does it give us a reference point as to the situation of the household in terms of land use patterns it also gives us some important information as to the make-up of the households in terms of gender of the household head, number of dependents and much more. As it completely covers the territory of the village the land survey gives us a clear vision of the community which is made up of these households. In short it gives us a snapshot of the community and its' households at the time of the survey. It will serve as the basis to establishing the original land holding status, in short whether the household is to be considered at-risk, marginal, comfortable or wealthy.

- Impact Surveys: As the Project continues to take land via the land acquisition compensation process, the compensated household-heads will be resurveyed (if the previous survey (VLUS or Impact) is more than a year old) in order to establish the impact that the project has had or will potentially have on them in view of their present situation. During this process we establish their present land holding, accounting for any changes in land holdings (in and out), purchases or sales since the VLUS. Not only do we use this data to update the surveyed individuals file but we also follow every single transaction adjusting the file of any involved in the transaction. This process is essential to ensure that the integrity of the database is safeguarded. In addition to updating information in regard to the land use patterns of the affected individual we also update all of the social information previously collected (e.g. household make-up and so on). We thus have a clear portrait of the impacted household at the time of the impact and of their level of risk. This is referred to as the V2 data set.

  In addition to the essential part it plays in managing the actual compensation process the collection of this data will have two main advantages:

  - First, it will allow us to take a look at the changes which are occurring within impacted households. As we compare the new picture provided by the Impact Survey with the data initially collected through the land survey we can get a glimpse at the changes in family make-up (death, births, adoptions, addition of additional wives, etc.) and in terms of land acquisition (transfer from the land trust, purchases, donations, sales) and even possibly look at the role these processes play in the creation of new households or when a household changes hands (through inheritance or divorce). We will also be able to monitor changes in their landholding status or level of tolerance to future Project impacts.
  - Second, impacted individuals may represent a sample of the population. Compiling this data at the community level could give us an indication of the changes affecting the population as a whole (rate of creation of new households, population growth, death rate, birth rate, divorces, land rotation, population density, etc.). While this may not always be the case we feel that the number of impact surveys being completed in the villages where the Project is most active should be sufficient to give us an idea of changes affecting the overall population.

- Land Return Survey: This process is targeted specifically at facilities or parts of facilities that are reclaimed and returned to communities. In this case the aim is to identify the individuals/households that will eventually gain access to the parcels of land return and to establish to what use they are being put (crop, fallow or abandoned). By collecting data regarding the returned parcels versus surrounding parcels it will be possible to also identify to what extent smaller returned parcels have been reintegrated into surrounding parcel already into production, in order to increase efficiency through cultivation of large land units. The data collection takes place no less than one year after the land return process has been completed in order to ensure that the situation, being reported on, represent a stable factual situation. This will be referred to as the V3 data set.

  A further objective of this exercise is to update the information on land use patterns and availability of households. In the case of households which had been previously impacted or that had previously been deemed to be non viable we will be able to measure whether the returned land has made it possible to remediate the situation. Overall both the impact surveys and the land return surveys will become a central element in ensuring that the EMP-IS is up-kept and remains relevant over time.

- Livelihood Restoration Monitoring survey: The monitoring survey takes place one full year after graduating from their Resettlement training program. The main objective of this survey is to establish whether the graduate restores his/her livelihood using the training and its associated grant equipment and livestock. A further aim is to establish how he/she can handle future Project land takes. It should be

noted that the monitoring survey should be repeated at the two year and five year mark in order to ensure that the recovery is stable. Following completion of this survey we will be able to identify individuals and associate them to either of three situations.

- He has recovered to a level equivalent or superior to that which existed prior to him being impacted by the Project.
- He is demonstrating some progress and some reinforcement (in terms of training or equipment) may be required in order to complete his recovery
- He has shown neither progress nor potential to recover. If this is true despite the graduate's best efforts, he will be oriented towards the land replacement options. It should be noted that in cases were the individuals are not demonstrating any willingness to help themselves (i.e., that they have sold the equipment/livestock granted them and that their general behavior is not conductive to them being helped by any support measures we may develop) they may simply be excluded from the program. While this is not a decision that would be taken lightly it may become necessary in order to ensure that resources which are available for this program are directed at those individuals which can be helped.

Integrating all of this information will allow tracking the communities over time ensuring that each community and individual receives the kind of support which is best suited to his situation and process and performance feed back regarding the effectiveness of the Chad Resettlement and Compensation Plan (CRCP) implementing procedures.

3.2. Completed Villages

This section provides some analysis of the Village Land Use Survey Data for completed villages as illustrated by the Resettlement Factor distribution of the compensated households surveyed in all completed and analyzed villages. The detailed information can be found in annex 4 and 5. A summary of the distribution of the households by land holding status is presented in the table below. 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. It should be noted that the Impact survey team is presently in the process of surveying the village of Missimadji. This will bring the total of surveyed villages to 16.

Table 8: Distribution of households in relationship to land holding status for 15 villages where the land use survey has been completed.

Villages	Non-viable *	Marginal **	Comfortable + Wealthy ***
Bégada	4.8 %	4.9 %	90.3 %
Béla	5.4 %	1.1 %	93.6 %
Béro	13.3 %	9.5 %	77.2 %
Danmadja	13.7 %	13.6 %	70.7 %
Dildo	7.8 %	16.5 %	75.7 %
Dokaidilti	12.3 %	15.0 %	72.7 %
Komé	4.3 %	4.3 %	91.5 %
Madjo	11.6 %	8.0 %	80.4 %
Mbanga	5.0 %	6.0 %	89.0 %
Maikeri	9.9 %	3.6 %	86.5 %
Mainani	2.4 %	4.9 %	92.6 %
Mouarom	2.8 %	4.2 %	93.1 %
Naikam	0.0 %	0.0 %	100.0 %
Ngalaba	8.4 %	7.1 %	84.5 %
Poutouguem	15.4 %	21.1 %	63.5 %

* < 0.67 cordes per HHM ** 0.67< X <1 cordes per HHM *** >1 cordes per HHM

In general, the population of the VLUS villages are deemed to be generally well off. Only in the case of Poutouguem do we find that less than 70 % of the households are in the comfortable or wealthy category while 10 of the 15 villages have more than 80 % of the households in this category. As Poutouguem was only recently established we believe that it may not be representative of a stable village. Furthermore, the Poutouguem VLUS will be revised over the coming months given a potential distortion introduced by external factors.

When the vulnerable HH data from the VLUS is computed, the results can be summarized 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 2Q08.** Household members with options after that date are still in training or have not yet started training.

Table 9: Non-Viable Project Affected Individuals (minus HHM of HH with Resettlement Option)
0 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
Danmadja	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

The difference made up between the second and third column of the table presented above represents eligible's who are presently in the process of being trained or reinforced. These 146 project affected household heads are made up of three groups, being:

- 45 eligibles completed their training cycle a few weeks after the end of 1Q11. They originally started their training in 2009, however, they were unable to complete their dry season farming training due a change in the NGO providing the training. They nonetheless received the expected reinforcement and monitoring during 2010 and are now considered to have completed their training.

- 11 eligibles who started their training in 2010 and are presently going through a one year reinforcement and monitoring process, which is to end in March 2012.

- 90 eligibles who make up the 2011 class are presently starting their training process.

The difference between the right hand column of the table presented on the previous page and the 100% mark is made up of:

- Individuals who should make up the 2012 class. They are basically individuals who were impacted after the cut off date of October 31st 2010. This determination was based on the land survey database. The integration of the impact survey data, mostly that pertaining to the land availability, may disqualify or qualify impacted individuals who have either:
    - Gained or lost land since completion of the land survey

- Gained or lost dependants since the last survey.

- A group of individuals who has previously opted for the Physical Resettlement option of the program requested to change their option to Improved Agriculture Training. 22 of these individuals did not have the 0.5 cordes of land/Household Member (HHM) that is required to participate in Improved Agriculture. These people were allowed to seek sufficient land to qualify. They asked for individual documents that specified how much land they needed to qualify. Within a few weeks 20 of the 22 secured and proved to EMP that they had permanent rights to land equal to or greater than the amount they needed to qualify for Improved Agriculture Training. The two that could not make the shortfall this year have informed us that they are still attempting to find the required land. We have in turn confirmed to them that if they make up the short fall before October 31st 2011, they will be integrated into the 2012 class OR they remain qualified to make up the shortfall as long as Improved Agriculture Training is offered.

  This situation demonstrates that if given a clear objective in terms of land requirement and if they feel the prize (in this case improved agriculture training) is of sufficient interest they will find the required land. For the project this is clearly a success story. After many years of attempting to encourage individuals on the land replacement program to find land we may have identified a strategy which will allow us to improve the situation of impacted individuals who only have limited land resources at present.

3.3 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 table associated with Figure 2 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			1Q11		
Land Use Type	***Compensated***	***Returned***		***Compensated***	***Returned***	
1) Permanent With Public Access	684.2	30.0	4%	1.5	0.1	7%
2) Permanent With No Public Access	958.5	89.6	9%	1.6	0.5	31%
Sub Total Permanent	**1642.7**	**119.6**	**7%**	**3.1**	**0.6**	**19%**
3) Temporary Returned Without Restriction	499.7	353.1	71%	0.2	0.3	150%
4) Temporary Returned With Restriction	1777.0	725.4	41%	33.2	30.2	91%
Sub Total Temporary	**2276.7**	**1078.5**	**47%**	**33.4**	**30.5**	**91%**
TOTAL (Permanent + Temporary)	***3919.4***	***1198.1***	31%	***36.5***	***31.1***	85%

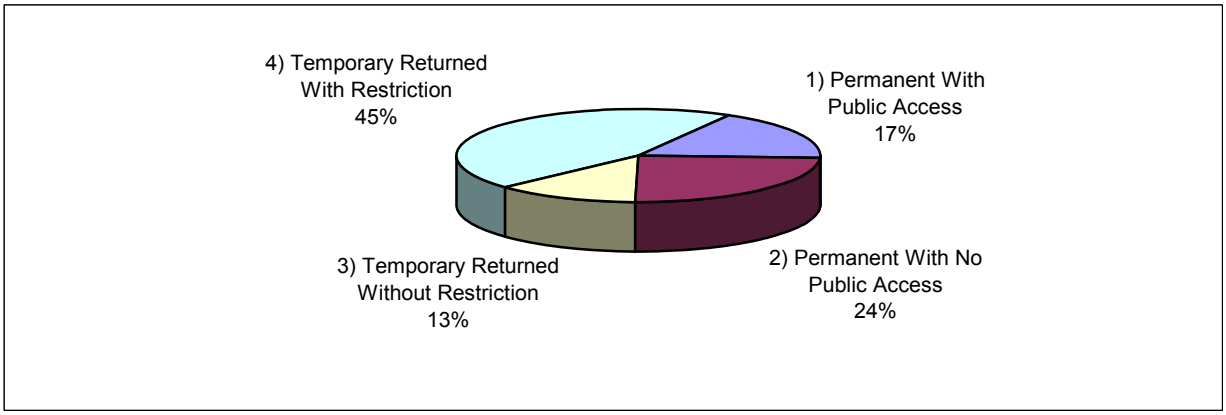


Figure 2: Total Compensated and Returned Land in OFDA

- 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.
- "1Q2011: Compensated" shows the total hectares compensated during the quarter covered in this report.
- "1Q2011: Returned" shows the total hectares returned during the quarter covered in this report.

As was presented in Table 1 (page 5) the data presented above confirms that land returned all but compensated for new land update with a net footprint increase of only 5 hectares versus a new land uptake of 36.5 hectares. Basically 85% of the new land required by the project was compensated by new land being returned. If, in addition, we take into account the fact that the first quarter of the year is usually a period when construction/drilling activities are at their peak we can conclude that present trends favor a very limited growth if not an overall reduction in the projects overall land take in 2011.

3.4 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 the contribution they have made to the overall land need of the Project. 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.

3.4.1 Permanent with public access

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			*1Q11*		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Main Road	71.2	0.0	0.0%	0.0	0.0	0.0%
Access Road	609.7	30.0	4.9%	1.5	0.1	6.7%
Total	680.9	30.0	4.4%	1.5	0.1	6.7%

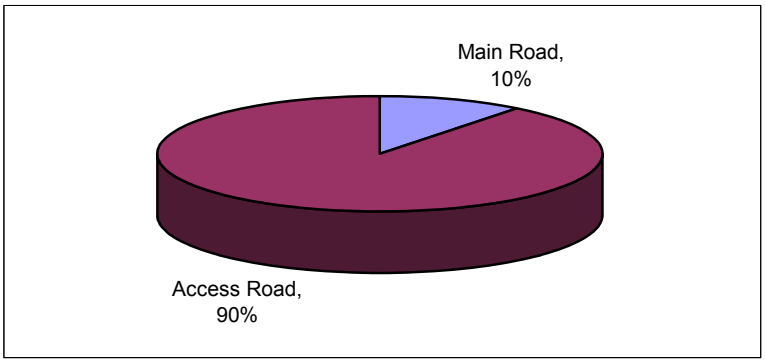


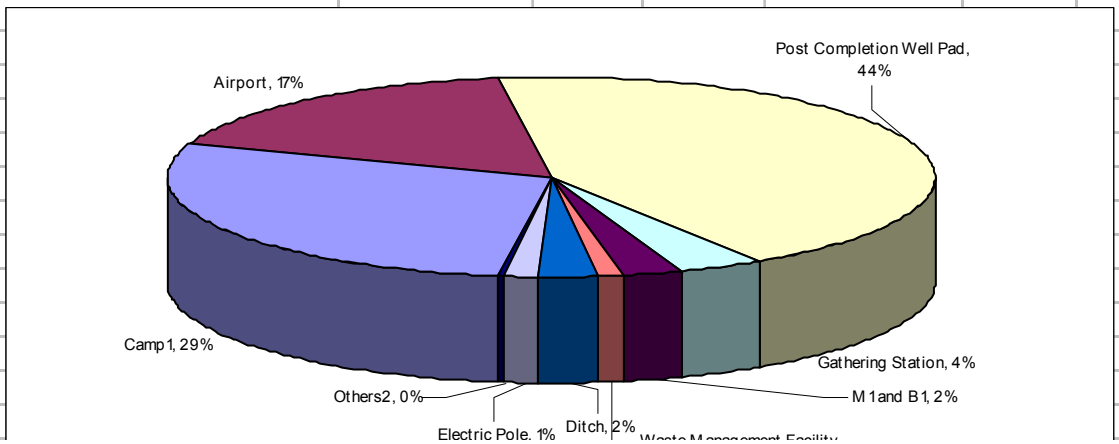
Figure 3: Land Use Type 1) Permanent with Public Access (Areas in hectares)

From a safety and environmental point of view strict enforcement of the speed limits, on these roads by all project related vehicles, limits the risks to the local population which shares these roads with Project vehicles. From an environmental point of view speed restrictions have also been a major factor in reducing the dust being generated, mainly during the dry season. The main road has been almost completely paved which has also been a major contribution in terms of safety and dust control.

While the road network put in place by the Project did result in some land being taken away from traditional uses it must be noted that they have to a large extent become part of the public infrastructure of the region. As such their overall contribution to the communities they now service brings huge benefits in term of accessibility to services both regional and national and allows some local producers to export their production outside of the region.

3.4.2 Permanent with no public access

	Total Compensated			*1Q11*		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Camp[1]	270,8	13,5	5,0%	0,0	0,0	0,0%
Airport	163,5	63,5	38,8%	0,0	0,0	0,0%
Post Completion Well Pad	412,3	13,5	3,3%	1,6	0,5	31,3%
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	955,6	103,1	10,8%	1,8	0,5	27,8%



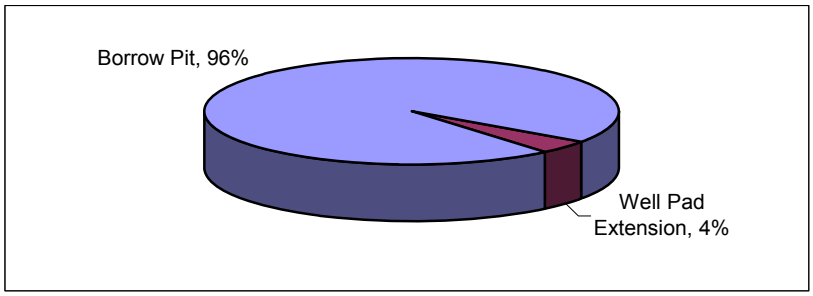
M1 and B1 stand for the two large gathering stations located respectively in Miandoum and Bolobo fields

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.

3.4.3 Temporary returned without restrictions

	Total Compensated			*1Q11*		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Borrow Pit	479.3	342.1	71.4%	0.0	0.0	0.0%
Well Pad Extension	20.1	11.0	54.7%	0.2	0.3	150.0%
Others[1]	0.3	0.0	0.0%	0.0	0.0	0.0%
TOTAL	499.7	353.1	70.7%	0.2	0.3	150.0%



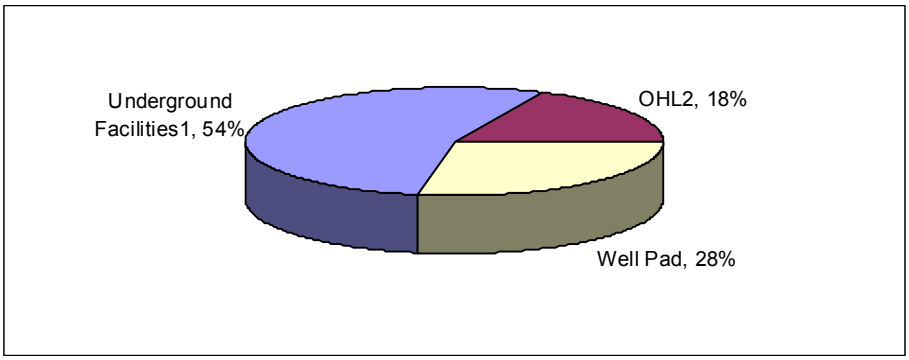
1. Water Line Access & Soil Boring

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. The establishment of a composting facility will lead to the production of a good quality organic soil amendment product which will be of great assistance in further improving the quality of returned land. The use of the compost as a means of enhancing the agronomic quality of returned land parcels will be tested during the second quarter of 2011 to be fully integrated in our regular practice during the rest of 2011.

3.4.4 Temporary returned with restrictions

	Total Compensated			*1Q11*		
Facility Type	**Compensated**	**Returned**		**Compensated**	**Returned**	
Underground Facilities[1]	960.7	230.1	24.0%	31.2	3.6	11.5%
OHL[2]	318.7	79.5	24.9%	0.0	6.8	680.0%
Well Pad	494.2	415.9	84.2%	2.1	19.8	942.9%
TOTAL	1773.6	725.5	40.9%	33.3	30.2	90.7%



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.

Conclusion

This report constitutes a turning point in terms of format and content. Starting with the next report (2Q11) we will progressively incorporate data from the Impact Survey (V1 and V2), Land Return Survey and Fragmentation Surveys (V3) and Livelihood Monitoring surveys. While the VLUS data has allowed us to gain a very good understanding of the processes taking place in the field, incorporating data from these new sources will give us a much more dynamic tool to monitor the impact of the Project on both the communities and individual land users.

From this report we can make the following conclusion:

1. Land reclaimed and returned is keeping pace with in fill drilling program land take.
2. The new streamlined MARP process made it possible to bring about closure to a number of Community Compensation processes. During the present quarter the following was undertaken in terms of Community Compensation:
    a. Morkete completed the community compensation process:
        i. Chose a flour mill
        ii. Construction is presently underway
    b. Maikeri completed the community compensation process:
        i. Chose a three room school with classroom furniture
        ii. Construction is presently underway
    c. Poutouguem completed the community compensation process:
        i. Chose a three room school with classroom furniture
        ii. Construction was started in early 2Q11.
3. The ability of a number of producers to gain access to additional land when given clear objectives and sufficient incentive was a clear milestone for the Project is terms of our ability to develop mechanisms to make the land replacement options into an effective option for those who want to or must select it.

Annex 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%

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 corde).

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 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.

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:

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

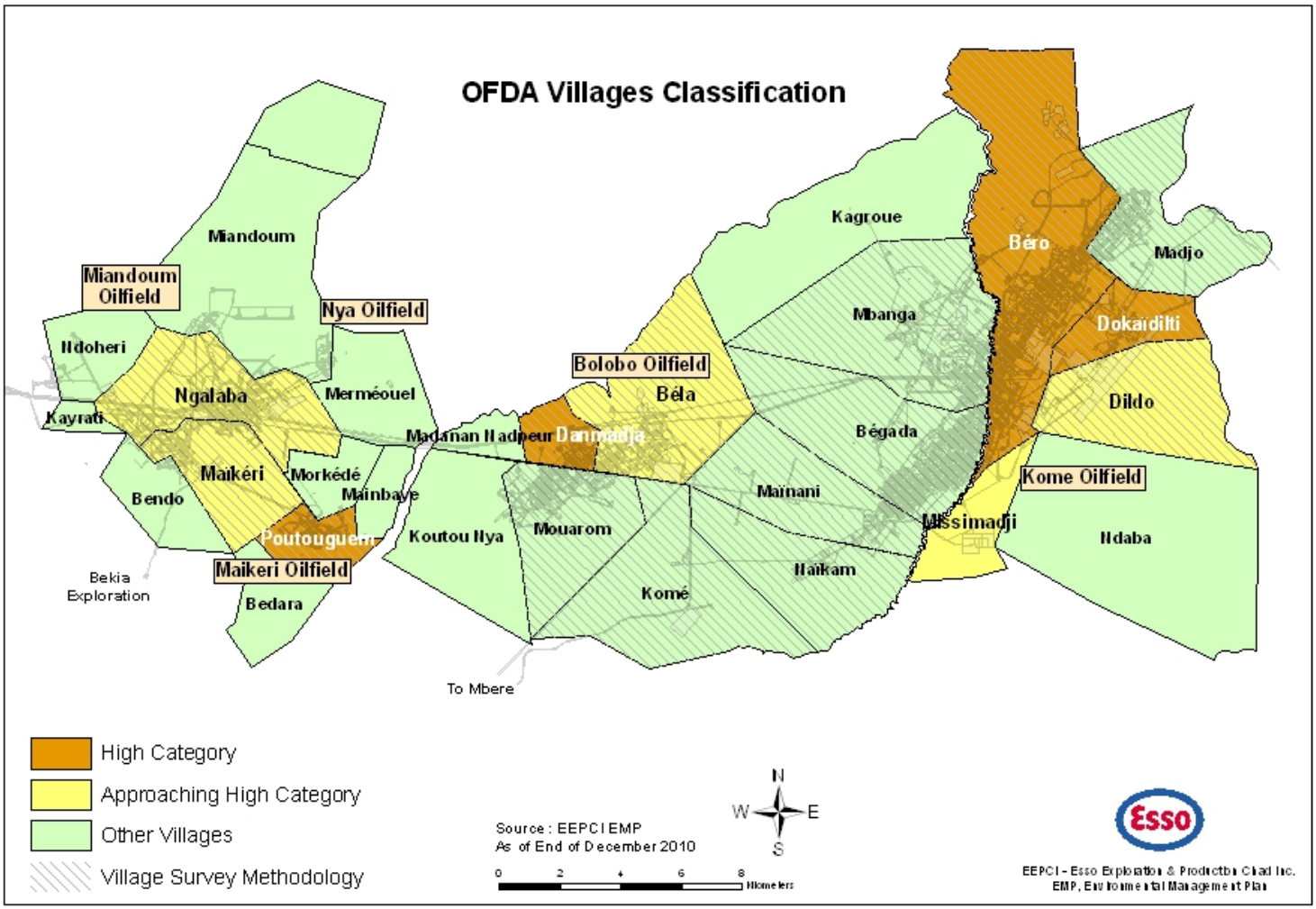
*This statistic excludes non-viable households with resettlement options

Threshold:

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

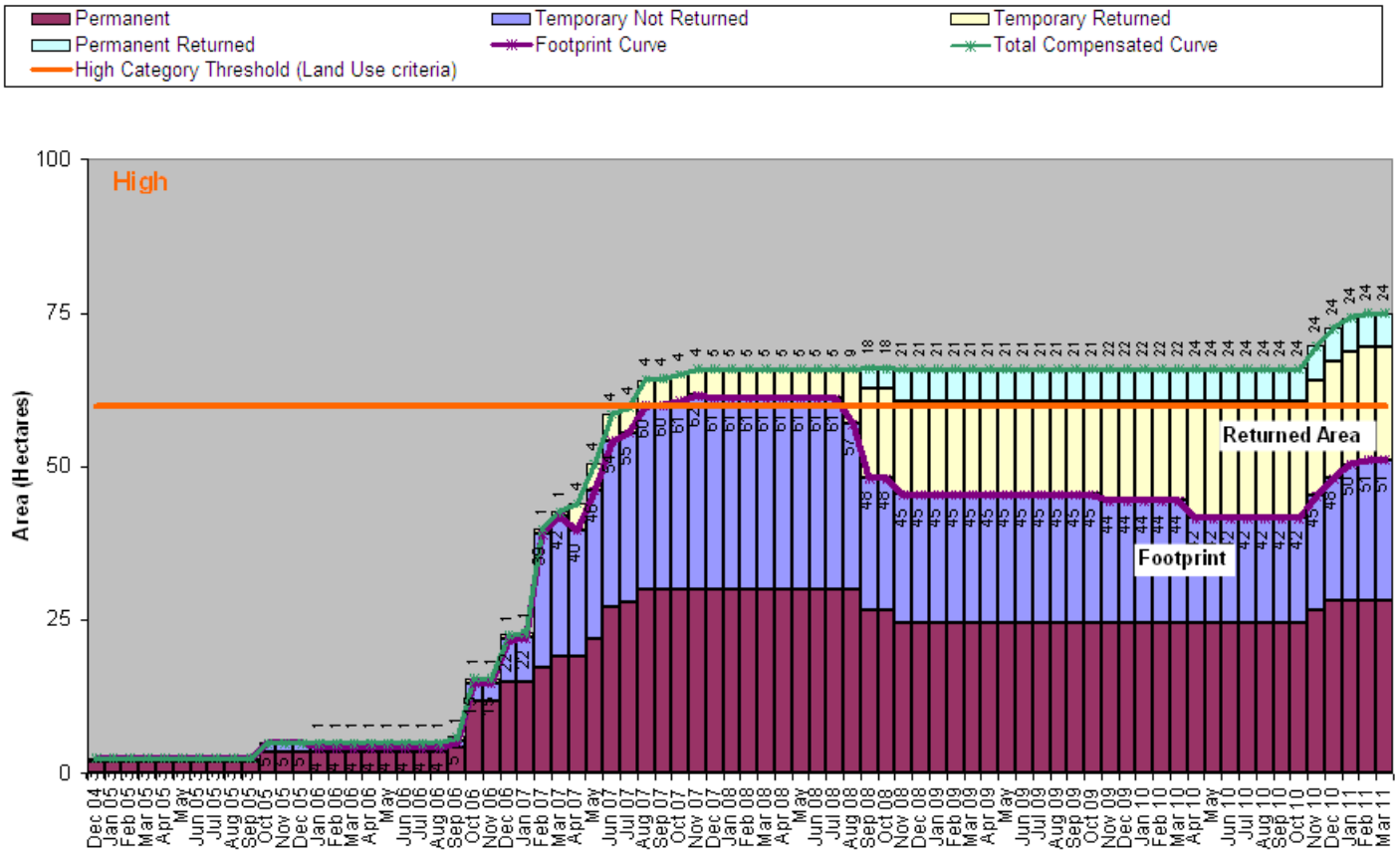
Annex 2

OFDA Village Map



Annex 3

Detailed data footprint by village



[Chart 1: Land Acquired and Returned in Poutouguem]

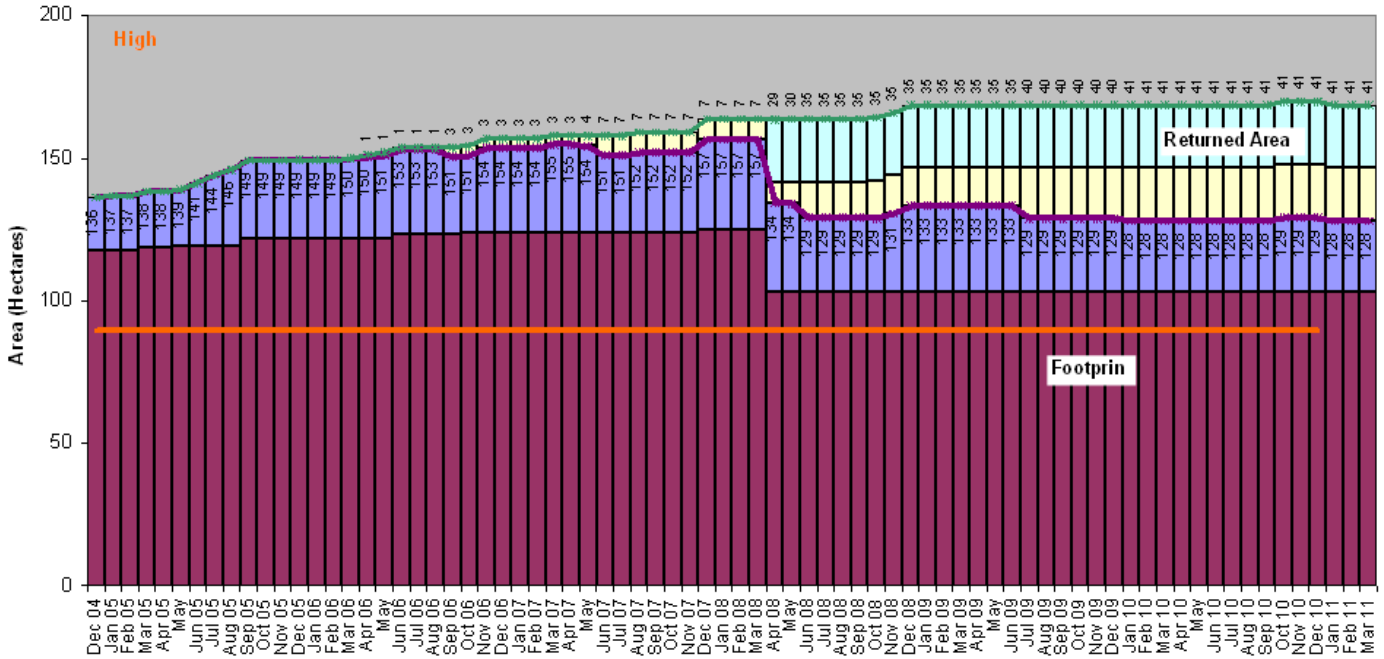


Chart 2: Land Acquired and Returned in Dokaïdilti

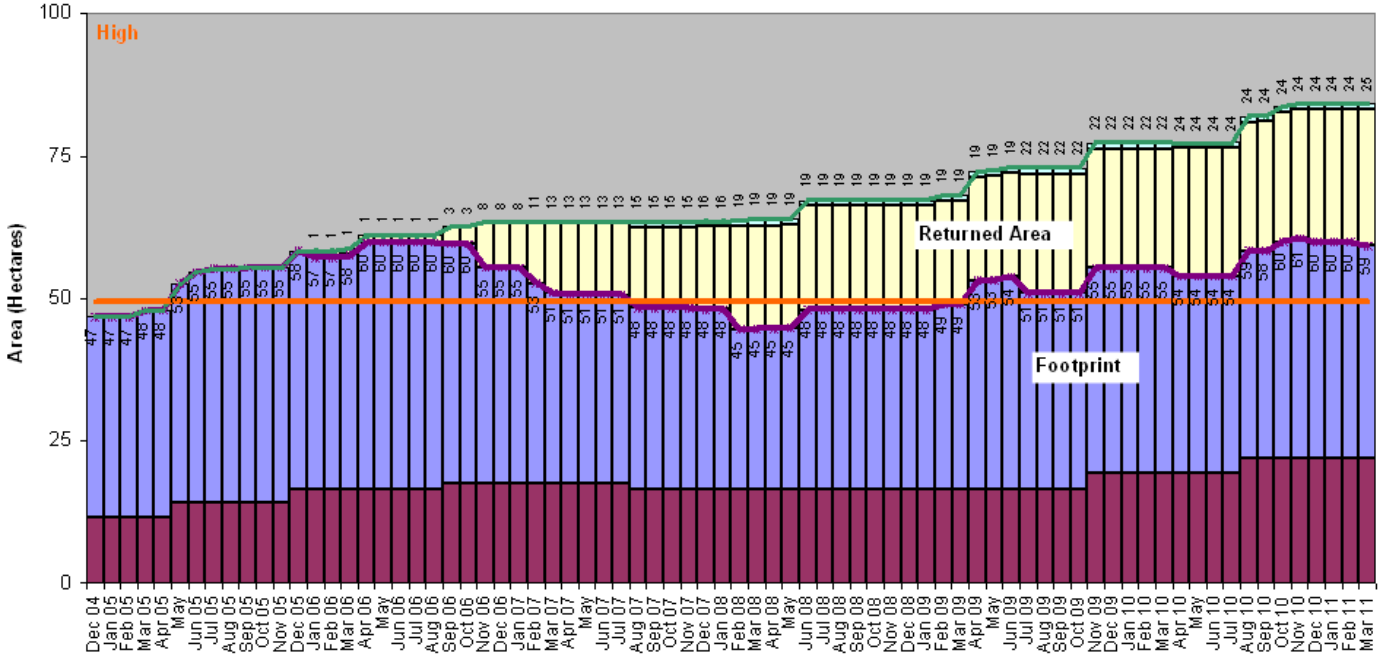


Chart 3: Land Acquired and Returned in Danmadja

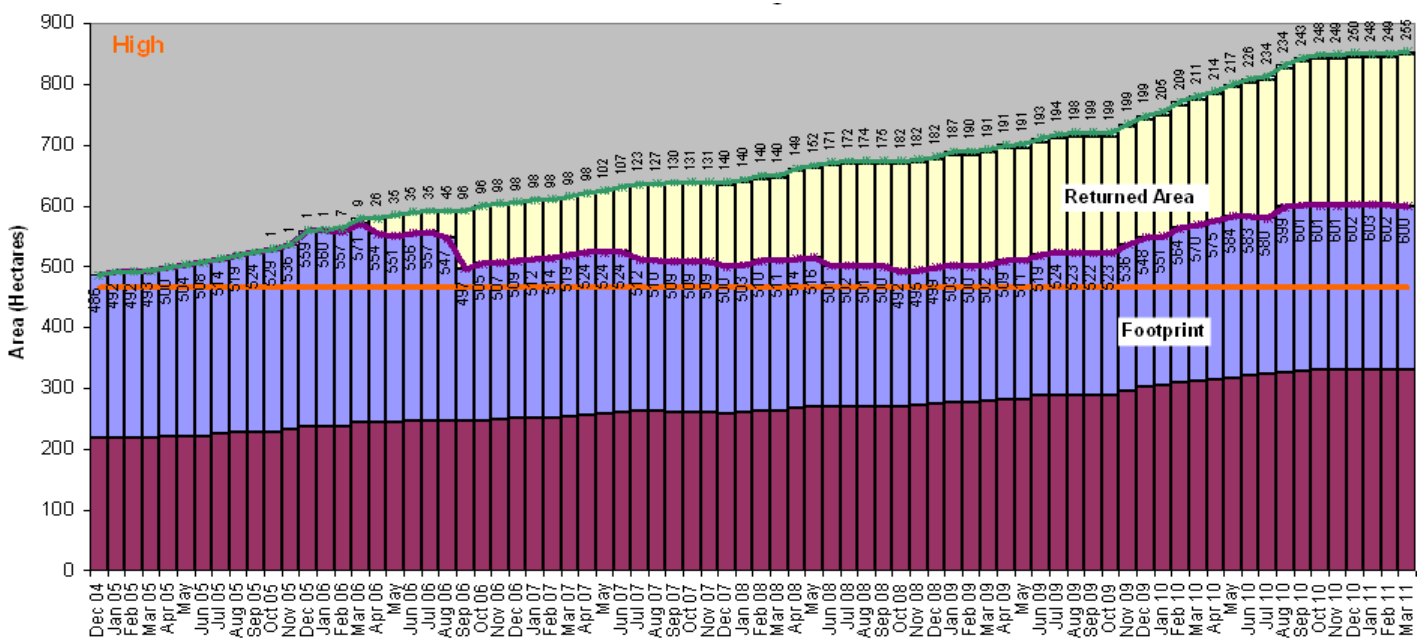


Chart 4: Land Acquired and Returned in Béro

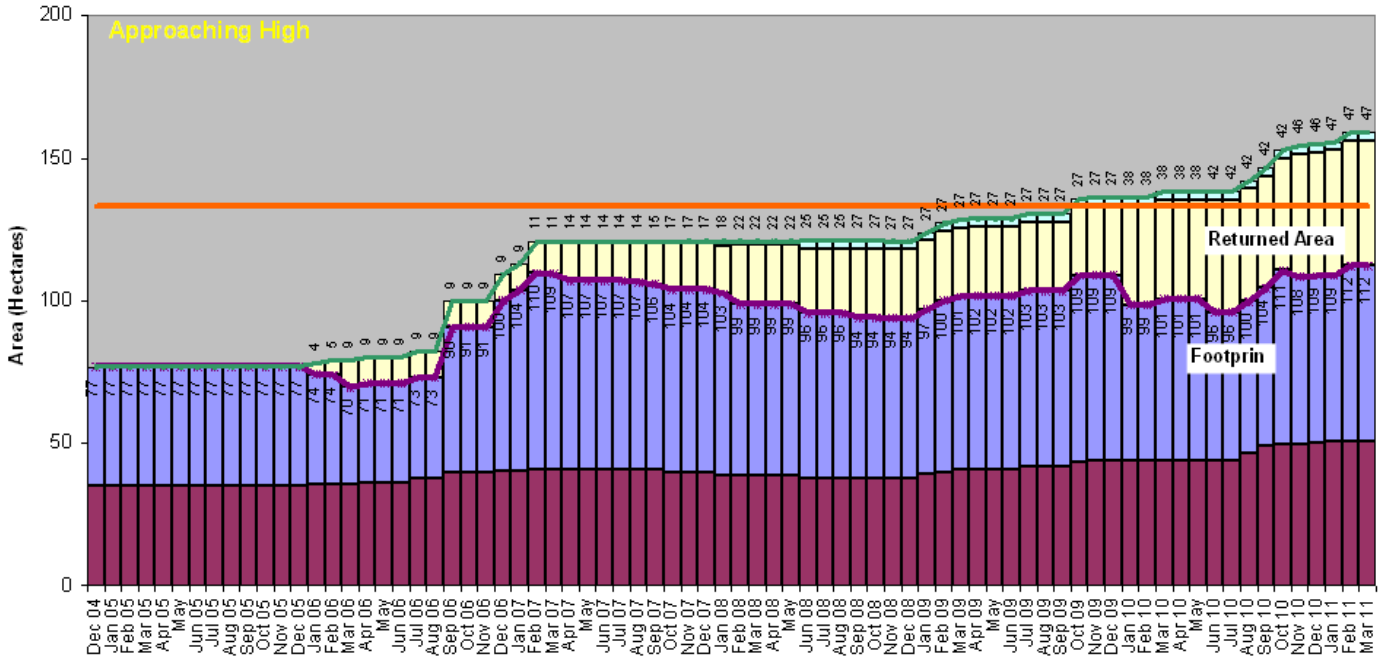


Chart 5: Land Acquired and Returned in Maïkeri

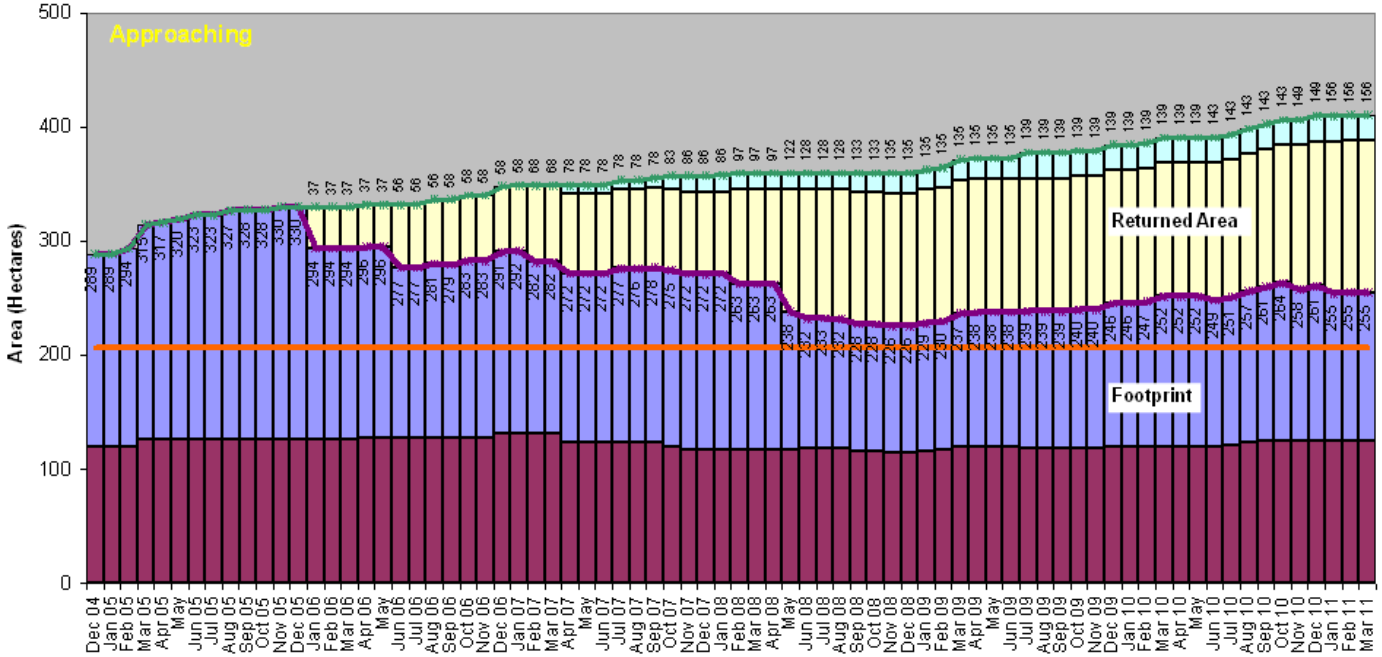


Chart 6: Land Acquired and Returned in Ngalaba

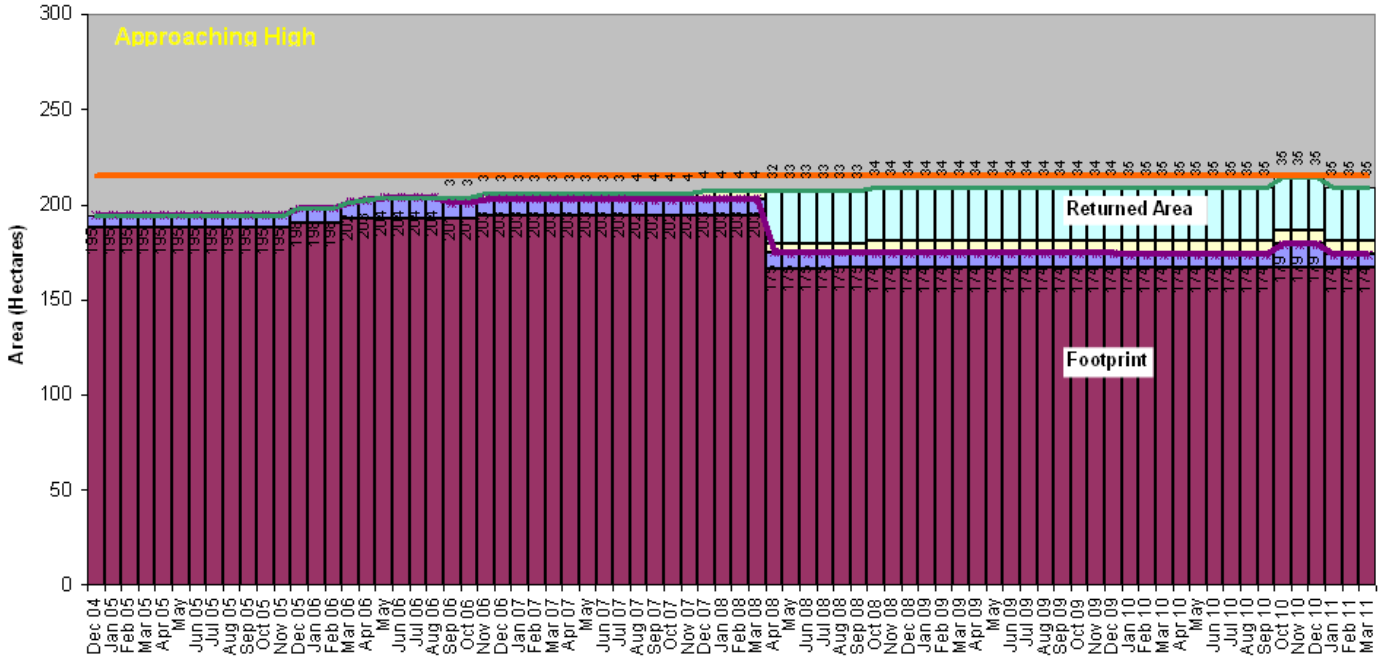


Chart 7: Land Acquired and Returned in Dildo

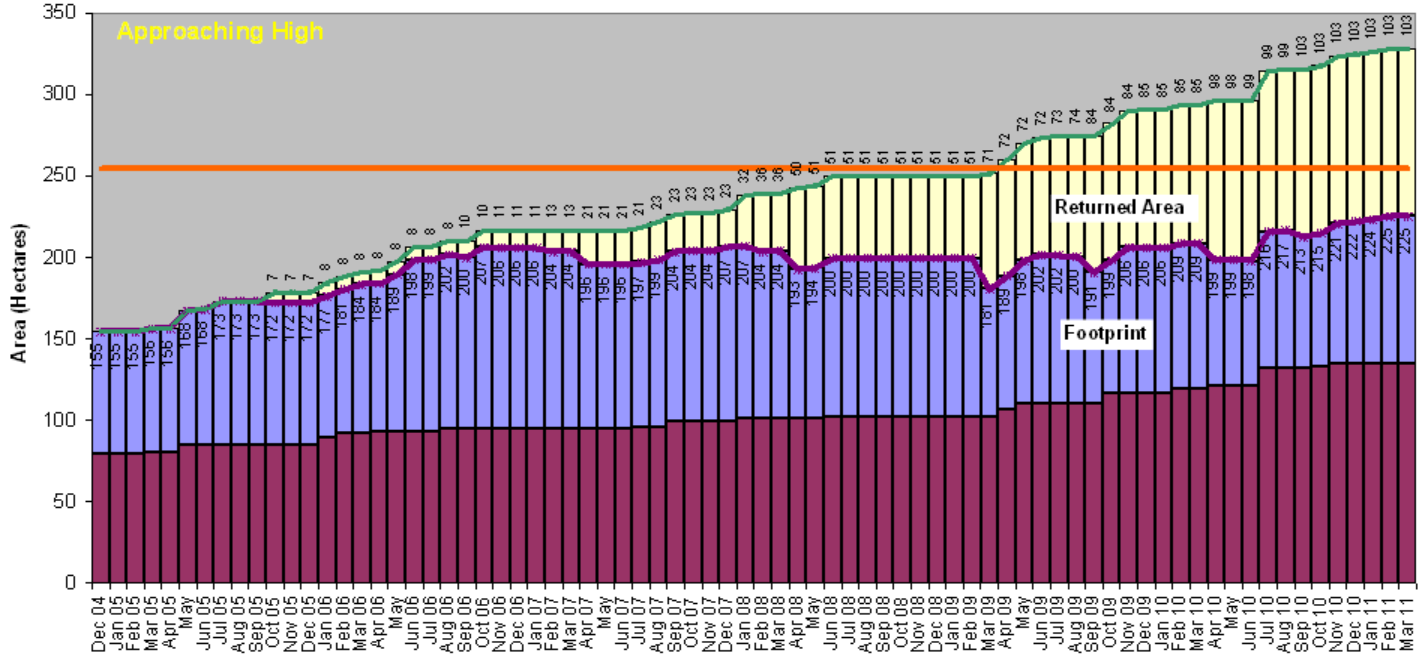


Chart 8: Land Acquired and Returned in Bela

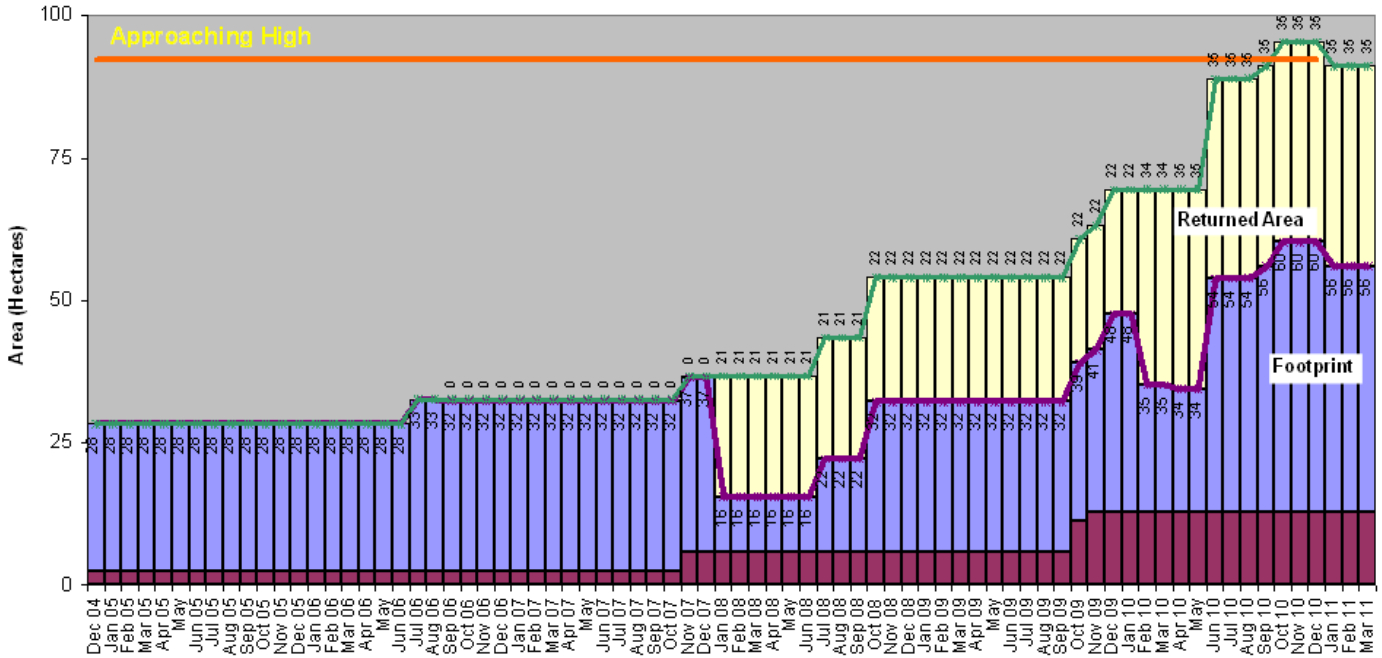


Chart 9: Land Acquired and Returned in Missimadji

Annex 4

Detailed calculation of resettlement factors for villages were the cadastral survey was completed

Table 10: Available Land.

	Dokaidilti	Dildo	Ngalaba	Danmadja	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%)*	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 **	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 **	1.38

*** Includes 483 ha of flooded area ** Excludes flooded area**

Table 10: Available Land. (continuation)

	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 12: 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 12: 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%

Annex 5

Resettlement Factor distribution of the compensated households surveyed in all completed and analyzed villages.

Table 13: 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				Danmadja			
	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

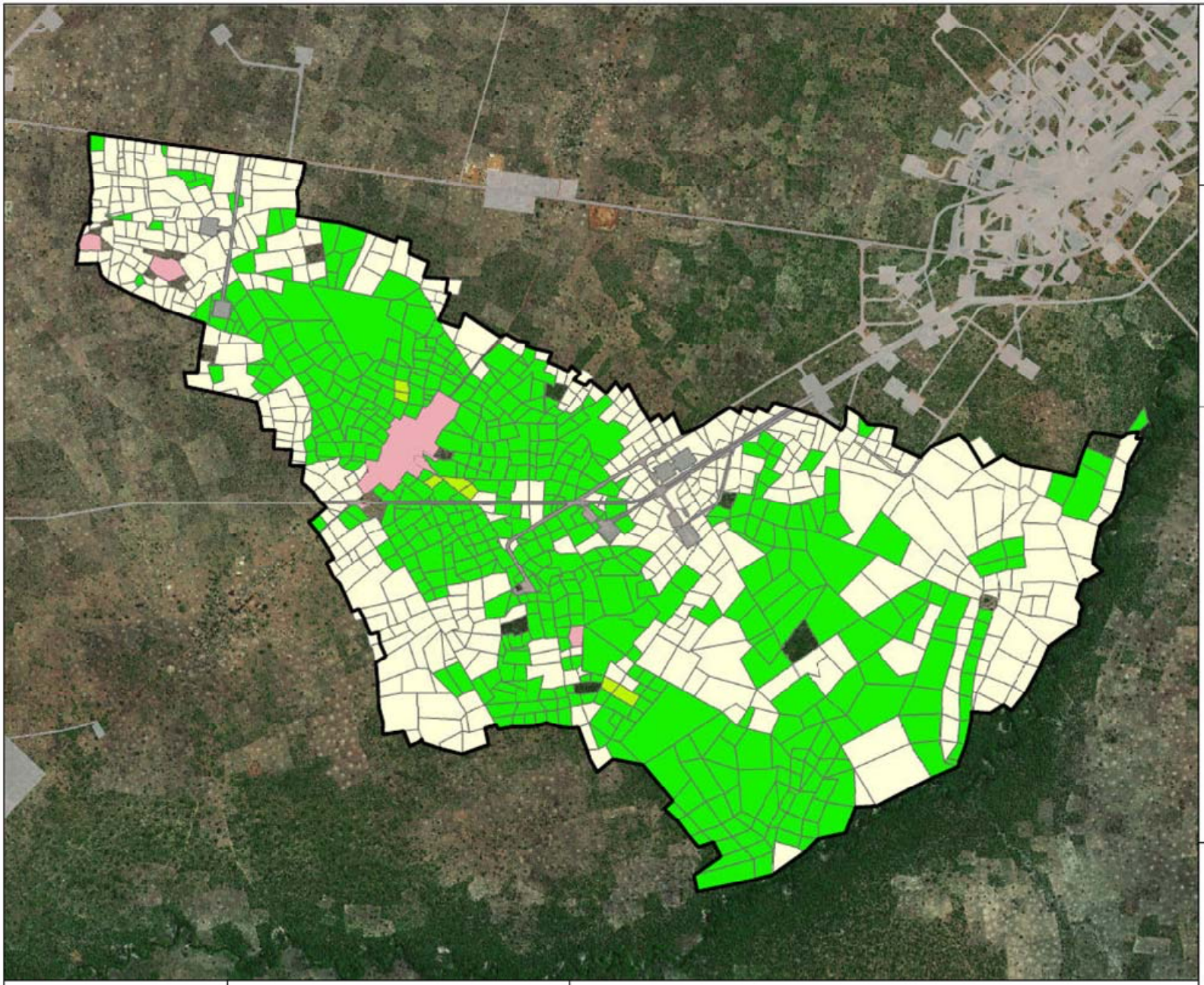
Resettlement Factor Range	Mainani				Poutouguem			
	Nbr HH	Nbr Individual	% HH	% Individual	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	2	7	2.4	1.5	4	38	7.7	13.5
0.500 - 0.667	0	0	0.0	0.0	4	24	7.7	8.5
0.668 - 0.999	4	29	4.9	6.1	11	60	21.1	21.3
1.000 - 1.499	17	103	20.7	21.7	22	131	42.3	46.4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

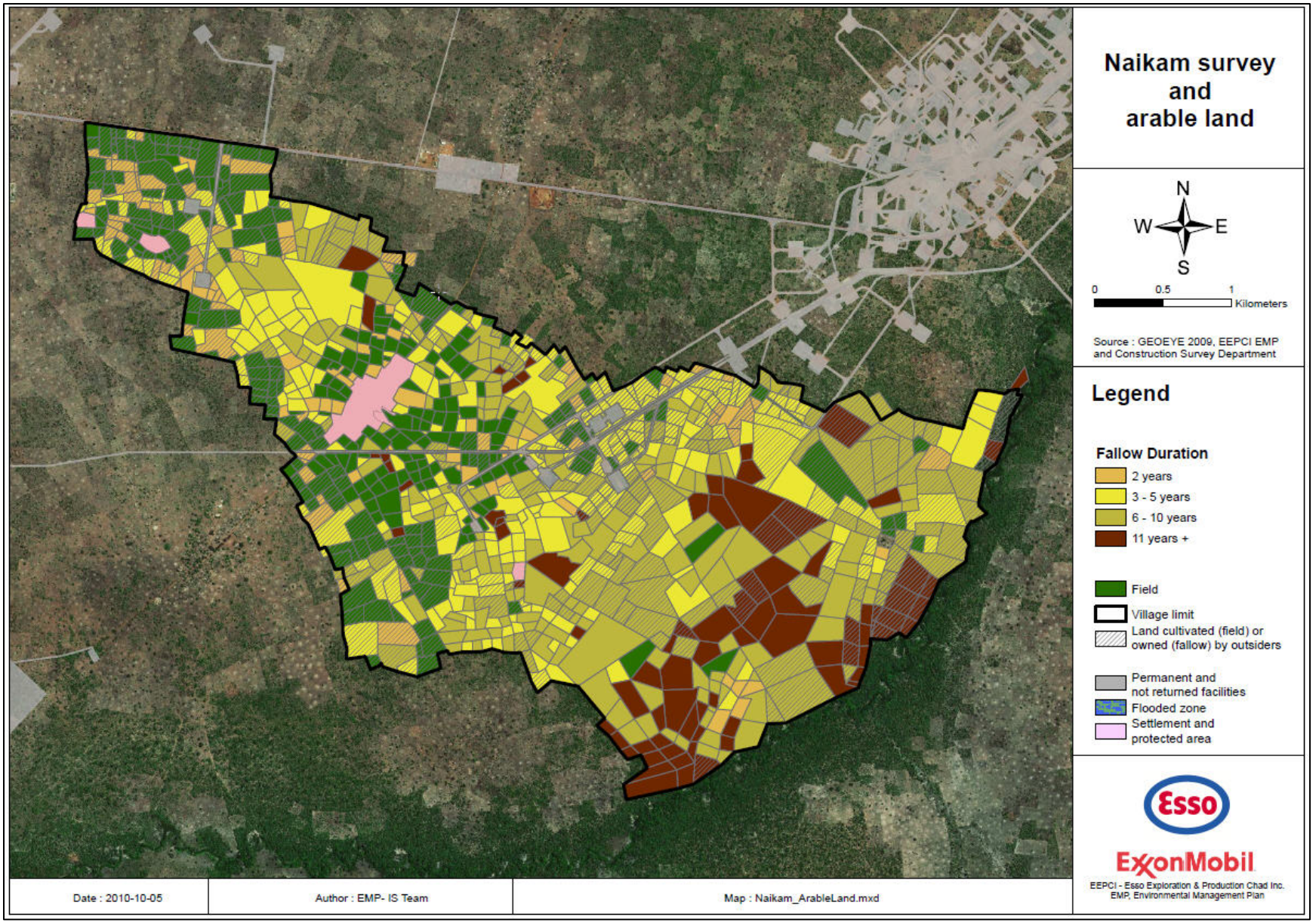
Resettlement Factor Range	Kome			
	Nbr HH	Nbr Individual	% HH	% Individual
0.000 - 0.499	2	22	4.3	7.0
0.500 - 0.667	0	0	0.0	0.0
0.668 - 0.999	2	21	4.3	6.7
1.000 - 1.499	13	79	27.7	25.2
1.500 - ...	30	191	63.8	61.0
Total	47	313	100	100

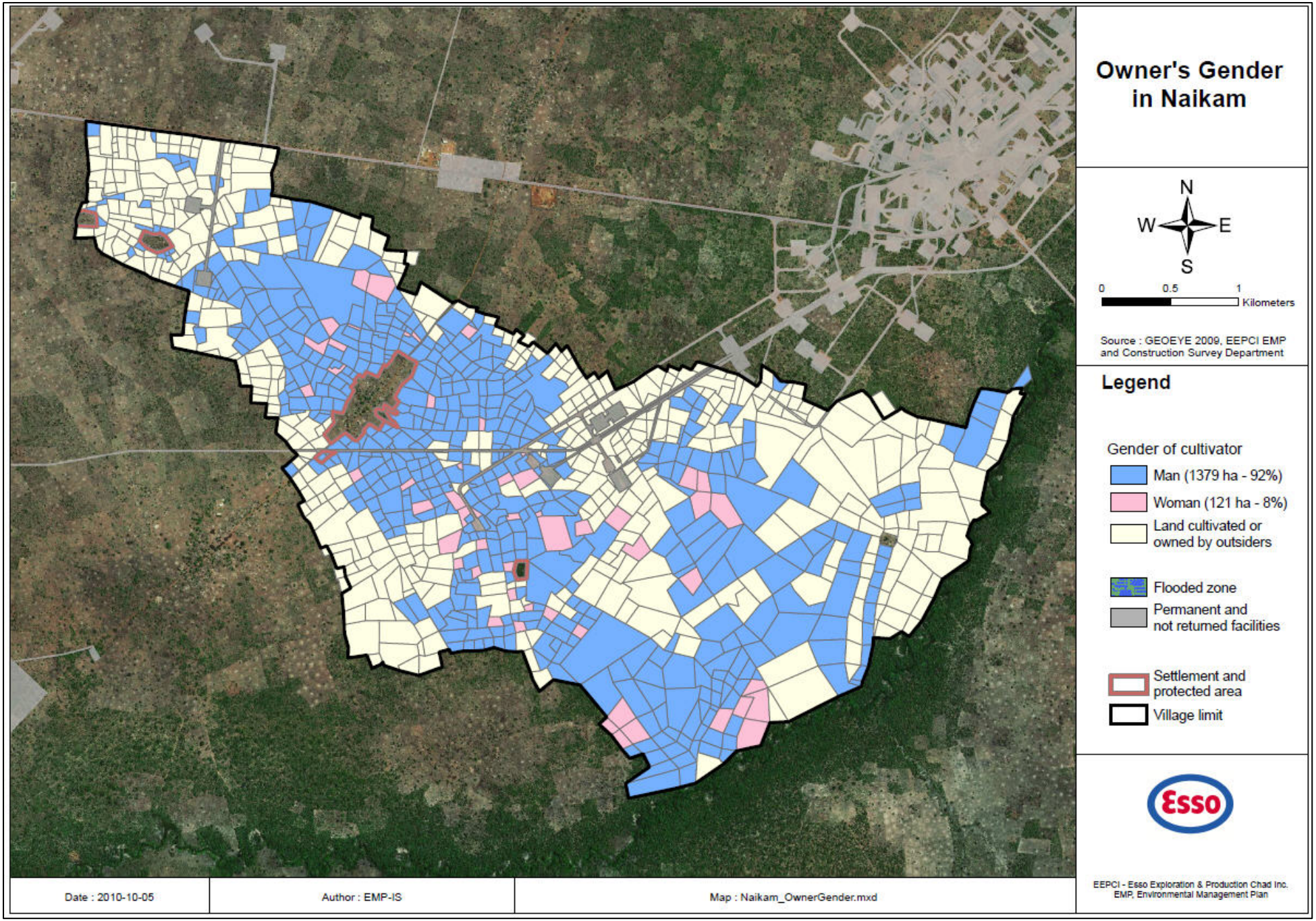
Annex 6

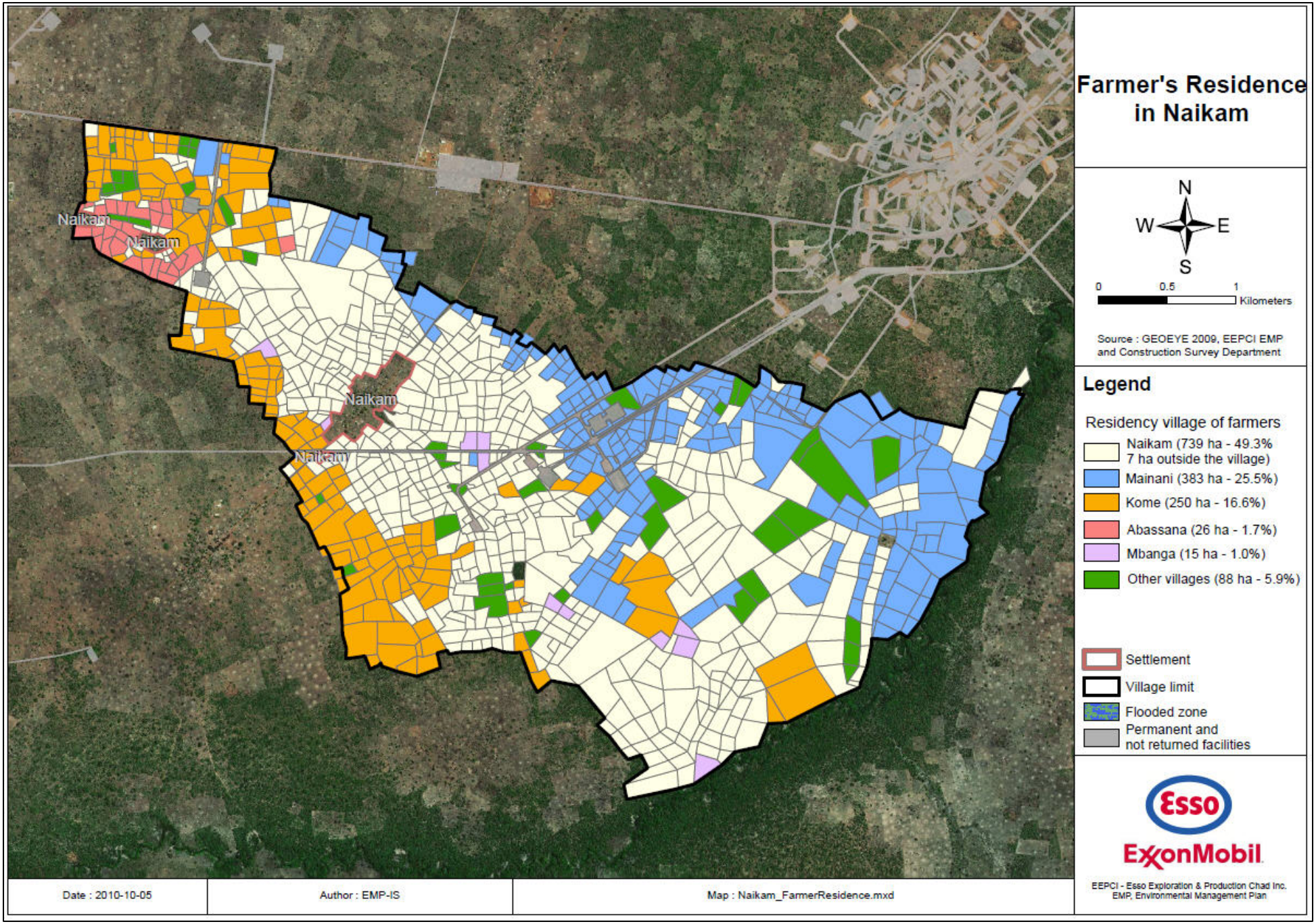
Maps of villages not yet published

NAIKAM

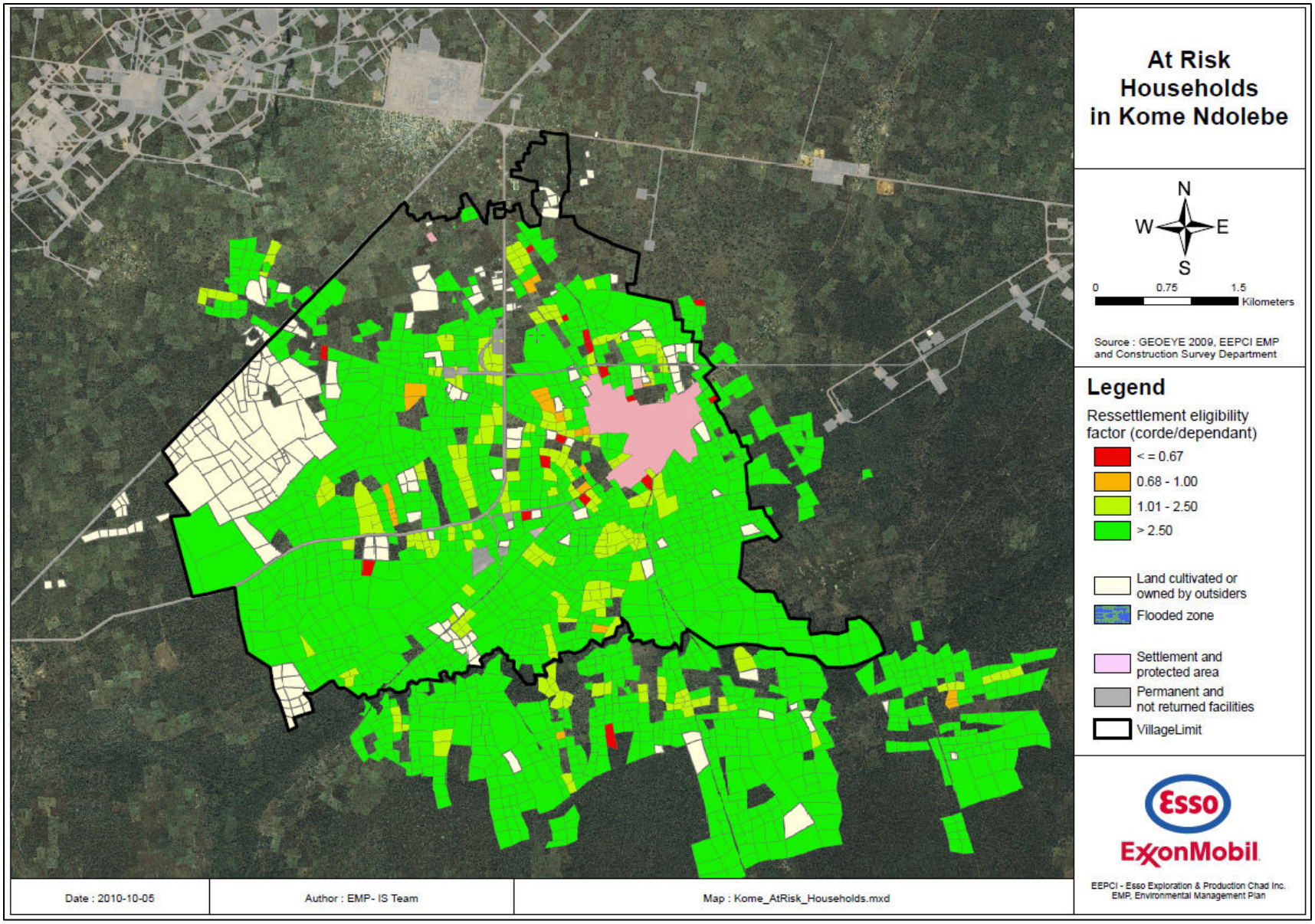

At Risk Households in Naikam
N
W
E
S
0
0.5
1
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Ressettlement eligibility factor (corde/dependant)
< = 0.67
0.68 - 1.00
1.01 - 2.50
> 2.50
Land cultivated or owned by outsiders
Flooded zone
Settlement and protected area
Permanent and not returned facilities
VillageLimit
Esso
ExxonMobil
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP- IS Team
Map : Naikam_AtRisk_Households.mxd

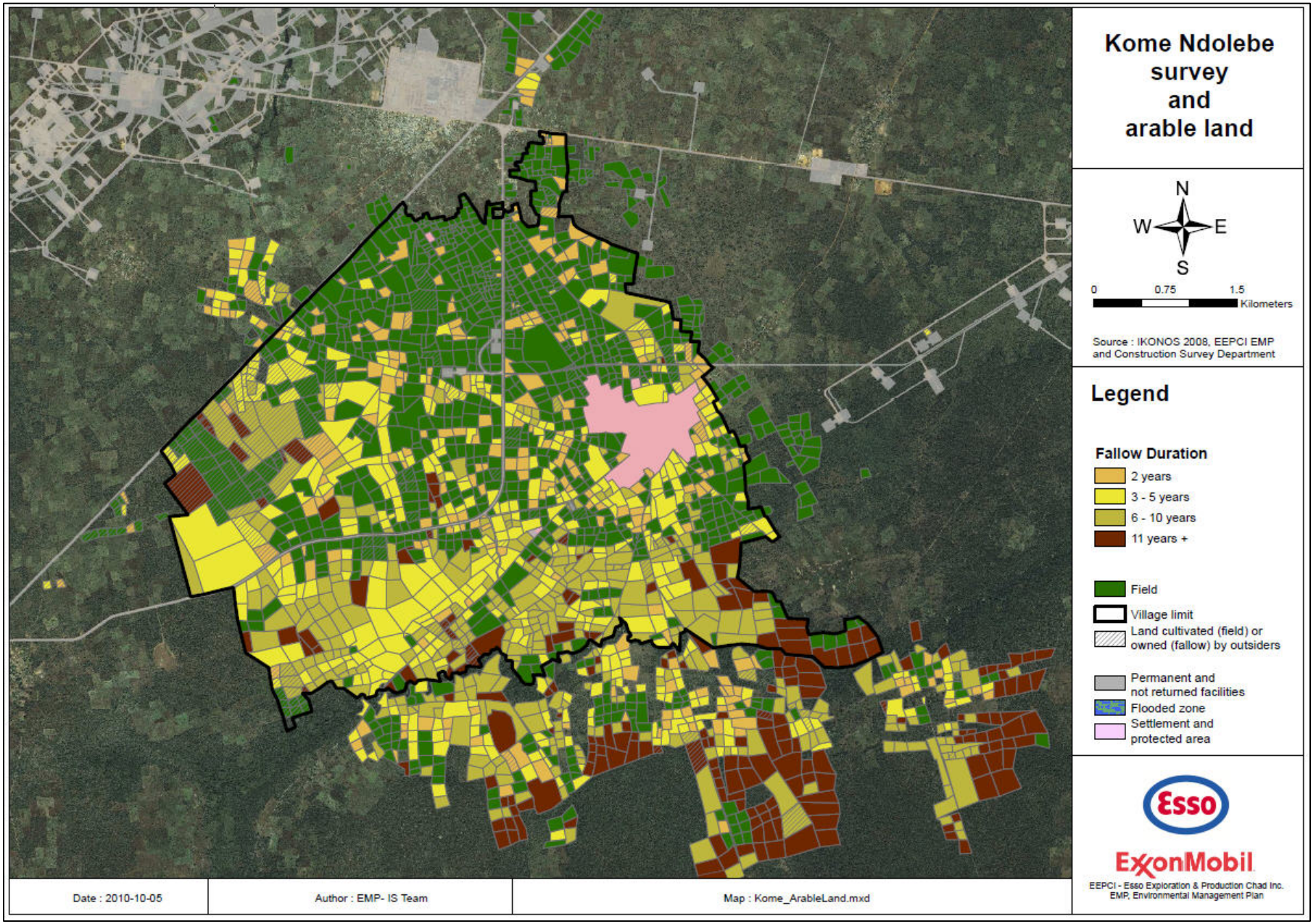

Naikam survey and arable land
N
W
E
S
0
0.5
1
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Fallow Duration
2 years
3 - 5 years
6 - 10 years
11 years +
Field
Village limit
Land cultivated (field) or owned (fallow) by outsiders
Permanent and not returned facilities
Flooded zone
Settlement and protected area
Esso
ExxonMobil
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP- IS Team
Map : Naikam_ArableLand.mxd

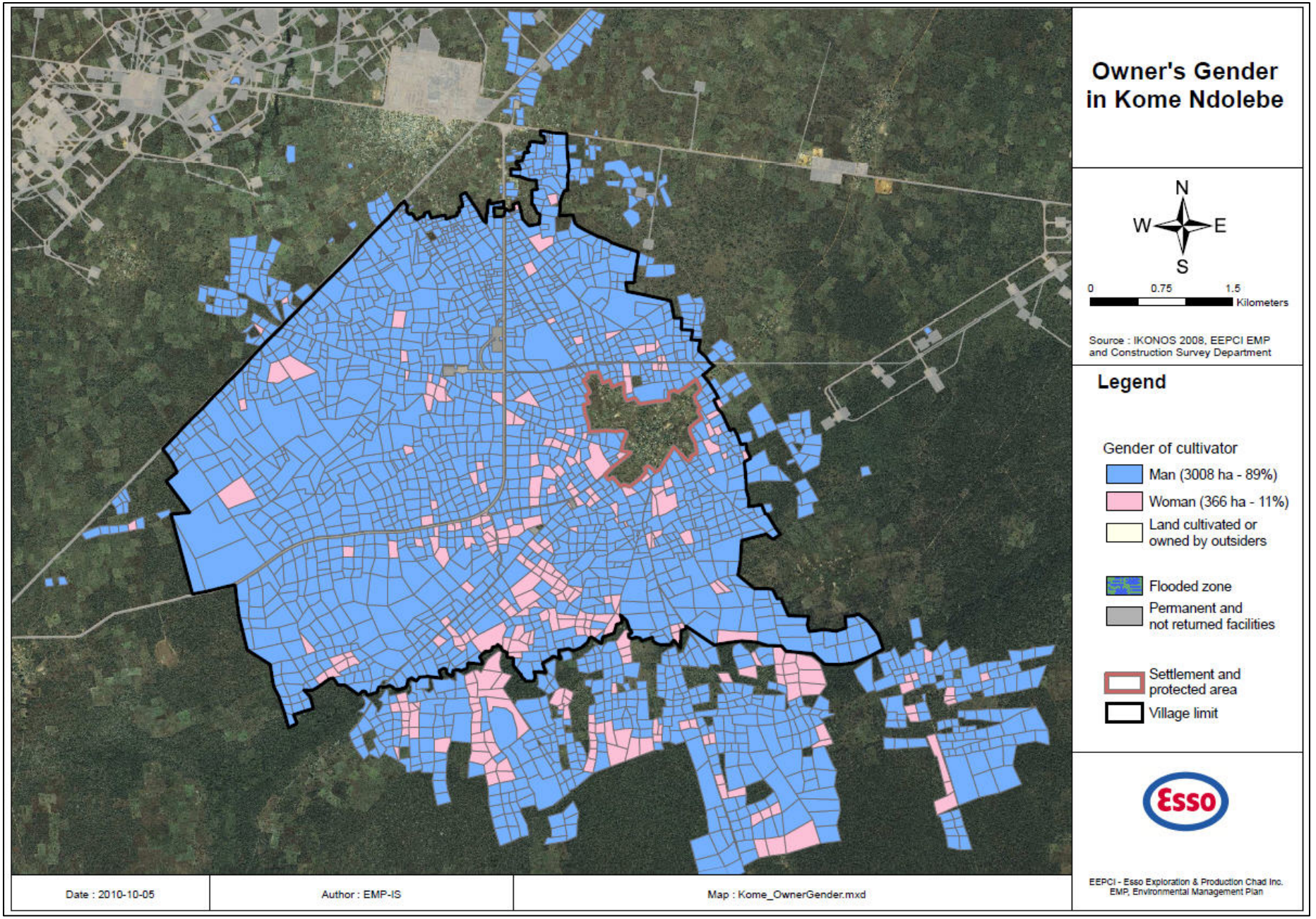

Owner's Gender in Naikam
N
W
E
S
0
0.5
1
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Gender of cultivator
Man (1379 ha - 92%)
Woman (121 ha - 8%)
Land cultivated or owned by outsiders
Flooded zone
Permanent and not returned facilities
Settlement and protected area
Village limit
Esso
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP-IS
Map : Naikam_OwnerGender.mxd

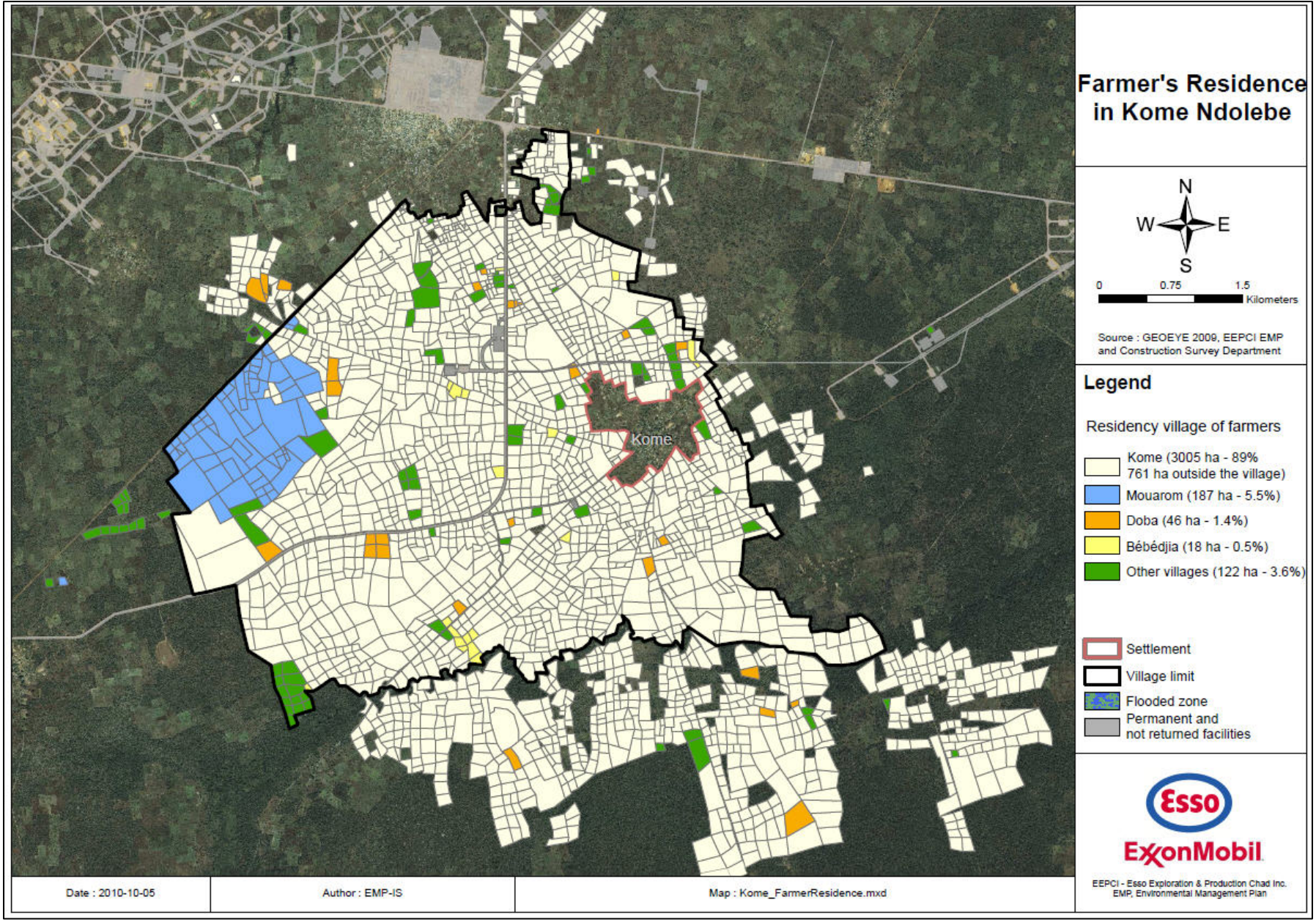

Farmer's Residence in Naikam
Naikam
Naikam
Naikam
Naikam
N
W
E
S
0
0.5
1
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Residency village of farmers
Naikam (739 ha - 49.3% 7 ha outside the village)
Mainani (383 ha - 25.5%)
Kome (250 ha - 16.6%)
Abassana (26 ha - 1.7%)
Mbanga (15 ha - 1.0%)
Other villages (88 ha - 5.9%)
Settlement
Village limit
Flooded zone
Permanent and not returned facilities
Esso
ExxonMobil
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP-IS
Map : Naikam_FarmerResidence.mxd

KOME NDOLEBE

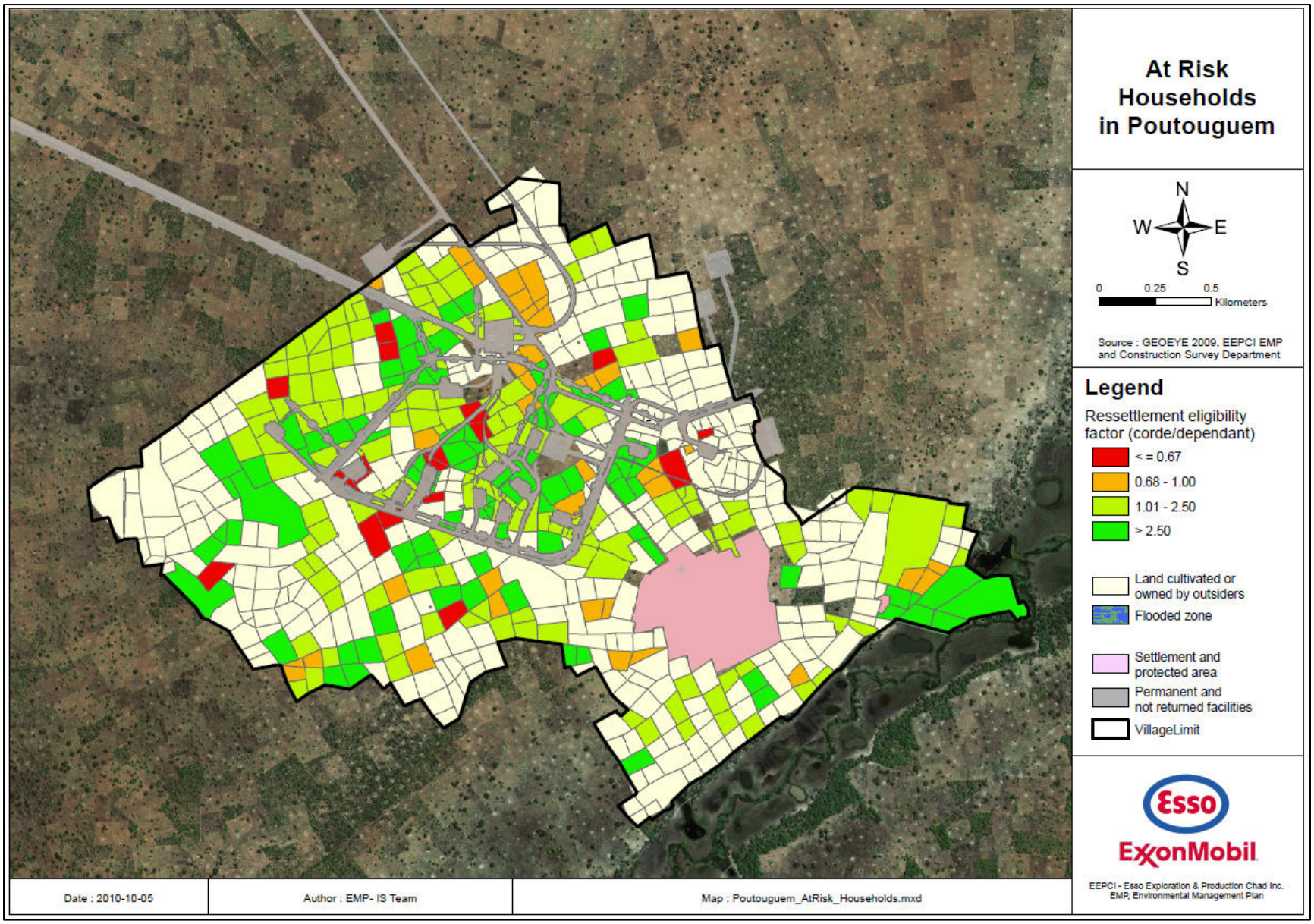


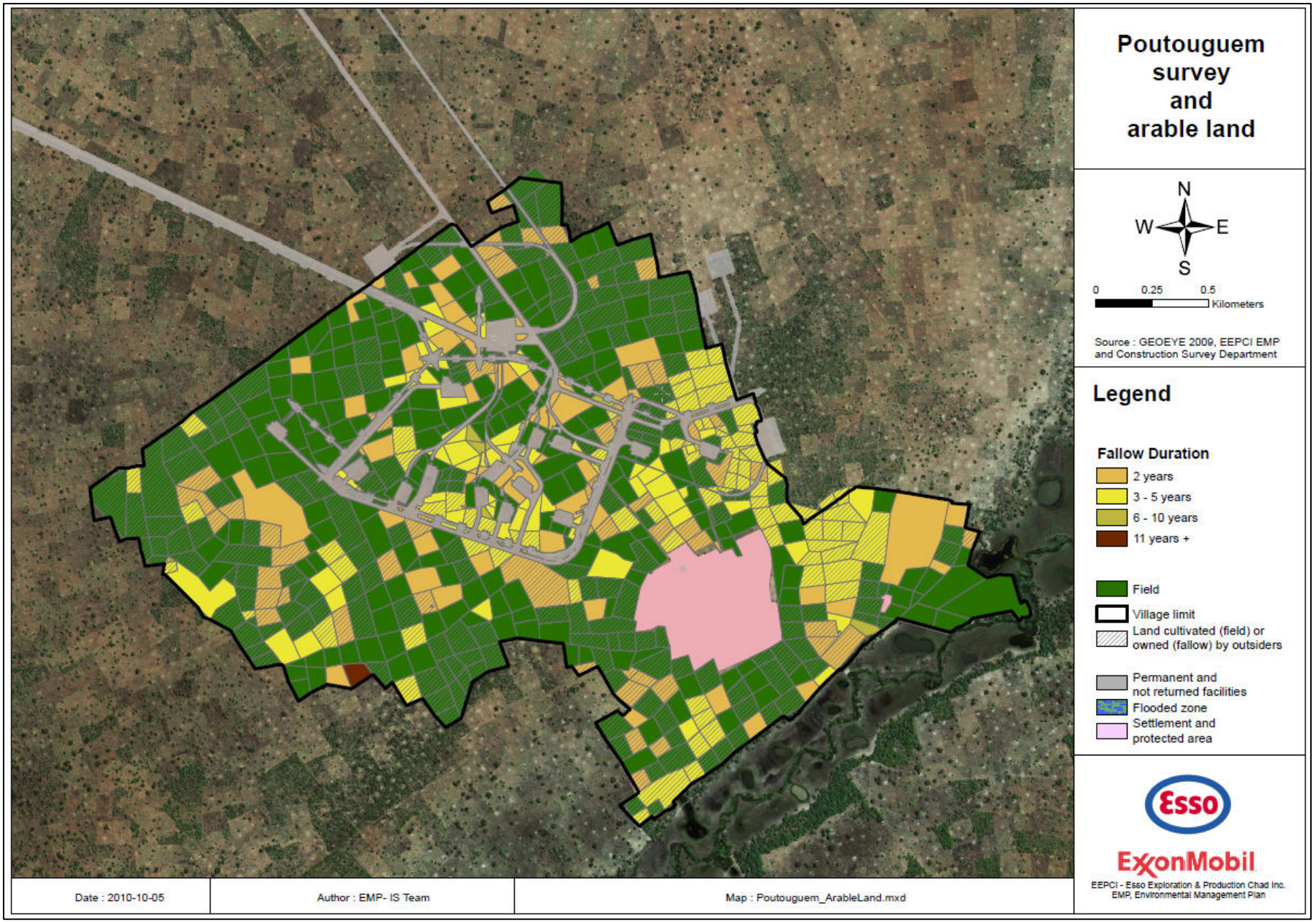

Kome Ndolebe survey and arable land
N
W
E
S
0
0.75
1.5
Kilometers
Source : IKONOS 2008, EEPCI EMP and Construction Survey Department
Legend
Fallow Duration
2 years
3 - 5 years
6 - 10 years
11 years +
Field
Village limit
Land cultivated (field) or owned (fallow) by outsiders
Permanent and not returned facilities
Flooded zone
Settlement and protected area
Esso
ExxonMobil
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP- IS Team
Map : Kome_ArableLand.mxd

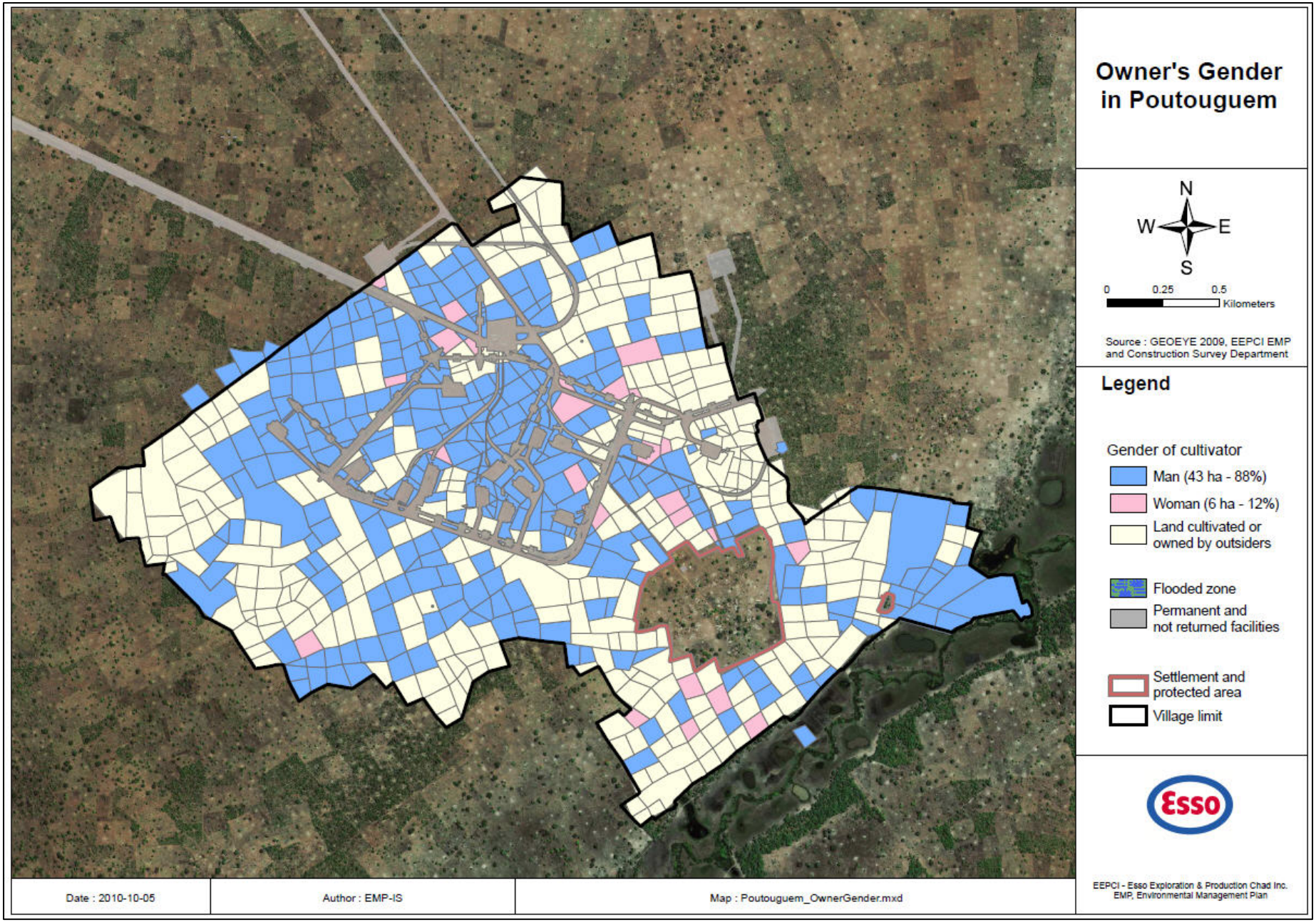

Owner's Gender in Kome Ndolebe
N
W
E
S
0
0.75
1.5
Kilometers
Source : IKONOS 2008, EEPCI EMP and Construction Survey Department
Legend
Gender of cultivator
Man (3008 ha - 89%)
Woman (366 ha - 11%)
Land cultivated or owned by outsiders
Flooded zone
Permanent and not returned facilities
Settlement and protected area
Village limit
Esso
Date : 2010-10-05
Author : EMP-IS
Map : Kome_OwnerGender.mxd
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan

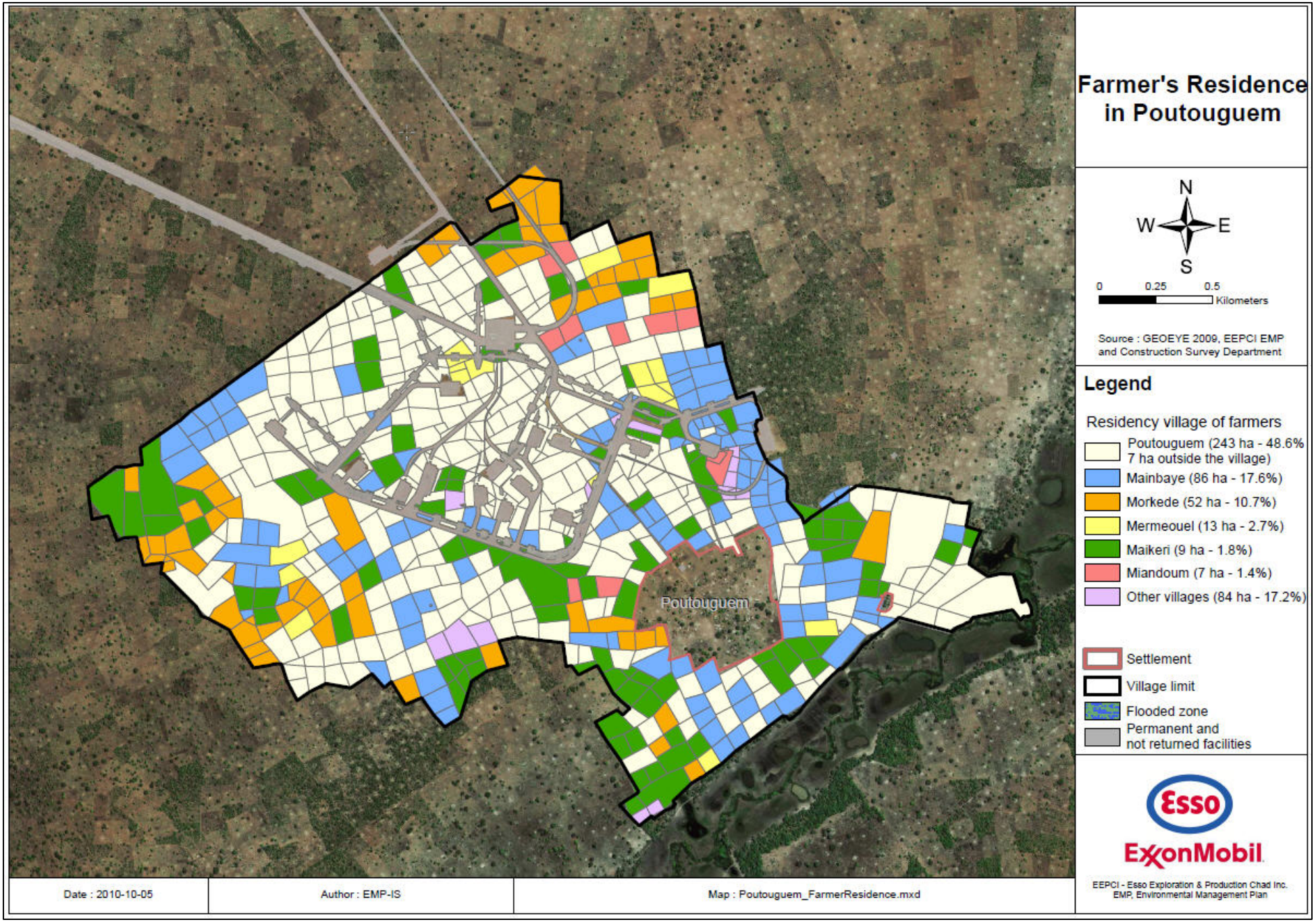

Farmer's Residence in Kome Ndolebe
N
W
E
S
0
0.75
1.5
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Residency village of farmers
Kome (3005 ha - 89% 761 ha outside the village)
Mouarom (187 ha - 5.5%)
Doba (46 ha - 1.4%)
Bébédjia (18 ha - 0.5%)
Other villages (122 ha - 3.6%)
Settlement
Village limit
Flooded zone
Permanent and not returned facilities
Kome
Esso
ExxonMobil
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP-IS
Map : Kome_FarmerResidence.mxd

POUTOUGUEM


At Risk Households in Poutouguem
N
W
E
S
0
0.25
0.5
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Ressettlement eligibility factor (corde/dependant)
< = 0.67
0.68 - 1.00
1.01 - 2.50
> 2.50
Land cultivated or owned by outsiders
Flooded zone
Settlement and protected area
Permanent and not returned facilities
VillageLimit
Esso
ExxonMobil
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP- IS Team
Map : Poutouguem_AtRisk_Households.mxd


Poutouguem survey and arable land
N
W
E
S
0
0.25
0.5
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Fallow Duration
2 years
3 - 5 years
6 - 10 years
11 years +
Field
Village limit
Land cultivated (field) or owned (fallow) by outsiders
Permanent and not returned facilities
Flooded zone
Settlement and protected area
Esso
ExxonMobil
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP- IS Team
Map : Poutouguem_ArableLand.mxd


Owner's Gender in Poutouguem
N
W
E
S
0
0.25
0.5
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Gender of cultivator
Man (43 ha - 88%)
Woman (6 ha - 12%)
Land cultivated or owned by outsiders
Flooded zone
Permanent and not returned facilities
Settlement and protected area
Village limit
Esso
Date : 2010-10-05
Author : EMP-IS
Map : Poutouguem_OwnerGender.mxd
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan


Farmer's Residence in Poutouguem
N
W
E
S
0
0.25
0.5
Kilometers
Source : GEOEYE 2009, EEPCI EMP and Construction Survey Department
Legend
Residency village of farmers
Poutouguem (243 ha - 48.6% 7 ha outside the village)
Mainbaye (86 ha - 17.6%)
Morkede (52 ha - 10.7%)
Mermeouel (13 ha - 2.7%)
Maikeri (9 ha - 1.8%)
Miandoum (7 ha - 1.4%)
Other villages (84 ha - 17.2%)
Settlement
Village limit
Flooded zone
Permanent and not returned facilities
Poutouguem
Esso
ExxonMobil
EEPCI - Esso Exploration & Production Chad Inc.
EMP, Environmental Management Plan
Date : 2010-10-05
Author : EMP-IS
Map : Poutouguem_FarmerResidence.mxd