Esso Exploration & Production Chad Inc.

Site Specific Plan
Madjo Village

Land Use Mitigation Action Plan

Prepared by the EMP Department
March 2015

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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)
SEWAC	Socio-Economic Watch Action
True Eligible	Individual eligible to the EMP Resettlement Program. Individual whose eligibility established initially through the declarative process was confirmed using the VLUS.
VLUS	Village Land Use Survey previously called Cadastral survey. Refer to the measurement of every field, fallow & house of households.
WBG	World Bank Group
WHHH	Women head of household

1. Introduction

While the Village Land Use Survey (VLUS) data has allowed us to gain a very good understanding of the processes taking place in the field, incorporating data from the Synergy Team, the impact surveys and the land return surveys allow us to gain a real time perspective of the effects the Project is having on communities and individuals.

Previously developed tools, such as the Site Specific Plan (SSP), gave us a fairly detailed view of the communities which are impacted by the Project. We now find that such tools are difficult to update and review in view of the masses of information they contain. Often the SSP incorporated too much information and much of this information was not necessarily relevant to the ultimate objective. The purpose of a Site Specific Plan (SSP) is to clearly define the village's situation and identify a set of measures that mitigate the specific issues the village's population is encountering within their own village area. After having identified the issues which are specific to a village, the plan will consolidate all applicable livelihood restoration tactics into a strategy that will lead to the restoration of its livelihood.

While an SSP was performed for Madjo (Bero Canton) in 2009, this village has since gone through a number of new rounds of infill drilling. We must, at this point wonder whether previous mitigation efforts in terms of Community Compensation and individual resettlement initiatives were sufficient to fully mitigate the impact of the repeated land take on this community. Overall Madjo is considered to be a highly impacted village, mainly because of social factors (% of individuals found to be at risk).

As of March 31st, 2015 these facilities occupied 101.3 ha out of a village land area of about 2139 ha, or about 4.7% of the village's area. Although the Project had a maximum footprint of 148.8 ha of land, the rehabilitation and return of unneeded land has made it possible to maintain the footprint at as low a level as possible. At present Madjo is considered to be a moderately impacted village in terms of project land use. These impacts could include:

- Reduced pool of land available for agricultural use
- Limited access to bush resources
- Depletion of bush resources
- Shortened fallow availability

In addition to having received a community compensation package, in the form of a fully equipped two room school, this community received a fully equipped one room school as a supplementary community compensation. This community was also a participant in the

Rice Production Pilot Project through which they received a 3 ha rain fed rice production perimeter. As per the restoration of an abandoned oil platform a women's group received a 0.35 ha rain fed rice production perimeter and two wells equipped with foot pumps in order to facilitate the production of vegetables during the dry season.

As such the purpose of Madjo's SSP is to establish whether the village as a whole has been able to offset its land losses to the Project in view of the compensation received by individual land users (in the form of compensation and resettlement training) and the community as a whole. The SSP additionally evaluates the land-holding situation of all the households (HH) in the village to judge whether the village as a whole is this still at risk and, if so, what actions would be efficacious.

The proposed mitigations measures must be feasible, using resources that are available to the project and within the community, emphasizing the enhancement of the knowledge and capabilities of its residents. The plan will consolidate all applicable livelihood restoration tactics into a strategy that will lead to the restoration of the livelihood in this impacted village.

2. Madjo's population at a glance

With a total area of only 2139 ha, Madjo is sixth largest village surveyed, in fact it ranks 15th out of 28 in terms of area. It has a relatively high population density with 137 households and 867 residents. The village has been impacted by the development of the satellite oil field known as Madjo.

Table 1: Distribution of Households and Individuals by Eligibility Factor

Range	Nbr HH	Nbr Individual
0.000 – 0.667	24 (18 %)	160 (18 %)
0.668 – 0.999	6 (4 %)	54 (6 %)
1.000 – 2.499	61 (45%)	385 (44 %)
2.5000 - ……..	46 (34 %)	268 (31 %)
Total	137 (100 %)	867 (100 %)

With an average household size of 6.3 persons and an average population age of 18.1, Madjo's households are made-up of slightly more members than other villages of the region (OFDA average is 5.5 persons per HH (see annex 4)). Some notable facts can nonetheless be outlined:

- 16.1% of households are headed by women. This is lower than what is found in comparable villages. The average number of women headed households in big villages (more than 150 households) is over 20 %.
- 498 individuals or 57.44% of the population have received a form of compensation at one time or another. This is slightly lower than the situation in the OFDA region where about 70% individuals have received a form of compensation. This probably reflects the fact that the

development has been concentrated in a relatively small part of the village affecting only a small number of relatively large land owners.

- 71.7 % of the area of the village is either actively cultivated or being fallowed. Although residents of this village farm limited amounts of land outside its limits (177.6ha or 14.3% of total agricultural land area available to them), they still have access to 17.9 cordes or 2.85 cordes of farm land per family member.
- With 14.8 % (128 individuals) of its population which is made up of non-viable project affected individuals, this village is considered to be an approaching high impact category for the socio-economic criteria.

If one considers the fact that 14.8 % (1287 individuals) of the population was identified as project affected non-viable. The analysis conducted showed that Madjo is in the **approaching high impact category** in terms of the social criterion and in the **moderate impact category** in terms of the land take criterion. From table 1 (page 5), we can note that more than 80% of Madjo's households are viable, in fact the non-viable category is made-up of only 24 households.

Table 2: Number of Non-viable households as per declarative vs VLUS data

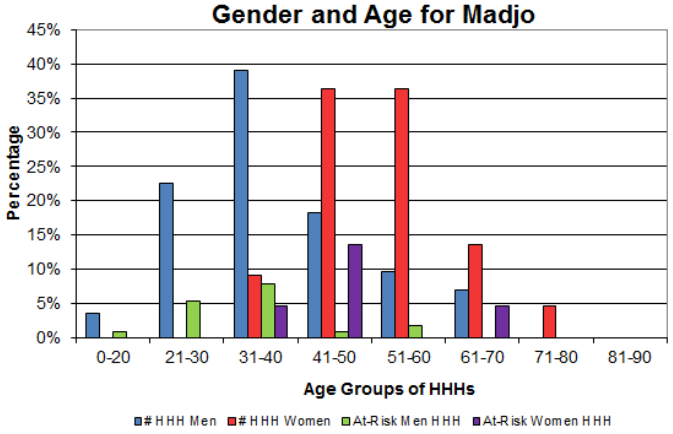
Madjo		Village Land Use Survey	
		Non Viable	Viable
Declarative	Non Viable	True Positive 14	False Positive 84
	Viable	False Negative 2	True Negative 37

In order to ascertain whether any vulnerable groups (youngsters, elderly villagers and women) are put at any particular risk/disadvantage by the Project infill drilling program we must:

- Identify the most vulnerable groups (Elderly villagers, youngsters and women).
- Evaluate whether any of the groups are facing an inappropriate portion of the burden.

While most households are headed by men (84% of cases), women are far more present as household heads when they are older (starting in their forties) (Figure 1). Women are the household head in 42% of cases where the HHH is more than 50 years old, while only 16% of households in general are headed by women. This would appear to result from the fact that some widows retain control of a sufficient asset base to support their family following the death of the spouse or that some women accumulated sufficient wealth/resources to have gained their autonomy and have separated from their spouse.

Figure 1: Distribution of HHHs by Gender and Age for Madjo

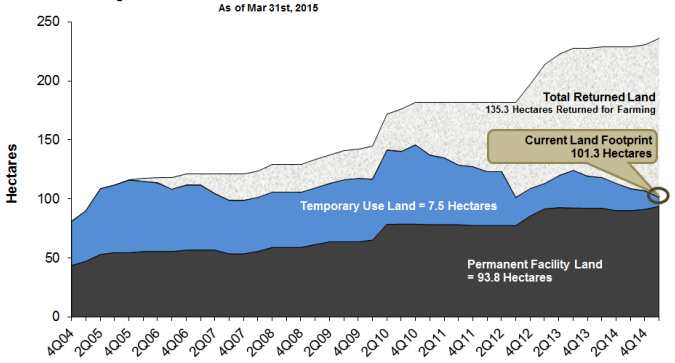


While we normally find that the proportion of at risk household tends to correspond to the gender distribution, in Madjo WHHH (Women Head of Household) represent 21% of at risk HHs while representing only 16% of households. Overall, 17% of men headed households are at risk (19/115) while it is 23% for households headed by women (5/22). MHHH would thus appear to have a small advantage and to be in general better off. As is the case in most communities we find that non-viable or at-risk households are mainly headed by young adults.

3. The Project's Footprint at the Village Level

While the original land take was relatively important (about 82 ha), emphasis on land return limited the project's footprint to 148.8 ha. New activities held in 2010 and 2012 on the Bero field resulted in a small increase in the project's footprint. If we do not account for recent land return the project has touched 236.5 ha representing 11.06 % of the village's area. 135.3 ha have since been returned or 57.21% of the original land-take. At present the Project's footprint stands at 101.3 ha or 4.7 % of the village area.

Figure2: LAND USE STATUS ON THE VILLAGE OF MADJO
As of Mar 31st, 2015



It must be noted that the initial community compensation (two-room school built in 2005) was a compensation for the original land take, a number of additional land takes have taken place since then. Supplemental community compensation, taking the form of a one room school building, was awarded for additional land takes that took place between 2005 and 2009.The above figure nonetheless indicates that a significant amount of land has been returned during the latter part of 2011 and 2014. From this illustration we can conclude that while the Project's net footprint has grown slightly over the last two years, the project has had a recurring impact on Madjo.

From table 3 (page 8), we further learn that all the land taken by the project and returned since then, was returned with some form of restriction as to the use to which it can be put. This indicates that even when land has been and will be returned some residual effects may remain.

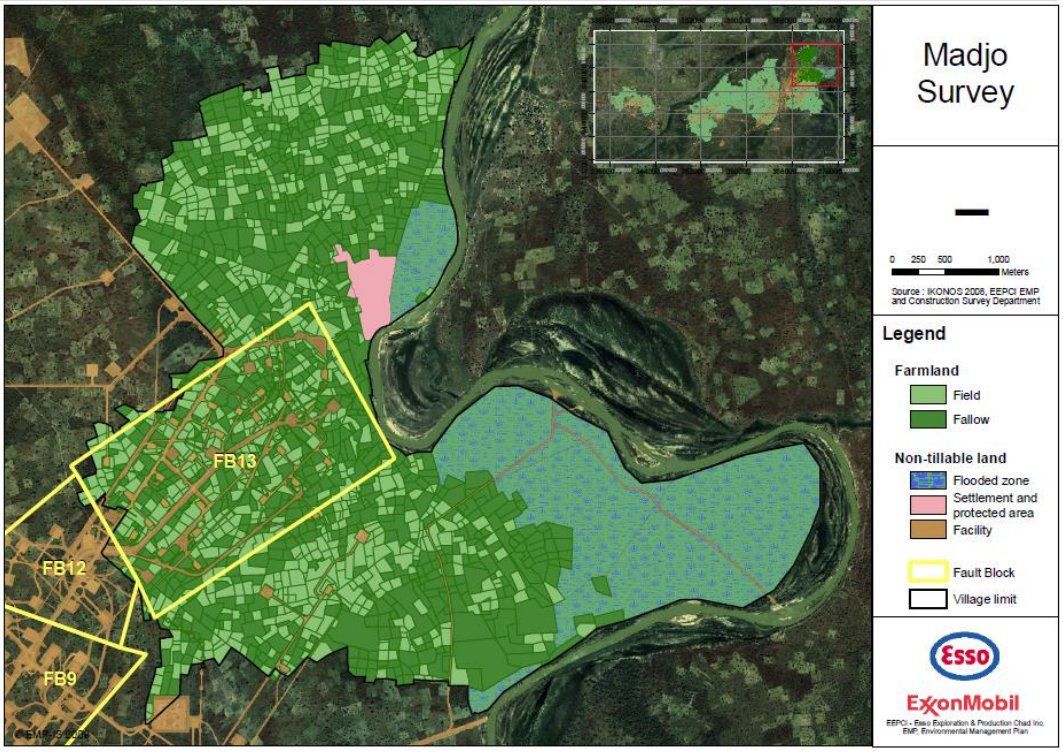
From the map presented on page 8 (figure 3), we can note that a significant portion of Madjo's territory is occupied by a floodplain, explaining the fact that the available land area is limited to 71.7% of its territory (See annex 2).

Table 3: Compensated and Returned Land by Land Use and Facility Type

	Total area (hectares)		
Land use type	Compensated	Returned	
Permanent with public access	54.1	3	6 %
Permanent with no Public access	49.1	6.4	13 %
Sub-Total Permanent	**103.2**	**9.4**	**9 %**
Temporary returned without restriction	0	0.0	0 %
Temporary returned with restriction	133.3	125.9	94 %
Sub-Total Temporary	**133.3**	**125.9**	**94 %**
Grand Total	**236.5**	**135.3**	**57 %**

- 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.

Figure 3: Map of Madjo presenting floodplain area.



4. The Project and the Environment of Madjo

Groundwater Quality Monitoring Data

Over the years EEPCI has established a network of community level groundwater quality monitoring stations.

This network is comprised of:

- EEPCI owned and operated groundwater monitoring wells (piezometer) built specifically for the purpose of sampling ground water quality and collecting data on the level of the aquifers.
- Community owned surface or traditional wells. Communities allow EEPCI to monitor the quality of the water.

For the village of Madjo the data is collected from a piezometer well (KPZ 16). The water does not breach the standards for most indicators. These results indicate that the water has not been affected by the activities of the Project (see Table 4 on page 9). In fact, the results indicate that the presence of monitored chemical compounds is often times much lower than the actual applicable norms. As the piezometer is isolated from potential surface contamination no fecal coliforms were present.

Table 4: Water quality monitoring data for the village of Madjo, Piezometer 16

Results	Cond (µS/cm)	PH	Turb. (NTU)	Cl^-	SO_4^{2-}	NO_3^-- N	NO_2^-- N	NH_3-N	Fe	Mn	*fecal coliforms*	Temp
Q3-2014	110	5.8	12.80	0.3	0	0.1	0.007	0.2	0.051	0.1	0	31.3
Q4-2014	79	6.0	2.23	0.2	1	0.0	0.001	0.17	0.025	0.1	0	30.6
Q1-2015	110	5.5	10.90	0.2	0	0.1	0.007	0.1	0.005	0.1	0	28.9
Standard		6.5 - 8.5	5	250	250	50	3	1.5	0.3	0.5	OMPN/ 100ml	

NT: Not Tested

N/D: Not detected

TNTC: Too numerous to count

Air Quality Monitoring Data

In accordance with schedule 17 of the Credit Coordination Agreement and Exxon Mobil's Environmental Standards, there is a continuous monitoring of ambient air for nitrogen oxides (NO_2) and monitoring of sulfur dioxides (SO_2) on a quarterly basis.

A predicted location for air monitoring is present 300 m from Madjo village, as per the air modeling program. Madjo is located 5 km east from the incinerators of the Waste Management Facility and about 8 km from the Chad Operation Center, the most probable sources of contaminants.

Ambient air data collected shows the following:

- Average of monthly levels of emission (Q2-2014) for NO_2 varies between 12.8 and 22.44 micro grams per cubic meter of air (ug/m^3), or at worst 4.5 times less than the maximum allowable of 100 ug/m^3.
- Average monthly levels of emission at the stack for SO_2 varies between 2.97 and 2.99 micro grams per cubic meter of air (ug/m^3), or at worst 26 times less than the maximum allowable of 80 ug/m^3.
- PM10 data read around PPL location at about 300m of Madjo village, between 10.23 and 27.55 µg/m^3, is under the limit specified in Schedule 17 which is 150 µg/m^3 per day.

From the above, we can conclude that the project has no significant if any detrimental impact on both the air and water quality of the village of Madjo.

5. Mitigation of the effect of the Project on Impacted Individuals

As discussed in the previous section, the sensitivity of HHs and their heads to a land take depends to a large extent on other changes which may be taking place within their households. Each household will change over time through the addition or removal of HH members, through traditional land sharing practices which result in either the reduction or expansion of the land base available to the household and finally because of the impacts of the Project through either the land take or land return processes.

However, we must also understand that with the advent of the infill drilling program, a small number of HHs may have a large number of interactions with the Project. At this level it must be noted that interactions do not necessarily mean land loss to the Project. In fact, the majority of interactions that have taken place in the last years take the form of land return for the benefit of these households and of the community. Some specific process improvements are in progress to address the needs of currently at risk or marginal HHs that had frequent interactions with the Project.

In order to ensure that households can withstand the impact of the land takes while awaiting an eventual land return, a number of programs have been establish as per the EMP.

The first of these programs is the cash or in kind compensation. In this case, the land user or declared user is compensated for his land effort. This first level of compensation is based on the area lost to the project and takes the form of a monetary compensation.

Since the Project was started, 498 individuals were compensated receiving more than 517 million XAF or about 1 million $US.

Compensated Individuals and Amounts			
Year	Compensation Payment (FCFA)	# of Compensation payments	Cumul Compensated Individuals
1998	0	0	0
1999	1,573,120	2	2
2000	0	0	2
2001	5,770,350	10	12
2002	34,550,000	68	73
2003	16,402,500	44	102
2004	75,220,800	148	191
2005	84,223,000	173	264
2006	13,285,500	42	283
2007	13,761,000	22	293
2008	16,390,500	67	324
2009	36,105,750	88	356
2010	86,244,000	164	405
2011	50,500	1	405
2012	43,101,000	62	426
2013	67,539,500	170	487
2014	13,651,500	17	492
2015	9,252,000	30	498
Total	**517,121,020**	**1,108**	**498**

Table 6: Number of trained individuals by option and year

Year	Improved Agriculture	OFF Farm	Total
2001	0	1	1
2002	2	1	3
2003	1	0	1
2004	2	3	5
2005	13	3	16
2006	5	4	9
2007	5	18	23
2008	7	21	28
2009	0	0	0
2010	0	0	0
2011	7	0	7
2012	3	0	3
2013	2	0	2
2014	0	0	0
Total	**47**	**51**	**98**

A second means of supporting impacted individuals or household is through the Resettlement Program.

As individuals are impacted and real land users are identified through the Synergy Process, a number of them, those that are facing a more difficult situation, are being declared eligible for resettlement through on or off-farm training.

Since the first impacted individual was trained in 2001, 98 impacted individuals opted for one of the training options of the resettlement program. This arises from the fact that relatively few individuals have been impacted and that most impacted individuals are relatively large land holder. (See table 5)

A comparison of tables 5 and 6 clearly demonstrates that the number of compensated individuals is much larger than the number of individuals receiving resettlement packages. This situation arises from the fact that:

- Following intervention of synergy team, it is often noted that compensated individuals are not necessarily real land users who could benefit from the resettlement program.
- Most compensated individuals have an eligibility factor of more than 0.67 and are thus not eligible for resettlement.

Between 2009 and 2014 32 previously trained resettlement eligible individuals have received reinforcement in the form of additional equipment and training. None has been identified for the 2015 reinforcement program.

Completion of the impact and land return surveys has made it possible to identify one (1) additional eligible individual who has started to receive resettlement benefits in January 2015. As they have just recently completed their steps of reflection leading to the selection of their resettlement option we can confirm that they have all opted for improved agriculture technique.

On the basis of the village land use survey and subsequent impact and land return surveys, it was found that, 84 of the 98 previously trained individuals have sufficiently increased their available land base to no longer be considered at risk. The increase in land base resulted from, either:

- The identification of land not previously associated with the household. The VLUS being a more precise method than the declarative surveys previously used.
- They may have received some reclaimed land, from the project, through the land return process.
- They may have received some land through more traditional mechanisms (inheritance, land transfers…)

6. Mitigation of the effect of the Project on the Community

Madjo is a fairly important community that occupies a key location near the Kome V camp. Madjo-Bero is the 6th village of importance in terms of the number of project related facilities located within its territory, harboring 107 facilities or 6.5% of all Project related facilities. It must also be noted that a critical manifold is located within this village. Over the years it has benefited from a number of initiatives from the project in the form of donations and various levels of Community Compensation.

M. Mbaihortour Mada Jeremy, School director, explained that this village school was first established and recognized by the government of Chad in 1987. While it initially catered to 70 students it now has 249 registered students. Most students (231) come from Madjo-Bero, while 18 students come from Ndokoyo (13) and Madjo-Doba (5). Must be noted that Madjo-Doba is across the river, these students must thus go through the extra effort of crossing the Pende River every day to come to school. When asked why they come from so far away, the school's director and the president of the parent teachers association (Nadjiadjim Emile) explained that the quality of the program and the high level of CEP matriculation are the key reasons for this situation, 85% of students make the entry requirements to sixth grade. They also proudly explained that one of their graduates is presently at the University of Abeche, completing a degree in geography.

The director of the school and the two community teachers are natives of Madjo and have had their primary grade schooling in the village. It was with a fair amount of pride that they came back to the village as teachers to give back to their community. As they expressed, "while some days it feels like we are doing volunteer work, pay is minimal, we always remind ourselves of what we received as children and what it has allowed us to accomplish".

In 2005, Madjo received an initial community compensation, in the form of a two class room school building. A one class room school building was further awarded to the village as a Supplemental Community Compensation in 2009, for additional land take that had taken place between 2005 and 2009.

In 2014 the school was selected to get a government paid teacher, but they were unable to attract a suitable candidate as no adequate housing could be found.

In 2009 the Project financed an initiative in order to evaluate the technical and socio economic feasibility of the production of rice with improved varieties and practices in low lying flood prone areas of the OFDA. The ultimate objective of this Program was to enhance the productive value of lands that had little and in this way create new farm land to replace some of the land taken up by the Project. A project was thus initiated with AfricaRice and the ONDR to establish three demonstration plots in the OFDA, two of these plots were established in the territory of Madjo-Bero.

- A series of dykes was built in a low lying area close to the Pende River to establish a three hectare rice production area. This area was parceled out to different groups of at-risk individuals who received supplies and training. This was done using traditional construction techniques and local labor.

- Half of an abandoned well pad, the K744, was converted to a 0.3 ha rice field. This one was built using heavy equipment and was given to a local women's group. This initiative also included two drilled water wells that could supply water so that the users could irrigate dry season crop production.

While both these initiatives were agricultural successes with production levels many times those of the production from traditional fields, it was far from a social success. As confirmed by Beinhingar Celestin, Madjo-Bero Village Chief, these fields were claimed by their historical users and reverted back to more traditional crops such as sorghum.

What must nonetheless be noted is that individuals that were trained in improved rice production have retained these skills and have implemented to their advantage in their home fields.

As per the Village chief the water wells associated to the K744 are no longer usable. It must be noted that they were of limited value to the village as they are located fairly far from the village.

7. Relations with the community and Major Topics of concerns

Public Consultation

From January to 31 July 2014, 7 public awareness sessions were held. In total 402 participants were present at these various sessions. The major concerns raised by community during these sessions dealt with:

- Road security
- Land return
- SEWAC caravan (malaria, security and opportunity of affair with CIS)

Claims process

With the establishment of a new claims management program/process in early 2011 the backlog of old claims was settled.

171 new grievances were received between January 1st 2012 and April 31st 2015. They were analyzed and 90 or 53% were found to be valid, resulting in the payment of reparation. 6 Claims were still pending as of April 31st, 2015. Most of the grievances were managed in less than thirty days after having been received. The vast majority of accepted claims (52.3 % of received claims during last four years) are for trees or fields outside of the compensated land parcel that are damaged or destroyed by construction or maintenance activities. The owners of these trees seek compensation for the loss of a productive tree.

Table 7: History of claims for Madjo

Year	# of Claims	# of Paid Claims
1999	1	1
2002	1	1
2003	1	1
2004	6	6
2005	2	2
2006	9	9
2007	13	12
2008	7	7
2009	8	6
2010	16	8
2011	17	15
2012	18	15
2013	81	29
2014	33	29
2015	39	17
Total	252	154

This new process brought a number of advantages:

- Claims are settled rapidly
- Because of the very short period between claims receipt and the investigation there is sufficient evidence on the site to make a decision based on evidence. Decisions are thus based on the evidence at hand.
- At present claims are settled in real time with a turn around of about four weeks. Oldest claim for Madjo was received 19 days ago.

Local Job opportunity

- No recruitment of Madjo residents has taken place in 2014

Donations or other contributions from the Project

- 3 ha rain fed rice production perimeter built as part of the rice production pilot project concluded in 2010.
- 0.3 ha rain fed rice production perimeter built following the restoration of an abandoned well (K744). (Donated to a women group from Madjo)
- 2 wells equipped with foot pumps in order to facilitate the production of vegetables during the dry season. (Donated to a women group from Madjo)

8. Madjo's Current Needs and Resources

- The amount of land needed by those compensated non-viable families to become economically viable is 20.24 ha.
- Madjo's resident population has access to 1060.6 ha of arable land; they also have 177.6 ha of farmland in other villages.
- 98 HH have previously graduated from resettlement training programs.
- 1 At Risk households' heads has entered into the resettlement program for 2015, he has chosen Improved Agricultural Training.
- At present, no employment opportunity exists in this community other than agriculture and commerce. It is expected that all future concerned eligible persons will choose improved agricultural training (IAT) as a resettlement option.
- In terms of public infrastructure, Madjo's children presently have access to 3 modern class rooms, all 3 having been made available through initial and supplemental community compensation.
- Water is supplied through a drilled well donated by the 5% comity and a number of surface wells. The drilled well appears to be managed in a sustainable fashion. The two drilled wells donated through the Rice Production Development Program, put in place by the Project in 2010, are no longer operational.

9. Recommended Site Specific Actions

The LUMAP calls for the Site Specific Plan to consider all of the options in the CRCP and its implementing procedures described in the Land Management Manual (LMM). The package made available to the community must reflect the fact that it is now considered to be a moderate impact community, having moved down from its previous rating (high impact).

For the individual HH which are currently non-viable, specific interventions will be used:

- 1 project-affected HH is non-viable; it has been offered the resettlement options in the promotion of 2015. Presently they are participating in Basic Literacy training (BBS) which will be followed their resettlement option (IAT).
- Eligible individuals who received resettlement benefits in the past and are still considered to be at risk will be monitored in 2015. Those that are found not to have recovered will be targeted for reinforcement.
- If these options do not succeed during the 5 years of monitoring, then the HH will be offered physical resettlement options or if qualified reinforcement training and/or grant equipment and livestock.

As described in the following table (table 8, page 18) the best avenue of supporting this community and assisting it in facing the issues arising from the new land take which took place in 2010 and in 2012 is to offer them a Supplemental Community Compensation opportunity. While the wish of the community must and will be respected in the selection process (MARP) it is clear that the following option seem to reflect the interest of community leaders. They are:

- A one room school to replace the straw building built to absorb the overflow. Could consider consolidating the roof of the school built in 2009 as an additional gesture.
- An additional drilled water well to be located close to the school. This would supply this part of the village and give access to water for children as the school is fairly far from the village.
- A house for a school teacher that would have been nominated by the GOC. Have not been able to retain such personnel as acceptable housing not available in the village. Must be noted that such initiatives have not been successful in the past. In most cases house was appropriated by other local leader, thus not being available for the purpose intended.
- Fencing in the schools yard.

As explained earlier and while we can use our influence to give the relevant information so that the villagers make a wise choice, this must not be construed as an attempt to stifle their ability to make a choice. Ultimately the community will make the final choice that best meets its' needs and aspiration.

The following table describes each option and its relevance to the At Risk Households in Madjo as per the CRCP, LMM procedures:

Table 8: Site Specific Actions for Madjo

CRCP/LMM Resettlement Option	Description	Desirable Option (Yes/No)	Comments
Land Reclamation & Return	Reclaim land and return to community & former users; free land targeted to vulnerable HH	Yes	While some limited land return is expected in the immediate future little significant gains are expected in this area.
Physical Relocation Individuals	Physically move at risk household to new location outside of current village	Yes	Possible however, no one in Madjo has chosen physical resettlement options.
Third Party Compensation	Land User with surplus land may donate to at risk household and receive normal land compensation payment	Yes	This is possible however no one in the OFDA has used this option to date.
Rainy Season Resettlement	Provide field clearing, rainy season hut, well, bicycle, and hand cart for use in distant farm field	Yes	Possible but no requests in this regards at this point.
Off Farm Training	Provide training to earn income in non-agricultural work	No	The rural demand for non-agricultural skills is saturated.
Improved Agriculture	**Provide training to generate more production of subsistence crops and produce cash crops**	**Yes**	**Most widely used resettlement option in the OFDA. 1 eligible undergoing the training program in 2015.**
Physical Relocation of Village	Physically relocate entire village to new location in cooperation and in concert with government	No	The traditional mechanisms for voluntary and gradual resettlement are working well in the OFDA.
First time Community Compensation	Phase 1: Rural Participatory Assessment of Needs & Resources	Yes	Completed in 2005. Community chose an equipped two room school
	Phase 2: Oversee implementation; Create management committee	Yes	Construction and establishment completed in 2005.

CRCP/LMM Resettlement Option	Description	Desirable Option (Yes/No)	Comments
Supplemental Community Compensation	Phase 1: MARP	Yes	Complete in 2009. Community chose an equipped one room school
	Phase 2: Oversee implementation; create management committee.	Yes	Completed in 2009
Supplemental Community Compensation	**Phase 1: MARP**	**Yes**	**Could start in Q3 2015**
	Phase 2: Oversee implementation; create management committee.	**Yes**	**Could be completed in 2016 if budget permits**

Site Specific Plan Implementation Timeline

Green = Completed; Blue = Underway; White = To implement

Action	Timeline
EEPCI provides Training and equipment to qualified resettlement training program graduates.	2001-2013 (98)
EEPCI provided Reinforcement Training and equipment to qualified resettlement training program graduates.	2009-2014 (32)
MARP, Initial Compensation, two room school building	2005
Construction Initial Community Compensation	2005
MARP – First Supplemental Compensation, one room school building	2009
Construction First Supplemental Community Compensation	2009
Village Land Use Survey	2009 (Feb-July)
Monitoring process of individuals who previously received resettlement. (5 still at risk individuals to be monitored)	2015
EEPCI provides Reinforcement Training and equipment to qualified resettlement training program graduates (if any identified).	Q2-2016
EEPCI offers Basic Business Skills and Improved Agriculture Training to first time resettlement eligible farmers.	Jan 2015 (1)
MARP – Supplemental Compensation	July 2015
Madjo choice of Supplemental Community Compensation	July 2015 – July 2016
Earliest Construction of Supplemental Community Compensation Projects	Q3 2015 Budget permitting

Annexes

Annex 1: Change in situation of Madjo between 2009 and 2015 (March 31st)

			2009	2015	Trend
Population	Nbr of Residents		848	867	2.2%
	Nbr HH		133	137	3.0%
	Nbr Women HHH		20	22	10.0%
	At-Risk Women HHH		2	5	150.0%
	Avg. HH size		6.4	6.3	-0.7%
	Avg. cordes Land per HH inside and outside village		16.6	17.9	8.3%
	Avg. Resettlement Factor (Based on all land inside and outside		2.60	2.83	9.1%
Land Use	Village Area in Hectares		2139	2139	0.0%
	Project Perm. Land Take + Temp. No Returned in Hectares		135	101.2	-25.0%
		(% village)	6.3%	4.7%	-1.6 points
	Available Land inside the village limit in Hectares		1503	1532.6	2.0%
		(% village)	70.3%	71.7%	1.4 points
	Available Land Density inside the village limit (Hectares/Person)		1.77	1.77	0.0%
Pop. Density	Density (people/Ha)		0.40	0.41	2.2%
	Density Increase (Land Take Factor)		-1.9%		
	Density Increase (Population factor)		2.2%		
Land "Owned" by Women	Area cultivated (Field) or owned (Fallow) by women		310.8	167.8	-46.0%
		%	28.0%	13.6%	-14.4 points
Outsiders Fields	Cultivated (Field) or Owned (Fallow) by non-residents inside the village		504	472.2	-6.3%
		%	33.5%	30.8%	-2.7 points
Villagers Fields	Cultivated Field Farmed by Resident inside the village limit in hectares (% of available land)		443	594.4	34.2%
		%	29.5%	38.8%	9.3 points
	Fallow Owned by Resident inside the village limit in hectares (% of available land)		553	466.2	-15.7%
		%	36.8%	30.4%	-6.4 points
	Ratio Fallow/Field		1.25	0.78	-37.6%
	Cultivated (Field) or Owned (Fallow) outside the village in Hectares		114	177.6	55.8%
	(% of total land of the residents)		10.3	14.3	38.8%
	Total Cultivated (Field) or Owned (Fallow) by the residents in Hectares		1110	1238.1	11.5%
	Available Land Density inside and outside the village limit (Hectares/Person)		1.31	1.43	9.2%

Number of Years Fallow Possible Given Current Land and Population

Formula : Allan & Brush
LengthFallow =((ArableLand*LengthCultivation/Population) - NecessaryAreaPerPerson*LenghtCultivation)/NecessaryAreaPerPerson

	Arable Land INSIDE (m2)		9,960,000	10,605,068	
	Arable Land TOTAL (m2)		11,100,000	12,380,679	
	Population		848	867	
	Length Cultivation		4	4	
	Necessary Area Per Person (2/3 corde)		3362	3362	
	Years Fallow Village Only		10.0	10.6	5.8%
	Years Fallow Village + Outside		11.6	13.0	12.2%

Annex 2: Land available to villages

	Atan	Begada	Bela	Bero	Danmadja	Dildo	Dokaidilti	Kome	Madjo	Maïkeri	Maïnani	Mbanga	Missimadji	Mouarom	Naikam	Ndoheuri	Ngalaba	Poutouguem	OFDA	Bémira	Benguirakol	Moundouli	Moundouli Satellite
Village Area in Hectares	338	3282	2200	5772	480	1890	690	2448	2139	1245	1413	3059	181	1359	1450	811	2122	562	31440	651	1068	1151	2871
Settlement area in Hectares	223.9	55.5	35.0	158.0	34.9	46.0	24.2	80.6	27.4	46.4	67.5	62.3	7.5	22.8	22.8	42.1	97.1	28.2	1082.2	24.7	27.7	44.9	97.3
(% village)	66.3	1.7	1.6	2.7	7.3	2.4	3.5	3.3	1.3	3.7	4.8	2	4.1	1.7	1.6	5.2	4.6	5	3.4	3.8	2.6	3.9	3.4
Project Perm. Land Take + Temp. No Returned in Hectares	23.9	189.6	137.6	502.3	57.3	173.4	53	16.7	101.2	61.8	67.7	113.2	16.7	106.1	17.9	25.7	152	38.6	1854.7	13.1	47.5	44.9	105.5
(% village)	7.1	5.8	6.3	8.7	11.9	9.2	7.7	0.7	4.7	5	4.8	3.7	9.2	7.8	1.2	3.2	7.2	6.9	5.9	2	4.4	3.9	3.7
Available Land inside the village limit in Hectares	90	3037	2027	5111	388	1671	613	2350	1533	1137	1278	2884	157	1230	1409	744	1873	495	28503	613	993	1062	2668
(% village)	26.6	92.5	92.2	88.6	80.8	88.4	88.8	96	71.7	91.3	90.4	94.3	86.7	90.5	97.2	91.6	88.3	88.1	90.7	94.2	93	92.2	92.9
Available Land Density inside the village limit (Hectares/Person)	N/A	2.39	2.25	1.3	0.63	1.2	1.04	2.29	1.77	1.51	1.81	1.83	1.03	2.62	5.05	1.43	1.34	1.74	1.7	0.79	1.49	0.98	1.06
Cultivated (Field) or Owned (Fallow) outside the village in Hectares	830.1	117.5	81.8	794.4	161.1	127.7	124.9	394.6	177.6	86.0	378.5	129.6	139.7	226.1	21.4	48.3	87.5	7.5	3934.3	55.3	73.7	142.5	271.5
(% of total land of the residents)	96.3	4.1	4.8	15	30.5	8	21	19	14.3	8.2	24.6	5.6	49.6	24.8	2.8	9.6	5	2.8	15.1	8.7	10	15.8	11.9
Total Cultivated (Field) or Owned (Fallow) by the residents in Hectares	862.2	2839.4	1698.0	5280.2	527.8	1598.6	593.9	2081.3	1238.1	1049.2	1538.6	2316.4	281.4	910.6	752.2	501.2	1765.4	264.3	26098.8	637.5	734.5	903.3	2275.2
Available Land Density inside and outside the village limit (Hectares/Person)	N/A	2.23	1.88	1.34	0.86	1.15	1.01	2.03	1.43	1.39	2.18	1.47	1.84	1.94	2.7	0.97	1.27	0.93	1.56	0.82	1.1	0.83	0.9
Area Acquired by Project (ha)	49.6	486.5	317.7	1036.2	131.5	271.6	117.3	103.7	236.5	180.0	134.1	453.8	57.6	240.1	45.6	66.6	462.9	90.2	4481.6	36.2	127.0	125.8	289.0

Madjo: 477 ha of flood plain are included in the total area of Madjo, even if it cannot be farmed, explaining the fact that only 71,1% of the village's area is available for farming.

Annex 3: Use of Available Land per Village

	Atan	Begada	Bela	Bero	Danmadja	Dildo	Dokaidilti	Kome	Madjo	Maïkeri	Maïnani	Mbanga	Missimadji	Mouarom	Naikam	Ndoheuri	Ngalaba	Poutouguem	OFDA	Bémira	Benguirakol	Moundouli	Moundouli Satellite
Cultivated (Field) or Owned (Fallow) by non-residents inside the village limit in Hectares (% of available land inside village limit)	7.0	286.6	400.2	509.8	19.3	139.5	138.8	648.1	472.2	177.4	131.7	694.1	2.8	545.6	852.9	283.6	153.6	235.1	5698.3	29.9	324.6	300.1	654.6
%	7.8	9.4	19.7	10	5	8.3	22.7	27.6	30.8	15.6	10.3	24.1	1.8	44.4	60.5	38.1	8.2	47.5	20	4.9	32.7	28.3	2
Cultivated Field Farmed by Resident inside the village limit in hectares (% of available land)	25.4	999.9	832.8	1910.5	275.7	698.1	291.8	547.5	594.4	611.4	453.7	1024.4	84.6	369.7	112.9	375.3	1059.9	186.4	10454.4	392.7	350.5	497.6	1240.8
%	28.2	32.9	41.1	37.4	71.1	41.8	47.6	23.3	38.8	53.8	35.5	35.5	53.8	30.1	8	50.5	56.6	37.6	37	64	35.3	46.9	4
Fallow Owned by Resident inside the village limit in hectares (% of available land)	6.8	1721.9	783.4	2575.2	91.0	772.8	177.2	1139.2	466.2	351.8	706.5	1162.4	57.1	314.8	617.8	77.6	618.0	70.4	11710.1	189.5	310.3	263.1	762.9
%	7.5	56.7	38.6	50.4	23.5	46.3	28.9	48.5	30.4	31	55.3	40.3	36.3	25.6	43.8	10.4	33	14.2	41	30.9	31.2	24.8	3
Ratio Fallow/Field	0.27	1.72	0.94	1.35	0.33	1.11	0.61	2.08	0.78	0.58	1.56	1.13	0.68	0.85	5.47	0.21	0.58	0.38	1.12	0.48	0.89	0.53	0.61
Area cultivated (Field) or owned (Fallow) by women	772.5	414.0	116.6	2037.2	112.8	225.1	44.0	1366.7	167.8	133.6	259.7	487.7	162.7	262.0	81.7	165.3	262.8	21.9	7094.2	66.1	61.3	133.9	261.3
% Area cultivated (Field) or owned (Fallow) by women out of total area "owned" by village residents inside and outside village	89.6	14.6	6.9	38.6	21.4	14.1	7.4	65.7	13.6	12.7	16.9	21.1	57.8	28.8	10.9	33.0	14.9	8.3	27.2	10.4	8.3	14.8	11.5

Annex 4: Demography of Villages

	Atan	Begada	Bela	Bero	Danmadja	Dildo	Dokaidilti	Kome	Madjo	Maïkeri	Maïnani	Mbanga	Missimadji	Mouarom	Naikam	Ndoheuri	Ngalaba	Poutouguem	OFDA	Bémira	Benguirakol	Moundouli	Moundouli Satellite
Nbr of Residents	N/A	1273	902	3939	611	1395	588	1027	867	755	707	1576	153	470	279	519	1395	285	16741	777	665	1084	2526
Men	N/A	610	455	1904	307	677	268	517	416	387	373	772	71	234	141	269	700	138	8239	352	329	543	1224
Women	N/A	663	447	1929	304	718	320	510	451	368	334	804	82	236	138	250	695	147	8396	425	336	541	1302
Avg Age in Years	N/A	18.8	18.6	18.1	19.4	19.3	18.3	19.9	18.1	20.2	19.2	19.1	17.2	18.8	18.9	19.8	19.5	19	19.0	18.7	19.1	18.7	18.8
Nbr HH	N/A	250	149	607	105	271	85	200	137	140	120	265	25	84	54	95	242	53	2882	145	106	178	429
Avg. HH size	N/A	5.1	6.1	6.5	5.8	5.1	6.9	5.1	6.3	5.4	5.9	5.9	6.1	5.6	5.2	5.5	5.8	5.4	5.8	5.4	6.3	6.1	5.9
Avg. cordes Land per HH inside and outside village	N/A	22.5	22.6	17.3	10.0	11.7	13.9	20.6	17.9	14.9	25.4	17.3	22.3	21.5	27.6	10.5	14.5	9.9	18.0	8.7	13.7	10.1	10.5
Avg. Resettlement Factor (Based on all land inside and	N/A	4.42	3.71	2.65	1.72	2.29	2.01	4.05	2.85	2.75	4.31	2.94	3.66	3.84	5.31	1.90	2.50	1.83	3.10	1.63	2.19	1.65	1.78
Women HHH	N/A	69	19	90	16	58	10	36	22	23	6	57	7	12	5	14	72	9	525	22	22	24	68
At-Risk HH	N/A	11	11	95	20	41	7	19	24	7	6	14	3	4	0	11	19	6	298	22	11	27	60