

ADPP-FACT Narrative Progress report No. 6

December 2009

Jatropha oil for local development in Mozambique

Biofuel for Development and Communal Energy Self-Supply



December – 2009

Henderson Maposa

ADPP project leader

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Abbreviations:

BBC	Bilibiza Bio-fuel Center
CD	Cabo Delgado
DI	Development Instructor (a volunteer assisting in ADPP projects)
DPA	Provincial Department of Agriculture
EPF	Escola de Professores do Futuro - Teacher Training College
EW	Extension Workers
FC	Farmers Club
FCC	Farmers Club Committee
FEW	Field Extension Worker
NHQ	National Head Quarters of ADPP in Maputo
IIAM	Instituto de Investigação Agrária de Mozambique. Agricultural Research Institute conducting research on jatropha cultivation issues.
ME	Ministry of Energy
PL	Project Leader
PPO	Pure Plant Oil
PT	Project Technicians (one water technician and one jatropha technician)
QNP	Quirimbas National Park
SSCD	Sustainable Supply Chain Development (Company led by Ruaraidh Petre in Botswana)
TT	Teacher Trainee - implementing community mobilising in rural communities during teaching practice period of 11 months
USDA	United States Department of Agriculture (co-funder)

1 Introduction

This report overviews the progress of activities outlined for the period July 2009 until November 2009.

2 Progress per expected main result

2.1 Expected main results at end of project

Twenty five Mozambican rural communities will produce jatropha seeds sustainably for energy use on at least 250 ha.

The project team continues promoting the planting of jatropha in the area, and as of now the target of planting 250 000 plants has been surpassed by 17%. Although it is too early to obtain processable seeds from the plants, it is evident wherever one goes that there will be sufficient seeds in a few months to come, once the plants have started bearing fruits.

Almost all clubs (36) have jatropha now, although there is need to make the hedges denser by putting more plants in between the stands of the old ones. These may be raised from cuttings obtained from pruning the old plants.



Parts of the 25ha plantation being established at the centre with plants recovering from the first dry-season pruning in September 2009.

Pruning has widely been adopted in the clubs, having seen how strongly plants develop following the pruning.

It has been found out that dry season pruning gives better results than pruning during the wet season.

Activity 2: Regarding market development

Oil pressing is well underway and the project team is in the process of establishing the length of time it takes the machine in operation to produce a litre of oil from a particular quantity of seeds yet to be known.

Currently, the Sayari oil press is working more satisfactorily than the double elephant one which continues to be getting stuck after pressing only a small quantity of seeds.

Attempts to get a technician from the manufacturers in Maputo to come down to the project are still being made although it is proving to be difficult.



Pressing with the Sayari press in progress

1. 25 Mozambican rural communities producing jatropha seeds sustainably on at least 250 ha for energy use

Activity 3: Regarding ongoing research

A number of trials have been established within the year, with the new protocols which were developed to cater for hedges and not plantations as it had been originally planned. The number of trials established can be obtained from the June progress report.

The research protocols were developed by Flemming Nielsen, and the trials were set up together with the project team in Bilibiza. Some trials are set up at the EPF centre while others were set up in the fields of farmers.

The trial titles and the sites are as follows:

Site Name	District	Trials
Nova Zambezia	Macomia	On-farm plot yield measurement block 1
		On-farm hedge yield measurement block 2
EPF Bilibiza		Hedge improvement trial block 1

	Quissanga	Hedge improvement trial block 2
		Provenance trial block 1
		On-farm hedge yield measurement block 1
Ngeue	Ancuabe	On-farm plot yield measurement block 2
		Hedge improvement trial block 3
		Provenance trial block 2
Primeiro de Maio	Melucuo	On-farm plot yield measurement block 3
		Hedge improvement trial block 4
		Provenance trial block 3
Muaguide	Meluco	Provenance trial block 4
Nacate	Meluco	On-farm hedge yield measurement block 3
Koko (demo field)	Macomia	On-farm hedge yield measurement block 4
Koko (farmers field)		On-farm hedge yield measurement block 5
Nangororo	Meluco	On-farm hedge yield measurement block 6
Metambo	Meluco	On-farm hedge yield measurement block 7
Nanlia	P. Metuge	On-farm plot yield measurement block 4

The project team was trained in data collection, and the first yield data was entered in spreadsheets in September 2009 during the visit of Flemming when he came for the training course.

Activity 4 dissemination of experiences

The project team continues shooting short video scenes with the intention of compiling them into a complete video when an experienced Development Instructor comes next February. This has been the case because it has not been possible to find a suitable person to make the video within the project area or anywhere around. It has also been difficult to get in touch with the DI Tiago, who made the first draft video for the project but suddenly left for Portugal before he could finalize it. The project has however found some experts in Pemba who have agreed to come and make a film starting the month of December to January.

The first training course in jatropha production was held from 14th to 28th September 2009 and attracted participants from within Mozambique as follows:

No	Name	Institution	Province	Telephone
1	Joao Eduardo Ranguisse	Envirotrade	Sofala	825099030
2	Sabado Marcelina Raisse	Envirotrade	Sofala	825099030
3	Chitambe Jorge Joao	Envirotrade	Sofala	825099030
4	Halahala Abdurramane	Ministry of Energy	Maputo	826357987
5	Zeca Juliao	ADPP- Farmers Club	Zambezia	825275680
6	Luis Armando Bila	ADPP- Farmers Club	Sofala	825579440
7	Rosario Manuel	ADPP- Farmers Club	Nampula	826998300

The course covered all production practices from land husbandry, seed selection, planting, field management up to harvesting and the course evaluation by the participants was very favourable.



Guest presenters were Jan De Jongh, Flemming Nielsen and Jacob Zulu **who did** the final evaluation with the participants on how the course had been conducted and if it had been to the expectations of the individual participants.

Production of a video film

The project has finally identified a group of people to make a video film for the jatropha part of the project. The plan with the group is that they visit all the districts and do the shooting themselves and interview the participant. They shall then go back to the table and do all the editing and final productions with comments and guidance from the project staff as they do not know the project well, for accuracy sake the project staff will have to be involved. All this is expected to be done in the month of December 2009.

Activity 5 additional proposals

A number of proposals have been put in for the continuation of the farmers club activities which includes the continued cultivation of jatropha by the partnership team for ADPP with input from Jacob Zulu and Erik Schurmann. Notably are the one to continue with activities of FC to USDA after 2010 in June, there has also been another one to EU as well as the one to Spain. So far the one for Spain has been approved for the next two years. This means that we can continue with the promotion of jatropha cultivation and also support the staff that will be working with the BBC up to the end of 2012.

Activity 6: Acquiring necessary equipment

The Toyota Hiace truck is currently not working due to problems with the gearbox. Attempts are however underway to obtain a good gear box so that it is put back into service before the end of the year. The project has however succeeded to buy a 3.5 tonne Isuzu ELF truck from an importer of Japanese fairly used cars in Nampula province, and is in a good working condition.

The truck is being used to transport jatropha from the villages to the BBC, it is also being hired to the EPF and the neighbouring Agriculture school whenever they have events that require a bigger truck, this is done at a fairly reasonable fixed price as part of generating income for the maintenance of the same truck among other things. Five small motorbikes were bought in

partnership with the EU program and they are all in good working condition. A new motorbike for the BBC has not been bought yet but plans are underway to acquire one.

Computers often break down, however Jan de Jongh brought two 500GB external hard drives as backup system for the computers. This is very good in as far as data management and storage is concerned.

The projector which was bought in Denmark by Erik Schurmann does not work anymore, it fails to display the image from the source, only horizontal lines.

The solar power system does not work anymore, and this means there is high dependence on the centre generator for all the energy needs of the project. The centre generator is not consistent in its operations due to constant shortages of diesel which is only obtainable in Pemba, 200km away from the project centre.

The idea is now to extend a power cable from the BBC workshop genset to the offices so that the project can at times become independent of the main generator which is operated by the EPF.

Activity 7 Extension to other provinces: Sofala, Nampula and Macuse

In Sofala,

Project Leader (PL) Morgen Chira

They are active in the district of Gorongosa, in 10 villages where 10 FC's have been formed. In these 10 communities there are in total roughly about 8000 farmers. These 10 FC's with total 500 farmers planted 11.000 jatropa plants of which 10.000 survived. (planted in Nov 2008) At present there are about 2500 plants. The plants were swept by wild fires that were experienced in the area, Gorongosa is one of the few district which is very prone to uncontrolled bush fires. This is why it is very important that this project succeeds as in the long run the farmers' fields will be protected. The growth rate of the jatropa plant is very slow in Gorongosa as compared to that of Cabo Delgado. This farming season the project has secured 50kgs of seed of jatropa from Cabo Delgado and an added 15kg of jatropa from Manica District for further jatropa cultivation, however, this time the farmers have been educated to put up some fireguards around their field as this would protect the plants from the fires but also prevent the crop from being destroyed due to uncontrolled fires.

The farmers were only motivated to plant hedges of Jatropa, no price for the seeds was discussed. 1 Extension worker lives in Gorongosa and 1 supervisor.

Project office with Morgen in Dondo, since they have two more areas with FCs without Jatropa there.

In September of 2009 the project sent three participants to Bilibiza for the training the was organised by FC Cabo Delgado to further the knowledge of those that are promoting the cultivation of Jatropa. From Sofala Bila who is the assistant project leader to Morgen participated, Zeca from an Extension worker from Mocuba and Rosario an Extension worker from Itoculo. The staff got very good training as they were now equipped and better prepared to do their work and especially on the practical part which will further help them in the mobilization of the community they are working with. In this coming season the plan is very much to expand the production of jatropa so that we will have enough seeds for pressing by 2011. There has been conducted trainings for the farmers were by they have had an opportunity to visit Envirotrade so they understand about the jatropa plant, this was done in the month of October were 30 committee members participated in the training.

Itoculo, Nampula

PL Else Marie Fogtmann

With only about 4000 plants surviving from the 2008/2009 farming season, the plan for Itoculo is to plant 50kg of jatropha during the 2009/2010 farming season. The project is getting seeds from local plants but will also get some from Bilibiza. Up to this time the rains have not yet started in Itoculo, it is our hope that we will have better rains this year.

During the month of September the project in Itoculo sent their Extension Worker so he could go and learn on how to propagate the jatropha plant. He took part in the training that had been organised by FC Cabo Delgado.

Macuse

PL Luciano Jose

The area where the FC's are developing jatropha activities is in Mocuba district in 10 communities, Macuse just like most areas in Zambezia is sandy and heavy clays, during rainy season the area is mostly water logged hence the necessity to have the jatropha program in Mocuba which is mostly a plateau. Mocuba just like Gorongoza has acquired 50kg jatropha seeds for cultivation this coming season, even though it has not yet started raining, but chances are that it will start soon and normally Mocuba receives around 1000mm rainfall per year.

Zeca Luis is the Extension worker directly responsible for the farmers clubs in Mocuba, he has 10 clubs with a total of 500 farmers in the program in the 10 communities. All these clubs have planned to further their jatropha production. On the other hand, Zeca is one of the three staffs that participated in the training in Cabo Delgado that was organised by FC Cabo Delgado to promote jatropha cultivation.

Activity 8: Developing the training centre

The building to host the pump production workshop and the oil producing unit BBC is practically completed. The electric wiring has also been upgraded to a 3-phase system to cater for the machines since the original installation was of low capacity. The improvements of guest rooms for training of participants are finished and that there were no complaints regarding accommodation from the participants of the first training course in September.

The two presses, the Sayari bought in Tanzania and the Double elephant press bought in Mozambique plus the Diesel genset have been installed.

The genset was modified to run on pure plant oil by Niels Anso and temperature recordings are being taken every 21 days. The modification was done during the period when the first training course was underway, and participants were introduced to the technique.



Niels explaining about the dual fuel system to the participants of the first jatropha training course at the BBC



The newly modified dual fuel motor

The 16 x 6 m shed has been completed which is to be used for storage of sacks with jatropha and also as a car park. There is need to raise part of the roofing structure so that the new truck can fit in. Presently the roof is quite low.

Plans are being developed to construct a toilet structure near the workshop so that people working there do not have to go further away to access toilet facilities.



The practically completed building, with a separate generator house



The storage shed has been finished, opposite the workshop building.

The automatic oil filtration systems now being set-up. Oil from the press shall fall into a receiving tank and poured into settling tanks where residues shall settle at the bottom and clear oil on top. The clear oil shall be pumped into a filter from which pure oil will be discharged into final receiving tanks.

3 Table 2: planned results versus actual results and variations explained. See below.

**ADPP PROGRESS REPORT Project: Biofuels for Development and Communal energy Self Supply
1 JULY 2009 - 20 NOVEMBER 2009**

<i>Main activities for whole year 2009</i>	<i>Planned results up to 1 Nov 2009</i>	<i>Actual results up to Nov 2009</i>	<i>Variation</i>	<i>Explanation of variation, problems encountered. Solutions proposed</i>	<i>New estimate of results per July 1, 2010</i>
1. 25 Mozambican rural communities producing jatropha seeds sustainably on at least 250 ha for energy use					
Select 25 interested farmers clubs (FCs)	31 clubs still functioning well	The growing of jatropha has now been introduced in the remaining 4 villages, bringing the total number of clubs growing jatropha to 36.	The project has added 11 clubs on top of the planned 25. This means that all the 36 communities in which ADPP is working are growing jatropha.	Many clubs have developed interest in establishing jatropha fences along their fields in order to markout their field boundaries and keep out animals in addition to the known benefits of obtaining oil for domestic lighting and soap making.	Increase the number of plants per farmer so that they have thick fences in double rows.
1,2 Train 25 EPF teacher trainees, 25 field extension workers as community mobilisers on jatropha cultivation and general environmental awareness					
25 Teacher trainees (TTs)	Second and follow-up trainings for the 2007-2008 team	The 2007-2008 team received a training in community mobilisation in the first week of March. 27 trainees participated and each was given the book '40 green world actions' by GAIA movement which had just been translated into portuguese.	The training for 2008-2009 team was not held.	The teacher training program period in Mozambique has been trimmed to 1 year. The outreach program has therefore been cancelled. The suggestion is that we could better use agriculture students during their period of practices out side the campus.	Training of the agriculture students before they go for field practicals in 2010. Follow up on activities of graduated EPF students who are posted to work in FC villages.

	25 Field extension workers (FEW) (are the FC chairperson)	All 32 FEW responsible for running jatropha clubs receive enough training and they are able to lead production activities in the clubs in the absence of a project technician.	The project has mainstreamed FEW trainings in all activities being undertaken in the communities. All FEWs are active mobilisers of their club members in all club activities.	Changes in club leadership	Some of the FEWs who took part in the introduction of the program are no longer participating as leaders but as mere farmers. This is because their leadership principles were found to be misleading and the rest of the members found it necessary to sack them.	All 36 FEWs are capable of running successful clubs.
1.3	Conduct 250 household surveys and establish baseline	250 HH surveys finally analysed and survey report produced.	Survey report partly done	Survey report not fully out	The first survey report was a mixture of activities from 3 different programs being implemented in the project area. It was therefore found necessary to pick out the details related to the FACT program only and a report produced for that.	Survey report fully out and posted on websites
1.4	Make 50 wells and install rope pumps for irrigation of nurseries	All 25 FCs have lined out wells with steel rope pumps for production of jatropha seedlings and vegetables. The project will install 25 pumps, corresponding to the number of nurseries.	There are in total 26 wells currently with water. This figure includes old wells and new ones which have been dug to replace the old dry ones. 16 of these have been hand pumps installed and work is in progress to install the rest.	more wells dug for jatropha nurseries.	There are more wells than previously planned due to an increase in the number of clubs participating in the program.	All 36 hand rope pumps installed on wells with sufficient water in a working condition.
	Main activities for whole year 2009	Planned results up to 1 Nov 2009	Actual results up to Nov 2009	Variation	Explanation of variation, problems encountered. Solutions proposed	New estimate of results per July 1, 2010
1.5	Provide seeds and give training to farmers to start 25 nurseries					

- Set-up nursery at EPF	At least 6 varieties produced as seedlings in the New Nursery and 10000 plants raised in the nursery for planting as part of the 25ha local plantation	The targeted number of 6 varieties has been achieved. These are (Mozambique, Tanzania, Guatemala, Thailand, Mexico and Indonesia). Some of the varieties have already been planted out in research plots in the clubs while others are still being raised in the nursery at EPF	3 new (Thailand Mexico and Indonesia) varieties not yet been sent out to the clubs.	The new varieties are still being assessed at the EPF in terms of germination and survival rate.	All six varieties planted out in the farmers clubs and constant field visits done to note their field performances.
2 trainings for EW (pruning and seed collection and storage) are done.	Extension workers receive trainings in seed selection storage, and field practices like pruning, soil and water conservation, harvesting e.t.c	3 training sessions of trainings for extension staff conducted during which they pruned all the jatropha trees around the EPF centre. The pruned plants are growing very well.	Seed selection and storage not covered yet.	The training was interrupted by the General elections in the country, but manuals were handed out for them to read.	Training of the Ews together with agriculture students before they go for field practicals in 2010. Follow up on activities of graduated EPF students who are posted to work in FC villages.
1800 kgs planted as seedlings as well as directly sown. A total of 200 ha planted with seeds of different varieties.	A total of 250,000 plants growing, representing a total of 250 ha, planted not less than 6 different varieties.	Recent counts indicate that a total of 265400 plants are growing representing a total of over 265ha.	Only 3 varieties currently growing out in the clubs instead of all 6.	3 More varieties being tested at the EPF, to be included in one varietal trial.	More seeds to be planted in 2010 to increase the hectareage so as to increase supply of seeds to the BBC
25 communally managed nurseries producing healthy seedlings for distribution to club members.	100,000 seedlings raised in communal nurseries and distributed to farmers for planting around their fields (2000 seedlings to be raised in each of the 25 communal nurseries)	No seeds distributed this year, only planting pots given.	Farmers raised their own seeds obtained from plants growing around their own fields	We did not give any seeds out to farmers because we wanted them to find the seeds for themselves.	More jatropha planted from cuttings obtained after pruning grown up jatropha plants.

1.6	Sensitise and train 250 farmers to start cultivation of Jatropha	Farmers increase the number of their jatropha plants/ plant the second hedge	More jatropha planted as cuttings obtained from pruning old hedges. Farmers have been taught the benefits of planting jatropha using cuttings and the disadvantages of the system too, through weekly trainings conducted by extension workers.	Double hedges planted in farmers club but more plants raised from cuttings dried out.	The rainfall season was too short, and due to late planting the cuttings started drying out since it was too sunny immediately after the rains stopped.	farmers replace dried out plants either from cuttings or direct seeding. Some plants to be raised from seedlings produced in communal nurseries.
Main activities for whole year 2009		Planned results up to 1 Nov 2009	Actual results up to Nov 2009	Variation	Explanation of variation, problems encountered. Solutions proposed	New estimate of results per July 1, 2010
	Plant seedlings and directly seeding plots of 10 - 20 ha at each Farmers Club	Complete the 250ha target	Over 250 000 jatropha planted	Seedlings mostly used other than direct seeding.	Direct seeding has less plant survival rate as the soil is very loose and therefore keeps less water.	Continue planting jatropha hedges so as to have a constant supply of seeds for the BBC
1.8	Harvest and sell seeds	All seeds harvested are bought and well stored	Seeds now being bought from farmers clubs or pressing at the BBC at 5mt per kilo.	Seeds being bought even before a club harvests 1 tonne as previously arranged.	Clubs become impatient when they keep seeds for a long time in their localities.	Buy all seeds and transport them to BBC for pressing
1.9	Conduct annual field days, planning & review meetings	An annual field day done and a second round of district meetings (5 in total) as well.	Two annual field days done in Meluco and Macomia where the most plants have been raised and the most seeds are being harvested.	No district meeting so far conducted	No need for district meetings because there have been regular club meetings in all districts, by extension workers and project leaders.	Conduct an annual fields day for 2010

1.10	Prepare and set up 25 on-farm jatropha research plots of 1 ha	5 trial fields will have been established. Plus 14 hedge trials of which 3 at EPF and rest at individual farmers divided over the FC's	All trial plots established at the EPF centre and out in the communities.	Extension workers not involved in setting up trial plots	Extension workers not involved in trial set up in order to avoid errors which might alter results. They are only responsible for data collection	Continue data collection and analysis continues.
1.11	Monitor jatropha research plots	Data being collected from research plots.	Data is being collected from all research plots and entered on spread sheets.	No variations, everything going on according to plan.		Continue with data collection and analysis
Main activities for whole year 2009		Planned results up to 1 Nov 2009	Actual results up to Nov 2009	Variation	Explanation of variation, problems encountered. Solutions proposed	New estimate of results per July 1, 2010
4. Information made public						
Information in the form of training and informational material, stories of change and best practices on the communal energy self supply model made public through manuals, pamphlets, posters, internet, radio programmes, video films and conferences						
4,1	Produce training material for community mobilisers, etc.					
4,1	<i>Develop training material for EWS</i>	Books, similar to 40 actions	No books compiled yet, but local experiences and best practices have been registered	No books compiled	Must be a project activity for 2010	Books, similar to 40 actions
		Different Large posters with EPF TT students	Small posters produced	Not fully developed	Must be a project activity for 2010	Different Large posters with EPF TT students

		PP presentations	5 different PP presentations have been produced and presented in seminars in Maputo, Nairobi e.t.c.		Continues to be project activity for 2010	More PP presentation
4,2	Produce a number of newspaper articles + webpages	Not planned for this period	Not planned for this period	Not planned for this period	Planned for 2010	A fully developed web page with best practices, stories of change amongst farmers and various other presentations on it.
4,4	Collect stories of change and best practices among the 25 FCs	Best practices and stories of change gathered from the farmers clubs, used as motivational experiences for other farmers in other areas.	5 production experiences so far registered from the group of farmers growing jatropha around their fields	Stories of change not yet recorded	Period quite short for stories to come through	A full compilation of experiences and best practices on production of jatropha, community mobilisation and general club management from farmers
	Produce a booklet, radio programmes and a videofilm describing the best practices and the lessons learned on mobilising rural communities to establish energy self-supply systems	Not planned for this period	Not planned for this period	Not planned for this period	Planned for 2010	User-friendly booklets produced and a well structured radio program broadcast every week.

4,5	Produce a booklet , describing the best practices and the lessons learned on mobilising rural communities to establish energy self-supply systems	Determine who is going to read this booklet, probably similar NGO's as ADPP. In 2008 describe first chapter on best practices and lessons learned on setting FC's and motivating them to grow Jatropha	Best practices collected but not compiled in a booklet	N booklet compiled yet	Waiting for the project to start pressing at a good scale before any large scale publicity is effected.	A booklet produced
	Produce radio programmes describing the best practices and the lessons learned on mobilising rural communities to establish energy self-supply systems	Radio programme for rural farmers. Have 2 broadcast minmally, in July and in Oct?	No radio program organised	No radio broadcasts	Waiting for the project to start pressing at a good scale before any large scale publicity is effected.	
	Produce a videofilm describing the best practices and the lessons learned on mobilising rural communities to establish energy self-supply systems	Video recorder bought.	A video recoder was bought and is being used by the project team to shoot short scenes which shall be put together by an expert.	A complete video not yet produced.	Lack of trained people to make a video in the project area. The project team is shooting scenes to be compiled into a complete video.	Video film ready
	Hold 2 dissemination seminars for local leaders, governmental staff, private business, NGOs and microfinance institutions on low-cost energy	Booklet of first seminar produced by GTZ and distributed. Second Seminar in November 2010	Booklet of first seminar produced by GTZ and distributed. Second Seminar in November 2010	Moving according to plan		Seminar in September 2010, after the second training in Bilibiza.

	self supply systems.					
5. Large proposals						
Main activities for whole year 2009	Planned results up to 1 Nov 2009	Actual results up to Nov 2009	Variation	Explanation of variation, problems encountered. Solutions proposed	New estimate of results per July 1, 2010	
6. Other expenses not directly related to project activities						
	annual audits	Line Based & Activity based financial reports over 3/4 of 2008 ready by Nov 2009; 2008 Annual Financial report ready by January 2010; Audited Annual 2009 Financial report for Donors ready by 1 June 2009..	Line based activity report is almost done, financial report being prepared and internally checked by internal auditors.	Internal audit underway	The main audit has not yet been done because there is need to do an internal audit. The main audit will be done in December 2009.	All reports completed and submitted
	motorbikes and bicycles	All bicycles and motor bikes running well. One new motorbike bought for BBC head.	Enough motor bikes running well despite frequent breakdowns resulting from use on rough roads and long distances between clubs.	No motorbike for BBC head yet	The BBC head is currently working on setting-up the machinery in the workshop, he has no time to go out to the clubs as of now.	All bicycles and motor bikes running well. One new motorbike bought for BBC head.

	office equipment, 2 laptops 2 digital cameras	Laptops, cameras and PV system functioning	Laptops functioning well, and the project has 2 digital cameras and a new video camera, all in good working condition.	One digital camera not working		2 Laptops, 2 cameras and PV system functioning
8. Setting up of Bio-fuel Training Center on bio-fuels in Central Mozambique						
Improving existing school building into centre and mechanical workshop						
	Improvement of dormitories	3 dormitories ready for use	All rooms are ready to use. Both inside and outside well looking.			Nothing to be done on dormitories.
	Construction of new toilet and bathroom facilities	A building with toilet and bathroom facilities in use.	Toilets built and are being used.			Nothing to be done toilets
	Construction of workshop for water pump production and jatropa oil production.	A well finished workshop building, with all the equipment installed.	The workshop building is finished plus a shaded car park.	The car park is abit short for the new truck to enter	Raise the roof abit	A well finished car park where all cars would fit in.
	Centre generator	A generator running the workshop and as back-up for the school centre.	The generator has been installed, and was modified to run on pure plat oil by Niels Anso.	Only supplying power to the workshop not the offices.	There is need for a long power cable to be bought in order to tap power from the genset to the offices.	A generator running the workshop and as back-up for the school centre.

<p>Purchasing and installation of equipment, such as: oil press, bio-diesel production unit, cab-truck, etc.</p>	<p>All necessary equipment bought and installed and oil production started. Bio-diesel demo unit and bio-gas demo unit not yet</p>	<p>All equipment for the workshop has been bought and installed. A new cab truck has also been bought.</p>	<p>The double elephant press from the mozambican supplier, Pro-campo gets stuck when seeds are put in.</p>	<p>There is need to invite a technician from Pro-campo to come and reinstall it. It can also be used to press edible oils.</p>	<p>All equipment installed and working in a good working condition.</p>
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4 Conclusions

All major components of the project to develop a local market of diesel engines running on PPO of Jatropha are starting to come together now;

- The project is in general doing well with most activities well underway, and concrete plans made for the activities which have not yet been implemented. The agricultural part with the farmers clubs is still doing very well. 36 clubs in total have Jatropha plants growing now and seeds are being collected.
- Clubs continue earning some cash from vegetables and planting target of 250 ha equivalent (or 250.000 living plants) has by far been surpassed.
- An experienced leader for the Bilibiza Bio-fuel Centre (BBC) has received various training courses and has built up the centre to the extent that processing has now begun.
- Most of the equipment is present has been installed.
- Most farmers have collected jatropha, and the project is still buying at the price of 5mt per kilo. The plan is for each club to collect 1 ton before it will be bought by the project. The truck for transporting the jatropha seeds to the BBC has already been bought
- Research trial plots, both on hedges and fields have been established and seeds are collected in a systematic way.
- The first video film is being planned for release by end of December 2009; it is to be produced by a team of experts identified in Pemba.
- The market of the jatropha product in order for the BBC to run as a business still remains a big challenge, with the data collection on market prospects of hiring the center for seminars, soap production fertiliser and oil for rumps completed, what remains is the production of the final market prospect report which will predict as accurately as possible the viability of the business. This should be completed before the end of the year so that the full business plan is developed.

Water and elephants remain a problem in the area, requiring more training of farmers and investments.