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**NARI-EU-ARD Project
Generation and adaptation of improved agricultural
Technologies to mitigate climate change-imposed risks to food
production within vulnerable small farming communities in
western Pacific Countries**



Progress Report on Activities carried out from 01st -19th October 2012



By Peter Iesul

Acting Sub -Coordinator

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1. Introduction:

This report outlines the activities carried out from the period of 1st October to 19th October 2012 especially activities under the crop component which focuses on a set of trainings on yam multiplication techniques for mass production, and setting up of sweet potato evaluation plots. In addition, the report will present the outcomes of the partners and associate institution meeting held on 1st October especially the action plan and budget for each component for each project site. The report will also present some minor activities of the water and soil component, including sweet potato silage feeding trial under the livestock component, all that have been ongoing before the actual commencement of field activities.

The departure of two (2) senior officers directly involved in the project as Coordinator and Senior Scientist for the project leaves a gap for the overall coordination. However, an aspiring team has taken over to bridge this gap. It will be very challenging but this team is united and determined to expend all its skills, abilities and strengths to ensure the success of the Project.

Despite all these challenges, the Department is ready to present this progress report based on the outputs of the Activities listed such as activity 4.1: sourcing stress tolerant sweet potato varieties germplasm 4.2: developing breeding material of stress tolerant sweet potatoes, 4.3: screening sweet potato varieties for stress tolerance, 4.4: sourcing other crops to diversify, 4.5: evaluating germplasm under stimulated stress. There are about eight (8) specific activities in this component that contribute to the key result which is stress tolerant crops and crop varieties available to target communities.

The Department also looked at some of the emerging problems and issues that need to be sorted out and suggested few recommendations. The Full report for the training on yam training, distribution of new and improved planting materials, and setting up of sweet potato evaluation plot can be found at the appendix section.

2. Support & Assistance

The project would like to convey sincere gratitude to Dr Roger Malapa, Tari Molesale and the technicians under the crops component that have assisted in planning these activities at their initial stages up to completion. The project would also like to acknowledge the generous assistance of DARD colleague staffs that have contributed alot to the crop component team to carry out such a successful training on yam propagating techniques and the setting up of sweet potato evaluation plot.

Further acknowledgement is accorded to the members of the community and their respective chiefs for their assistance to the DARD officers in carrying out the activities in each project site. Moreover, appreciation goes to the livestock and soil and water component team for the activities that they have been carrying out notably the monthly data record of rainfall and sweet potato feeding trial.

Last but not the least, the colleagues that have contributed in formulating an action plan for each component, your contributions and technical inputs are very much appreciated.

3: Activities completed this reporting period

Crops component

Output/Key Results: Stress tolerant crops and crop varieties available to target communities.

The activities that have been carried out under the crop component are reported as follows:

Activity 1: Training on yam propagation techniques for mass production, distribution of new and improved planting material for stress tolerance and diversification-Siviri Site

The following table presents the list of farmers that attended the training. Out of the 26 Participants, 6 were female and 20 were males. This depicts 23% of female attendance and 77% of male attendance.

List of participants that attended the yam training-Siviri site

No	Name	Planting Material collected	Village	Contact
1	Arthur Kanas	Manioc, yam, taro, kumala	Siviri	
2	Emile Kanas	Manioc (white & red hand), taro, yam	Siviri	
3	Michel Manaruru	Yam	Saama	56 65079
4	Ethel Tap	Yam (taroa & strong yam) manioc (white & red hand),	Saama	
5	Kalo Fred	Yam (strong yam)	Paunagisu	53 42155
6	T. Masemanti	Taro, kumala, yam	Paunagisu	
7	Kalsa Tensi	Taro, yam (taroa)	Paunagisu	
8	Emma Willie	Manioc (white), kumala, yam (taroa)	Paunagisu	
9	Patrick Sam	Yam (taroa), manioc (white & red hand), taro	Emua	
10	Peter Kalo	Yam (taroa), manioc (white & red hand),taro	Emua	
11	David Arthur	Kumala, yam, Taro	Siviri	38 878
12	Paul Arthur	yam, taro	Siviri	54 87476
13	Touliu bethel	Yam, manioc (white hand)	Paunagisu	54 20034
14	Toufau Takalo	Manioc (white & red hand), yam	Emua	
15	Leisau George	Kumala, manioc (white hand)	Emua	54 91881
16	Winnie Douglas	Yam, kumala, manioc (red & white hand)	Emua	54 22590
17	Tom Lulu	Yam, manioc (white & red hand)	Saama	54 17866
18	Douglas Laban	Yam	Emua	53 69979
19	Chief Atavi Masenawota	Yam, manioc	Siviri	77 45429
20	Kalontas steel	-	Siviri	59 44069
21	Graham David	Yam, kumala	Tanaliou	71 15172
22	Kalgerei Morris	-	Siviri	
23	Michel Daniel	-	Emua	56 60626
24	Peter Manaongomapna	-	Siviri	
25	Richard Daniel	-	Emua	
26	Kalsau steel	-	Siviri	77 14854

Activity 2: Distribution of Improved and new crop varieties-Esema.

The planting materials were handed over to the chief and other 3 village elders. The chief was responsible for the distribution. The crops that were distributed were mainly Yam, Taro, and sweet potatoes (Kumala). Below is a list of the farmers and type of planting material distributed.

	Name	Planting Material collected	Village	Contact
1	Alfred Esron	Yam, Taro, Kumala	Malafau	Contact through chief of Malafau: 5432927
2	Almanua Esron	Taro, yam	Malafau	
3	Michel Mananuru	Yam	Malafau	
4	Seta Esra	Taro, kumala, yam	Malafau	
5	Ben Donald	Yam, kumala	Malafau	
6	Kalo Morris	Kumala, yam	Malafau	
7	Joseph Jimmy	Kumala, yam	Malafau	
8	Chief Manapanga	Yam	Malafau	
9	Paul Sakarie	Taro, yam	Malafau	
10	Selfur Kanos	Yam, taro, kumala	Malafau	
11	Louis Kalo	Kumala, yam, taro	malafau	
12	Kalfau Arthur	yam	malafau	
13	Ben George	Yam, manioc, taro	malafau	
14	Steven Kanos	Taro, yam	malafau	
15	George Ben	Taro, yam	malafau	
16	Jimmy Ben	Yam, taro	malafau	
17	Joe Matison	Yam, taro	malafau	
18	Matison Aloseke	Yam, taro, kumala	malafau	
19	Joshua Harry	Taro, kumala	malafau	
20	Pastor David harry	Taro, kumala, yam	malafau	
21	Donald Hendry	Taro, kumala, yam	malafau	
22	Kalsev	taro	Malafau	

New and improved planting materials were distributed to Siviri and Esema site. The improved planting materials were selected based on their performances during stress conditions. It is anticipated the improve varieties will grow well despite variability in weather patterns to ensure food security of the community. The new varieties will help in diversification of local varieties. The Table on the next page presents the planting material introduced at both Siviri and Esema site.

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Planting Material introduced at Siviri and Esema site.

Crops	Species	Total accessions	Quantity
Yam	<i>D. alata</i>	15 cultivars	161 tubers (71 kg)
	<i>D. cayenensis-rotundata</i>	3 cvrs & 3 new breeding lines	50 tubers (25 kg)
	<i>D. bulbifera</i>	3 cvrs	29 tubers (10 kg)
	<i>D. nummularia</i>	6 cvrs	18 tubers (7.1 kg)
	<i>D. trifida</i>	3 cvrs	87 tubers (8 kg)
Taro	<i>C. esculenta</i>	14 cvrs & 1 exotic var. & 1 new breeding line	119 suckers
Cassava	<i>M. esculenta</i>	6 new breeding lines (yellow flesh)	143 cuttings
Sweet potato	<i>I. batatas</i>	1 cvr & 1 exotic var. & 9 new breeding lines	360 cuttings

Yam tubers were fragmented into pieces of 300-500g wrapped with ashes and dried prior to distribution in order to prevent farmers from consuming them. For the Miniset technique, whole tubers were transported to Efate where they were fragmented during training and participants do some hands on practical with the technique.

In overall, 45 local cultivars, 2 exotic or introduced varieties and 19 new breeding lines of yams, taro, cassava and sweet potato have been distributed for diversification and crop improvement purposes at Siviri and Malafau sites.



i) Root Crop technician demonstrating yam miniset ii) Participants during practical session on yam vine cutting

Activity 3: Establishment of Sweet potatoes evaluation plots-Siviri and Tagabe.

A trial was established as a demonstration plot to compare the performances of 7 improved lines of sweet potato of VARTC/FSA/DARD and 3 local cultivars at Siviri village. The trial was established at chief Atafisø garden. In addition, a trial was established at Tagabe station to evaluate the yield of 10 sweet potato varieties stemming from the breeding program of VARTC /FSA/DARD.

Layout of the Randomized Evaluation/Demonstration plot of 10 varieties of Sweet Potatoes at Siviri site (1mX1m, 2 vines per hole)

Lokol1	VL15	Lokol2	VL15	VL32	VL34	VL15	PNG5	VL32	Bankis
HM04	VL34	Baby kumala	VL32	PNG5	VL32	PNG5	Baby kumala	Lokol1	VL15
Lokol2	HM04	Lokol1	Lokol2	Lokol2	PNG5	Lokol3	VL15	VL15	HM04
Lokol3	Lokol1	VL32	Bankis	Lokol3	HM04	Bankis	VL32	VL34	PNG5
Baby kumala	Baby kumala	Lokol3	Lokol1	VL15	Lokol2	VL32	Lokol3	Bankis	Baby kumala
PNG5	Lokol2	VL34	PNG5	Baby kumala	Lokol3	Baby kumala	Lokol1	HM04	Lokol3
VL32	PNG5	VL15	HM04	HM04	Lokol1	VL34	HM04	Lokol2	Lokol1
VL15	Lokol3	Bankis	VL34	Bankis	Bankis	Lokol2	Bankis	PNG5	VL32
VL34	Bankis	HM04	Baby kumala	Lokol1	VL15	HM04	VL34	Baby kumala	VL34
Bankis	VL32	PNG5	Lokol3	VL34	Baby kumala	Lokol1	Lokol2	Lokol3	Lokol2

Layout of the Randomized Evaluation plot of 10 varieties of Sweet Potatoes at Tagabe Station (1mX1m, 2 vines per hole)

Hyb50	VL15	Hyb02	VL15	VL09	VL34	VL15	SI226	VL09	Bankis
HM04	VL34	Hyb120	VL09	SI226	VL09	SI226	Hyb120	Hyb50	VL15
Hyb02	HM04	Hyb50	Hyb02	Hyb02	SI226	Hyb55	VL15	VL15	HM04
Hyb55	Hyb50	VL09	Bankis	Hyb55	HM04	Bankis	VL09	VL34	SI226
Hyb120	Hyb120	Hyb55	Hyb50	VL15	Hyb02	VL09	Hyb55	Bankis	Hyb120
SI226	Hyb02	VL34	SI226	Hyb120	Hyb55	Hyb120	Hyb50	HM04	Hyb55
VL09	SI226	VL15	HM04	HM04	Hyb50	VL34	HM04	Hyb02	Hyb50
VL15	Hyb55	Bankis	VL34	Bankis	Bankis	Hyb02	Bankis	SI226	VL09
VL34	Bankis	HM04	Hyb120	Hyb50	VL15	HM04	VL34	Hyb120	VL34
Bankis	VL09	SI226	Hyb55	VL34	Hyb120	Hyb50	Hyb02	Hyb55	Hyb02

4. Activities planned for November and December 2012

i) Water and soil component

Most activities under the water and soil component are yet to commence. The unnecessary delay is due to the fact that the former project sub-coordinator failed to bring local partners and associate institutions together to review and provide technical advice on the interventions discussed during the consultation meeting with communities. After many requests from the associate institutions for a meeting, it did not eventuate. A meeting was organized on the 1st October with the objective of bringing together technicians from all partners and associate institution to discuss and come up with an action plan. (See appendix for minutes of meeting, P16-19). The only activity under this component that is ongoing is the data records for rainfall at Siviri and Esema. The activity and budget for the soil and water component for next remaining months are:

Budget Break- down for Farming System Program (Soil and Water Component)

ACTIVITY	Description	COST (VT)
Air- fare	Santo ó Vila (return)	31,180
Transport	Truck <ul style="list-style-type: none"> Hire of vehicle Transport costs for participants 	60,000
Catering	Food and Labor	30,000
Hire of venue	Siviri	5,000
Per- diem	6 nights	60,000
Air/ Boat - freight		5,000
Labour	Preparation of planting materials	5,000
Planting materials	To evaluate farming systems plot	10,000
Miscellaneous	Stationaries	5,000
TOTAL COST		211,180

ii) Livestock component.

Most activities for the livestock component are yet to commence. However, one activity that has started is the trial on sweet potato silage undertaken at Epule top. This activity is derived from activity 5.3: Evaluating the nutritive value of forages/feeds contributing to the key result: *Stress resilient livestock systems are to be tested and made available to target communities*. The trial was halted after livestock technicians found that an action plan must be formulated and a calendar of activities to be developed for better planning and evaluation. Furthermore, that the nutrient composition of local feed used as control was not determined to assess its impacts against the sweet potato silages. However, the work on sweet potato silage will continue but focusing mainly on training to disseminate the technique to the farming community in the three project sites as well as to other areas.

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Sweet potato silage feeding trial, Epule Top, Efate

The Budget for the Livestock component

ACTIVITY	Description	COST (VT)
Air- fare	Santo ó Vila (return)	31,180
Transport	Truck <ul style="list-style-type: none"> Hire of vehicle Transport costs for participants 	40,000
Catering	Food and Labour	30,000
Hire of Venue	Siviri	5,000
Per- diem	5 nights	50,000
Fencing		100,000
Miscellaneous	Stationaries	5,000
TOTAL COST		261,180

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Action plan for each Component

The meeting organised on the 1st October 2012 at the DARD conference room decided we will start implementing project activities at Siviri site. Hence, below is an action plan of activities for Siviri taking into consideration the possible interventions discussed during the consultation meeting with the communities.

Calendar of Planning Action and Intervention for Siviri site.

Action	Evaluation	Responsibility	Time Frame	Estimated Budget
Crops Component				
Introduction of other/new crops or crop varieties I) improvement and evaluation of sweet potato II) Training on Yam multiplication techniques of minisets and vine cuttings and other propagation techniques III) distribution of improved planting materials of Yam, cassava, sweet potato and taro	<ul style="list-style-type: none"> ➤ Yam miniset-after 3 weeks (week beginning 23rd oct 2012 ➤ Sweet potato at harvesting for wet season on January 2013 ➤ Sweet potato planting for dry season on June 2013 ➤ Yam harvest on June 2013 	Dr Roger Malapa, Tari Molesale, Keith Amos	1 st -4 th oct 2012	189,000VT
Soils and Water Component				
I) Farming system training (Alley cropping using hedge rows of suitable crops, green maturing crops and methods, crop rotation with mucuna , intercropping and mulching II) control of soil erosion using vetiver grass (paunagisu) III) Farmer training on soil and water conservation (to be discussed with Erie Sammy) vi) establishment of simple irrigation system such as rope and washer pump and tradle	<ul style="list-style-type: none"> ➤ Alley cropping with glyricidia. Fallow improvement with Glyricidia and narara (erythrina). Mucuna demo plots one cropping cycle. Vetiver (glyricidia for soil erosion control ➤ Field visits to farmer one to two years after the training and establishment of plots, and show case of 1 cropping cycle of improved plot ➤ Weigh crops trial out in Alley after one cropping cycle 	Oniel Dalesa, Peter Iesul Peter Kaoh Keith Amos Erie Sammy	26 th -30 th Nov 2012	201,180VT
Livestock component				
Small livestock production		Lonny Bong Stevenson Boe	12 th -16 th November	
I) improve breed identification II) improve fencing and housing III) improve feeding IV) training and husbandry management V) marketing	<ul style="list-style-type: none"> ➤ Expected outcome of this activities will be developed by Livestock officers relating to overall outcome of livestock component 		19 th -23 rd November	251,180VT

5. Emerging Problems

There are no emerging problems except that the Department is cautious about a possible duplication of project activities at sites where there exists other climate change related projects. For example, middle bush site on Tanna has other projects operating there such as the USP climate change adaptation project and the *Nasituan* community based project. Included in the minutes of the meeting (Appendix section p 16-19) are the action points taking into consideration the above issue.

The other problem is the delay in submitting Acquittal reports which has caused problems to the project budget. The team will be strict this time to ensure that officers responsible for this will carry out their work effectively and timely to avoid repeat of such delays in the future.

6. Recommendation

There is one very important recommendation that the project should considered. It is for the local partners and associate institutions to meet again to review the interventions at each site and finalized an action plan. The partners and associate institution meeting referred to in this report was organized for this purpose but many of our partners and associate institution were not present. The Project team is looking at organizing another one which all players involved in the project including those not present in the first meeting would meet to provide their input in this very important exercise.

7. Conclusion

The overall implementation has commenced with the crop component taking the lead in the training on yam propagation techniques, distribution of new and improved planting material and the establishment of sweet potato varieties. The activities for the soil and water and livestock component are planned for the next two (2) months and should kick start immediately if budget is available.

As mentioned earlier, there are other project activities that are ongoing especially the monthly rainfall date records and the sweet potato silage. We can assure that once a final action plan for each component is in placed then there will be no problem in field implementation.

8. Appendix

Western Pacific NARI EU-ARD Project Activity Report on Yam Training and Planting Material Distribution in Siviri and Malafau Villages (01 – 04 October 2012)

1. Name	Dr. Roger MALAPA and Mr. Tari MOLISALE, officers of VARTC and DARD respectively and involved in the crop component and crop diversification, EU-ARD project
2. Itinerary	Departed Santo on the 31 st September; returned to Santo on the 04 th October 2012
3. Purpose	<ol style="list-style-type: none"> 1. Conduct a workshop on yam multiplication techniques and distribution of root crops planting materials (<i>see annex 1</i>) 2. Discuss the field implementation and set up a calendar of activity planning for each project component at Siviri project site with the new national coordinator (<i>see annex 2a</i>)
4. People met/visits	<ol style="list-style-type: none"> 1. Peter Iesul, Project Acting Sub-coordinator for Vanuatu and local officer involved in the Soil & Water Management component 2. Antoine Ravo, PAO for Shefa Province and officer involved in the crop diversification component 3. Gweneth Natu, officer involved in the socio-economic aspects 4. Lonny Bong, Livestock officer involved in the Livestock component 5. Keith Amos, Field Assistant involved in the crops component 6. Fernand Massing, Farm Manager, DARD, Tagabe Station 7. Willie Iau, PAO for Tafea Province
5. Major events	<ol style="list-style-type: none"> 1. On October 01 2012, a half day discussion/consultation meeting took place in the morning at Port Vila with the officers of DARD and Livestock for a review on the interventions and action points addressed for the three sites (Siviri, Malafau, Middle Bush) as planned in the July Reporting Back Workshop Report. Discussions were focused on prioritizing the action plan and to set up an activity calendar for the next four months (<i>annex 2b</i>). For each activity, a budget is to be defined by responsible officers of the soil and water conservation and management component (Peter Iesul), Livestock (Lonny Bong). The meeting was chaired by the newly appointed national Coordinator of the ARD Project, Peter Iesul. Violet Masteia was the minute taker. 2. On October 01 & 02, 2012, a trial was established at Tagabe station to evaluate the yield of 10 sweet potato varieties stemming from the breeding program of VARTC /FSA/DARD (<i>annex3a</i>). Yam varieties introduced for crop diversification were also duplicated and regenerated ex situ at Tagabe Station with Roger, Tari, Fernand, John and two laborers. 3. On October 3 2012, a workshop on yam mass multiplication was carried out at Siviri to train farmers on yam minisets, vine cuttings and yam milking techniques. Workshop posters were reviewed and finalized by Roger and Tari, and DARD printed

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	<p>150 copies of existing leaflets of the three techniques on display. A total of 26 participants (6 women & 20 men) attended the workshop (<i>annex 4</i>). Roger, Tari, Peter, Fernand, Keith and John were present in the workshop. Gweneth and Antoine were absent.</p> <p>4. A trial was also established as a demonstration plot to compare the performances of 7 improved lines of sweet potato of VARTC/FSA/DARD and 3 local cultivars of Siviri village (<i>see annex 3b</i>). The trial was established by all the participants who helped at cleaning the field, digging the holes and planting the vine cuttings on chief Atafisø garden.</p> <p>5. At the end of the workshop, planting materials were distributed to all the participants and their names recorded for follow up (<i>see annex 4a</i>).</p> <p>Regarding Malafau village, the planting materials were distributed on the 4th of October 2012 in the morning at the community house. Only three farmers (Kalo MORRIS, Marie KALOSEKE, Renny KALFUA) from Malafau village welcomed the officers (Tari, Peter, John, Keith) and took the planting material to hand over to their Chief who will supervise the distribution (<i>annex 4b</i>). Roger, Antoine and Gwenneth could not come. Yam and sweet potato planting materials were also distributed to one farmer from Tanaliu village who attended the workshop in Siviri.</p>
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Minutes of the Review Discussion Meeting and Calendar of Planning Action for Siviri

Partners/Associates Meeting- NARI-EU ARD Project

MINUTES OF MEETING

DATE: 1ST October 2012

TIME: 9:00 am

MEMBERS PRESENT: -

Antoine Ravo	-	Officer in Charge
Peter Iesul	-	Acting Coordinator for NARI Project
Lonny Bong	-	Senior Livestock Officer
Dr. Roger Malapa	-	VARTC Research Officer (Root Crop)
Tari Molisale	-	Root Crops Officer
Gwenneth Natu	-	Acting Principal Technical Officer

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	John Willie	-	Assistant Agriculture Officer
	Fernand Massing	-	Acting Horticulture Officer
	Willie Iau	-	Provincial Agriculture Officer-Tafea
	Simone Leingkone	-	Acting Finance & Admin Officer
	Violette Masteia	-	Admin & Support Officer
Absentees	Peter Kaoh	-	Farm support Association
	Erie Sammy	-	Department of Water Resources
	Mike Waiwai	-	Department of Meteorology & Geo-hazard

Chairman: Peter Iesul

Opening Prayer and Meeting began at 9:00am

The Acting sub- coordinator for the Project welcomed everyone to the meeting and introduced the primary objective of the meeting which is to discuss the intervention from the consultation workshop and to draw up a plan of action for each project component for each project site. As other stakeholders were not present, he stressed the importance of such meeting in terms of reviewing the interventions and providing technical advice for an effective action. He went on to say that an action plan is needed to ensure better planning, coordination and implementation of field activities.

Dr Roger Malapa briefly ran through a presentation outlining the goals and objectives of the project and its expected output. He explained that the problems identified for each component are related and that interventions for each component should be implemented effectively to ensure the overall success of the project.

Peter Iesul contributed by briefly highlighting the progress of the project and activities that have been carried out commencing from rapid assessments, baseline surveys, special assessment for soil and water and report back workshops. Furthermore, he cautioned everyone about the next important step which is field implementation. It was evident that majority of the staffs present during the meeting did not look through the consultation report prepared after the report back workshop that outlined the possible interventions in each site and 15 minutes was allocated for that after which discussions followed.

Dr Roger led the discussions and asked everyone to contribute to formulate an action plan for Siviri. The action plan for the crop component for Siviri site has already been completed. Tari said that they have brought with them some planting materials of sweet potato to set up an evaluation plot of 10m x 10m at the Tagabe farm and at Siviri. The sweet potato varieties (kumala) will be tested for yield during the wet season. Another one will be set up during the dry season for the same purpose.

Dr Roger mentioned that yam varieties that will be distributed are selected for high yielding and tolerant to anthracnose for soft yam (*D. alata*) and waelu (*D. cayenensis-rotundata*).

Peter Iesul stated the interventions for soil and water component and people responsible to carry out these interventions. Since Erie Sammy was not present; he suggested he will consult him in order to come up with a specific activity for controlling water logging especially at Paunagisu. He went on to say that during the consultation meetings with the communities, few farmers have indicated their interest in the simple irrigation techniques and he will discuss with the NARI team the possibility of introducing the technology of pump and washer machine. Furthermore, he has to confirm if this particular intervention can be implemented given the dominance of limestone over Siviri soils.

Lonny Bong stated the interventions for livestock component. He stressed the need to start implementing as possible if budget permits. Dr Roger said that we will start to implement from Siviri then Esema and middle bush. Lonny responded that we need to start doing something also in the other project sites to engage people while waiting for the actual implementation.

Dr. Roger indicated that Richard Narinam, Assistant Agriculture Officer on Tanna has already established evaluation plot of cassava, yam and sweet potato. He went on to say that as part of the PGR workshop held in Santo, it will help address farmers needs for improved planting materials even to middle bush site. Willie Iau confirmed that establishment of evaluation plot by Richard and put forward the idea of possible complementation of projects having similar objectives and goals. He made reference to the USP climate change adaptation project and *Nasituan* community based project also based in Middle bush. In his views, the priority intervention for middle bush is soil and water component as realized during the consultation meeting with the communities and he sees a need beyond the limits of the project. That is even if we are targeting agricultural needs which pinned down to soil water conservation and the application of simple technologies of water harvesting and conservation during dry season and protecting water sources a need exist to provide some assistance for wells and poly tanks. He mentioned that *Nasituan* project is providing some of these basic necessities to the communities and there are possibilities that we can compliment in fulfilling this very important expectation by the communities.

Dr Roger emphasized that at the end of implementing field activities and evaluation, one must provide a report which is very important. Peter thanked everyone for attending the meeting and importantly their contributions and inputs towards this action plan for Siviri site.

Closing Prayer and Meeting closed at 12:30 midday.

Action points

- i) Complete Esema and Middle bush action plan for all components and circulate for comments and additional input by the team. This may be subject to another meeting so that all partners can be present to share their technical expertise in their own field.
- ii) Peter Iesul to liaise with NARI for the irrigation technology of pump and washer machine.
- iii) Willie Iau to consult the coordinator of *Nasituan* community based project to see what water related activities they have carried out and what is still need to be done for a

possible complementation of the two projects being mindful that we are targeting the same farmers.

- iv) The team to consult GIZ and department of meteorology and geo-hazard for list of all climate change project around Vanuatu, their goals and objectives to avoid duplication of field activities.