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FIJI BEDNET PROJECT 2005

Rewa Medical Subdivision

The Effectiveness of
Long-Lasting Impregnated Materials on
Aedes polynesiensis and *Aedes aegypti*
in Fiji

A collaboration between PacELF, Ministry of Health-Fiji and CDC

**Baseline Blood and KAP Survey
Work Details and Survey Results
(February 24th – April 14th 2005)**

Submitted by: Simione R. Sokiqe
Dated: 20th May, 2005.



Fiji Centre for Communicable
Disease Control, Mataika House,
Tawaua.



Pacific Programme To
Eliminate
Lymphatic Filariasis



Centers for Disease
Control and
Prevention

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Introduction

The need to have in place supplementary methods of suppressing LF transmission, should MDA compliance not be sufficient at the end of its term prompted the execution of the above project.

The project aims to evaluate the effectiveness of long lasting impregnated materials against dengue and LF vectors in Fiji.

Part one of the objectives of the project is, “*to investigate the potential of long-lasting insecticide treated materials (LLIMs) in the form of bed nets and curtains to suppress the transmission of lymphatic filariasis and dengue.*”

Impact measurements for the above is divided into two, the latter being on the *transmission of lymphatic filariasis* and this is to be accessed by:

- a. Immunochromatographic test (*ICT blood tests*), and
- b. Serology assays.

National Filariasis Unit staffs comprising two temporary local officers and two JICA volunteers were entrusted with conducting the above.

Also the Unit was expected to complete KAP Survey questionnaires which fall under objective two of the project and that is “*to determine the acceptability of LLIMs to village populations through KAP surveys.*”

Six individuals enlisted to work short term as data enumerators for the 2004 MDA Coverage Calculations, were given the task of doing the KAP Surveys.

Below is a report on the work that was thus done by the Officers.

This report aims to inform our managers how a days' work was done as well as issues pertaining to the work.

Pre survey work information

National Filariasis Unit members discussed amongst themselves the amount of work that management has demanded to be done, as well as the number of officers available for the job at hand. There was also the pressing issue of the ICT Cards expiring soon, (**Feb 2005**).

In view of the above, the Unit deemed it wise to send out two survey teams to work in the thirty selected villages.

This would shorten the time it would take to finish the thirty villages. There was a problem however and that is the lack of personnel for the work. This problem was solved by seeking and getting managements approval for the release of **Government Wages Earners (GWE)**, of Mataika House to assist Filariasis Unit Staff in carrying out the designated work.

Once staff release was obtained, personnel were divided into two teams and please find below the list describing the two teams.

Team One		Team Two	
Name	Designated Task	Name	Designated Task
Simione Sokiqelev <i>(Laboratory Attendant – Filariasis Unit)</i>	Team Leader Cultural Protocol Officer Team Project Awareness Officer Blood Taking Officer	Samela Tuibeqa <i>(Laboratory Attendant – Filariasis Unit)</i>	Team Leader Team Project Awareness Officer Blood Taking Officer
Anitelu Bulivakacegu <i>(GWE – Mataika House)</i>	Registration Officer	Vunivola Vuli <i>(GWE – Mataika House)</i>	Registration Officer
Fulori Rerega <i>(GWE – Mataika House)</i>	ICT Result Reader ICT Positive Case Treating Officer Blood Taking Assistant Registration Assistant	K. Nakamoto <i>(PacELF Staff)</i>	ICT Result Reader ICT Positive Case Treating Officer Blood Taking Assistant Registration Assistant
Taniela Vulaca <i>(Data Enumerator)</i>	KAP Survey Officer	Samuela Vunisei <i>(GWE – Mataika Houser)</i>	Cultural Protocol Officer KAP Survey Officer
Salanieta Raligadolo <i>(Data Enumerator)</i>	KAP Survey Officer	Elenoa Kuboutawa <i>(Data Enumerator)</i>	KAP Survey Officer
		Merewalesi Naibosa <i>(Data Enumerator)</i>	KAP Survey Officer

Please note that two other individuals were part of group one. First is a Medical Student of the Fiji School of Medicine who was doing an in-depth research on Community Perception and Practice with regards, to the Fiji MDA, Mr. Manila Nosa, a Niuean, who was very much a part of the team that participated in the fight against flariasis in his own country. Secondly was an interpreter that the National Filariasis Unit had engaged on Mr. Manila's behalf, Mr. Avimeleki Qionitoga.

A village visiting schedule was presented by the Filariasis Unit participant (**Simione Sokiqelev**), in the Bed NET Meeting and was approved but later some village visiting dates were changed due to the various reasons, e.g. deaths and the final village visiting schedule that was used is set out on the next page.

VILLAGE VISITING SCHEDULE – BLOOD & KAP SURVEY TEAMS				
Day	Date	Days Program		
		1st Half	2nd Half (11.00am - onwards)	
Thur	24/02/2005	Preparation for trip	Taci Village	Nabudrau Village
Mon	28/02/2005	Preparation for trip	Navilaca Village	Narocake Village
Tue	01/03/2005	Preparation for trip	Naqarani Village	Nakuruwai Village
Wed	02/03/2005	Preparation for trip	Navaka Village	Nakauwaru Village
Thur	03/03/2005	Preparation for trip	Vuci Village	Vanuadina Village
Mon	07/03/2005	Preparation for trip	<i>Draubuta Village</i>	Nakaile Village
Tue	08/03/2005	Preparation for trip	Lomainasau Village	<i>Natogadravu Village</i>
Wed	09/03/2005	Preparation for trip	Waivou Village	Burebasaga Village
Thur	10/03/2005	Preparation for trip	Lomanikoro Village	Nasigatoka Village
Mon	14/03/2005	Preparation for trip	Drekena Village	Nabua Village
Tue	15/03/2005	Preparation for trip	Vutia & Narocivo Villages	Nukui Village
Wed	16/03/2005	Preparation for trip	Vunuku Village	Tavuya Village
Thur	17/03/2005	Preparation for trip	<i>Mokani Village</i>	Ovea Village
Mon	21/03/2005	Preparation for trip	Viwa Village	Namuka i bau Village
Tue	22/03/2005	Preparation for trip	Draubuta Village	<i>Navatuyaba Village (Toga)</i>
Wed	23/03/2005	Preparation for trip	Natogadravu Village	
Wed	13/04/2005	Preparation for trip	Navatuyaba Village (Toga)	
Thur	14/04/2005	Preparation for trip	Mokani Village	

Also during the BedNET meeting it was also discussed and agreed upon that two vehicles from the Vector Control Unit as well as the Filariasis Units vehicle in Mataika House be used to transport team members from Mataika House to their destination (*villages to be visited*), and back.

Orders for equipment to be used were forwarded to the CMO for his perusal and approval and these were items such as haversacks, torches, stationery etc.

At first it was thought that the teams should tackle two villages a day but after careful consideration this idea was replaced with only one village a day per team.

To facilitate transport arrangement the Project Field Work Supervisor, Mr. Gyan Prakash and his assistant, Mrs. Luisa Nayacalevu, were informed of the teams' official time of leaving Mataika House was eleven o'clock in the mornings and there were three reasons for this.

Firstly, this will allow the villagers to go and get things for their sustenance organized in the mornings, things that they sometimes use as excuses for not participating like going to the garden for food for the family etc.

Secondly, there are those within the selected households who leave for work as well as school early in the mornings. Since we need to collect blood from all of them, to go early in the morning and wait for them until the afternoon, is a waste of time, which is best utilized, in the office on other work that we have, before we leave for the village.

Thirdly, not only the Blood and KAP Survey teams were visiting the villages, the Health Inspectors were also participating in the Mosquito Survey part of the work. Since we had to utilize the same vehicles, they were taking first turn at them (vehicles) and when they return, the Blood and KAP Survey Teams leave.

Both Blood and KAP Survey Teams differ in small details in how they begin or do their work while in the village, but largely this is how a visit is executed step by step.

Because messages had been sent in advance prior to a teams visit, at first when the team arrives in the village, they are met by the village spokesman (*Turaga ni koro*). Normally the team is either led to the village hall, or a shed that had been erected for the work within the village green, or to a large dwelling house if both the hall and shed are not there.

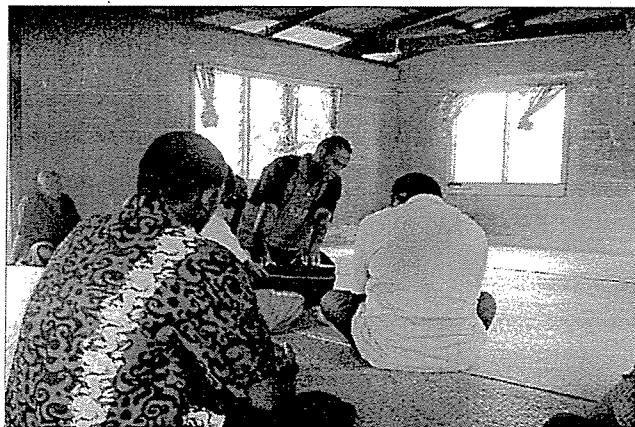
The village visit begins with the observance of Cultural Protocol and this where the Cultural Protocol Officer is engaged the most.

Cultural Protocol

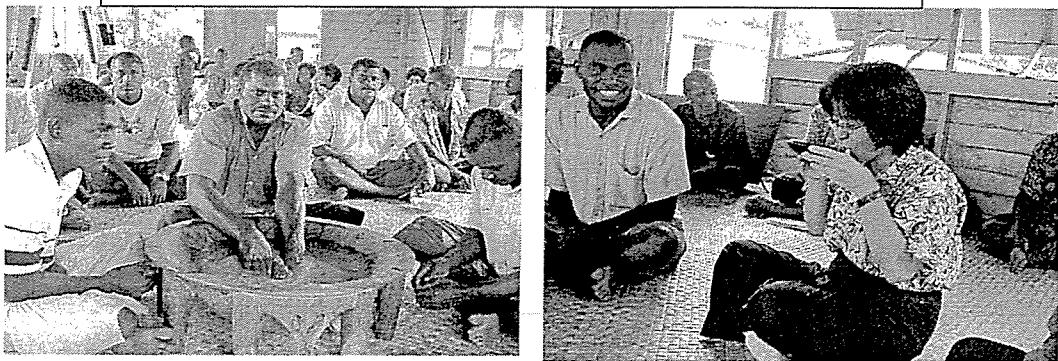
Normally the villagers, who feel that they should be the first to show their appreciation and greetings to the team, will present their *isevusevu*, (kava - ceremonial drink). The Teams **Cultural Protocol Officer** will receive the villager's presentation not only on the Teams behalf but also for the Ministry of Health for which the team is a representative, as well as PacELF and CDC, thanking the villagers for the gesture of respect. After the *isevusevu* has been received and drunk by the team members, the team is allowed to present their own *isevusevu*. This is also done by the Teams Cultural Protocol's Officer.

Presentation of the Teams *isevusevu* involves seeking approval from the village elders so the team is allowed to work. Also, the villagers are asked to please bear with the Teams intrusion into their day's affairs as they (**villagers**), may be asked to stay back in the village when they may need to go and get food from the garden for their own sustenance. They are also asked to they shall be required to go through two blood tests for the project, one at the beginning and one towards the end of the project. The villagers are also asked through the presentation to please bear with team members who during the course of the work may present themselves in an *un-Fijian mannerly* way.

While accepting the teams *isevusevu*, the village elders acknowledges the gesture of respect the team has shown with the act also giving approval for the work to go ahead.



Cultural Protocol being observed in Taci Village (24/02/2005)



Ms. Nakamoto sampling kava during traditional ceremony of welcome in Narocake village, (28/02/2005).

Project Awareness

With protocol over, the Teams **Project Awareness Officer**, takes over from the Cultural Protocol Officer. He explains to the villagers, who have by now converged to the work site, the work to be done, what is involved, and what is expected of those who were going to participate. He also explains what the Ministry of Health and her supporters expect to prove at the end of the research as well as the benefits to the villagers as well as the country as a whole should the research prove successful.

MDA is also, once again explained to the villagers and all it encompasses.

For group one, the Project Awareness Officer also introduces Mr. Manila Nosa and his interpreter as well as the work that they were to do and with the two officers support it was always arranged that they do not impinge on the BedNET Project Work. As for example if they were to question people who had to be tested, then the test would take place first before the individual goes to be part of the group which the two gentlemen wish to interview.

Also the Project Awareness Officer may ask for implements such as tables and chairs for the team to work with.

The above is followed by a question and answer session lasting from three to ten minutes depending on the number of questions asked by the villagers largely on MDA and the work at hand. Questions normally range from Why MDA? to, Effect of BedNET on Human Population.



Project Awareness in Progress

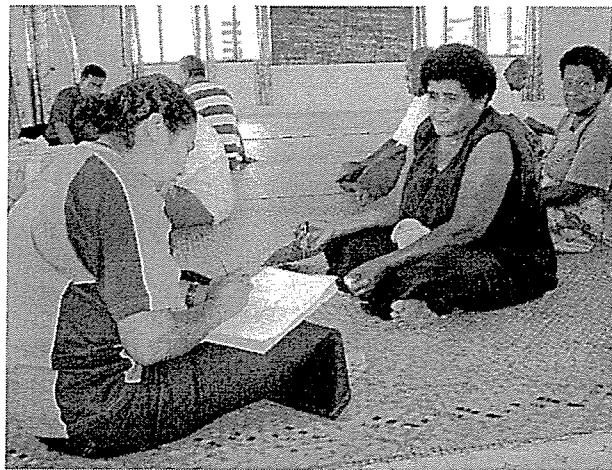
With the above aspect of the work done the team disperses to tackle the two main reasons of the visit, the KAP Survey team for their work and the Blood Survey Team for their work.

KAP Survey

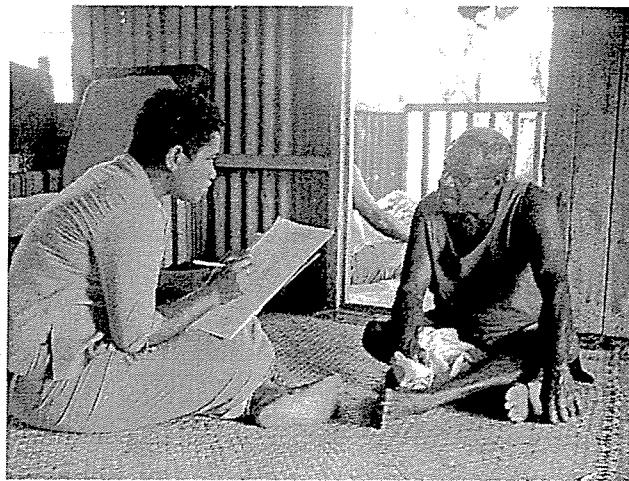
KAP Surveys are done either within or just outside the house owner's house. There were two specific reasons for doing this work this way and one is the fact that locally people sometimes without realizing blurt out answers to questions directed to a person other than themselves and the team felt that if it were to be the norm during the survey, then the answers collected may be biased.

The second reason was that the last part of the set of questions asked during the KAP Survey dictates that the person conducting the survey has to observe and take note of any mosquito breeding sites within or immediately outside the dwelling house.

At the end of our visits only those households that were selected but were empty during our visits did not have any questionnaires completed for them and if there are many not done in a village it may be one to three but otherwise all were done.



KAP Survey being conducted by Data Enumerator, Mrs. Elenoa Kuboutawa in Tavuya village 16/03/2005.



KAP Survey being conducted by Data Enumerator, Miss Salanieta Raligadolo in Draubuta village 22/03/2005.

Blood Survey

During pre-survey discussions, household visits for blood collection was envisioned so that as many people as possible from the thirty selected households were tested. Also, it was suggested that those found to be positive with ICT were to be retested with filter paper and slides.

The above issues became impractical to do in the field. As far as household visit is concerned, Fijians have made it a point to build their village halls not only for large gatherings but also for work such as the team has required.

The villagers' preference is for the work to be done within the village hall for at times it is an embarrassment to villagers for foreigners to enter into their abodes without them having proper mats spread out. Furthermore, there is the fact that they may have been busy with other things and thus have not taken the time to have swept the floor of their houses and other issues as such.

So household visit was ruled out and work was carried out in the hall except in special cases whereby a villager had asked that the team visit his/her house to collect a family member's blood who may be too sick or too old to come the hall.

On the other issue, retesting of individuals also became impractical.

There were two reasons why retesting individuals became impractical, one was that villagers sit or stand in line to be tested and soon after they need to go elsewhere, (*/ICT takes sometimes from two to ten minutes before the result becomes legible*), so to wait and rather to stand in line again for a retest becomes impractical.



People standing in line in Viwa village 21/03/2005

Also, although unlikely, for a child who may turn out to be a positive case, the pain of going through the ordeal of getting tested once again especially for children, is a real issue.



What the test means to some children – Vunuku village 16/03/2005.

To solve the issue the teams did all the tests at once. With one finger prick, blood is collected for ICT, Slides as well as Filter Paper.

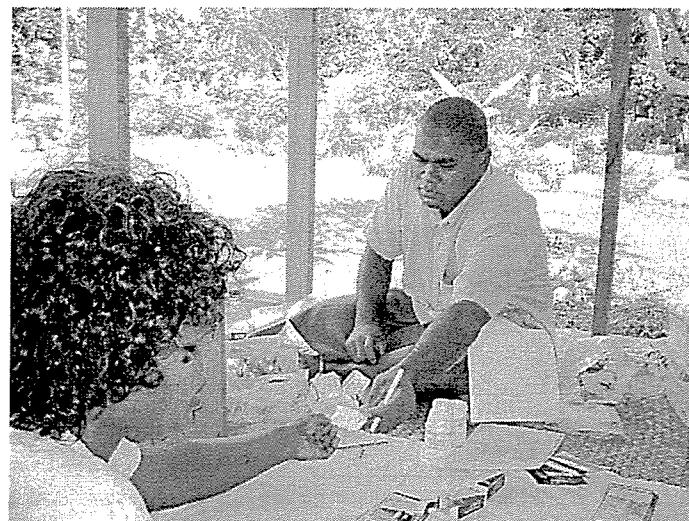
As is always the case, as in past expeditions such as this, there is always those, from the village who are not keen to participate and hence, although we hope and seek to collect everyone eligible, this is not possible due to some extent to the above.

As a result, a sore sight that meets the eye when one reads the summary of our report is the fact that in all the villages that were visited, there is always the gap between the possible number that could have been collected and the actual number that were tested.

Work begins with the villager calling first on the Details Recording Officer, (*Registration Officer*). Now the particular officer has two sheets of paper in front of him. One is a list of household heads of the selected households that has been compiled beforehand. Also there is a list which already has the names of those same household heads but with codes and empty spaces for recording names of other members of the household. The officer also has a copy of the booklet that was compiled on all the village sketch maps and relevant information.



Registration Officer, Mr. Anitelu Bulivakacegu registering people in Taci Village 24/02/2005.



Registration Officer, Mr. Vunivola Vuli registering people in Nabua Village 14/03/2005.

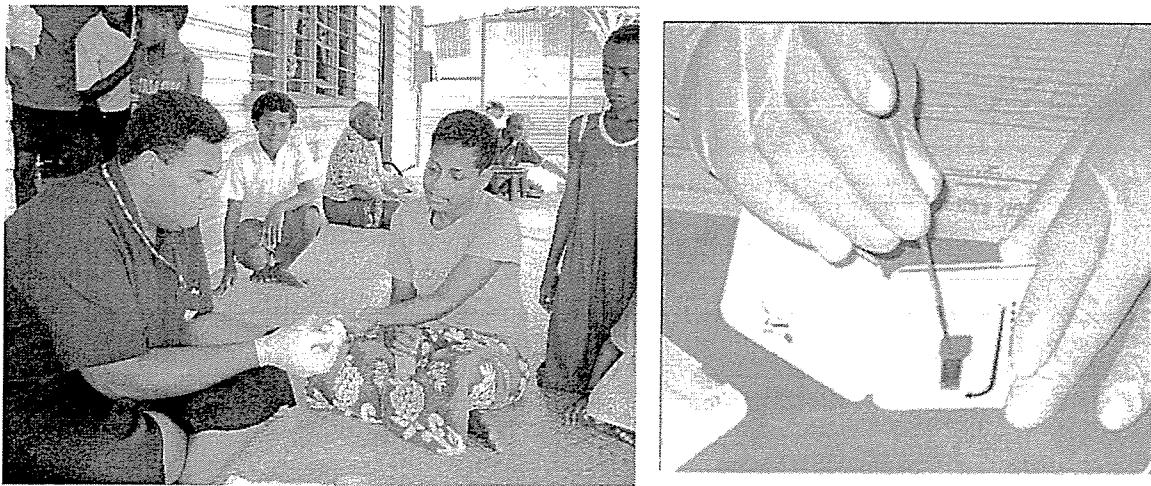
The Registration Officer finds out from the villager which household he/she belongs to, records their particulars on the form provided and in doing so gives the person an identifying code that is then labeled on an ICT Card, a slide and the portion of the Filter Paper on which the person's blood is to be collected.

Registration Form

BEDNET PROJECT 2005				REWA SUBDIVISION						
Work sheet (Registration Form)				Date: 23/03/2005						
NATOGADRAVU VILLAGE (V)										
NOS.	SELECTED HHOLDS Code number	Series number in each family	Name of family members	Age	Sex	ICT	mf slide	Filter paper	Remarks	Pop. Total
1	V-01	01	SAKEAST PALU	36	M	✓	✓	✓		
		02								
		03								
2	V-02	01	ORISI ROKOVOSA		M					
		02								
		03								
		04								
		05								
		06								
		07								

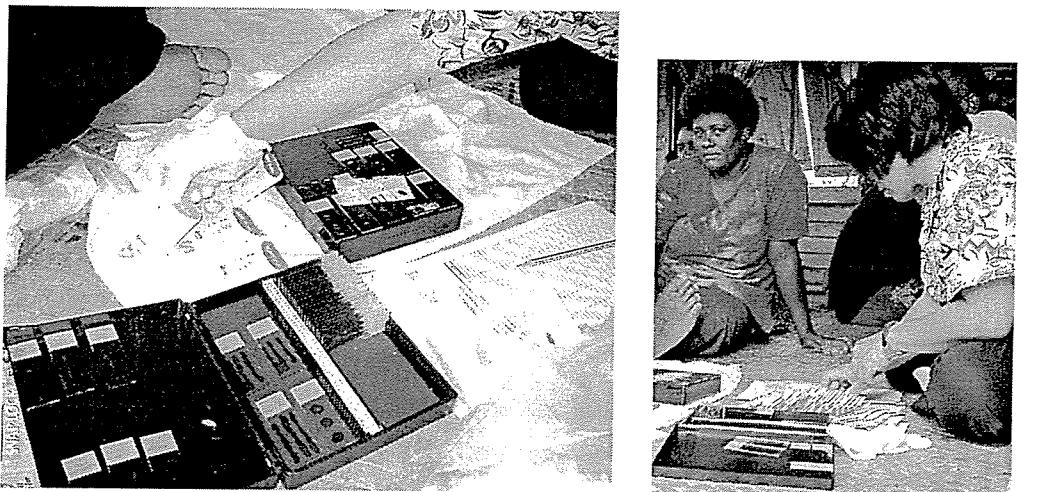
This is an example of how the form looks like and how identifying information is transferred from it to the ICT card as well as the slide and filter paper.

Blood Testing Officer

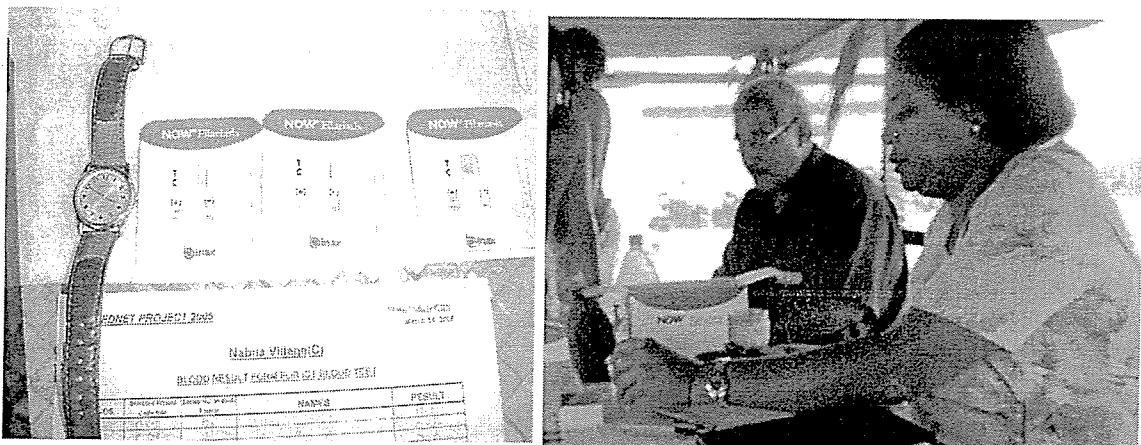


Blood Testing Officer Mr. Samuela Tuibeqa conducting blood tests in Nabua Village 14/03/2005.

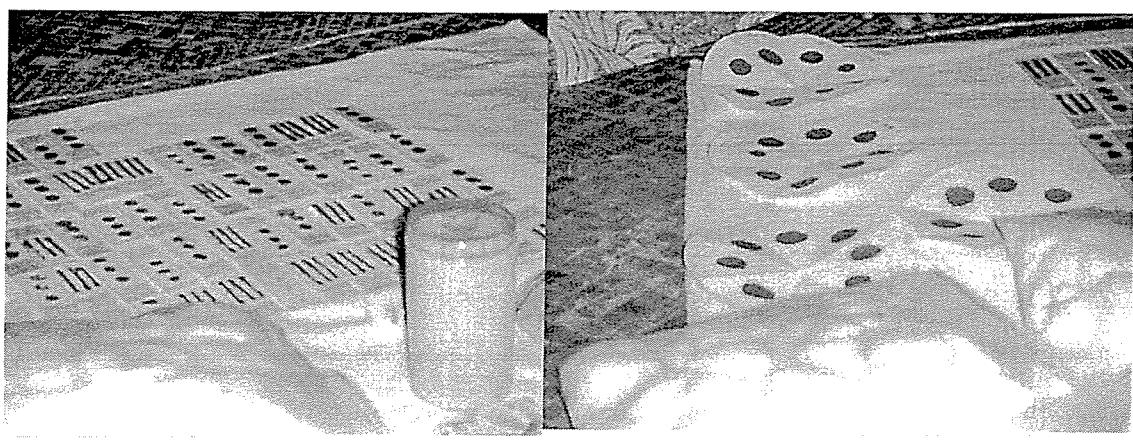
The blood testing officer simply conducts the test on the person and afterwards hands the ICT Card as well as the Slide to the Blood Testing Assistant who reads ICT results, packs tablets for ICT positive cases as well as keep blood slides safe from insects until they are dry and then packs them into slide boxes.



Blood Testing Assistant Ms. Nakamoto hard at work in Narocake village 28/02/2005.

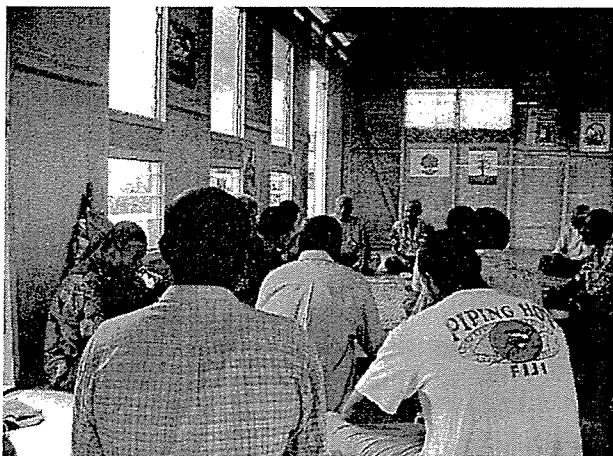


Blood Testing Assistant Ms. Fulori Rerega at work in Naqarani village 01/03/2005



Blood on slides and filter paper.

Survey support.....



Men folk of Navaka village listening attentively to the Project Awareness talk being given by the Blood and KAP Survey Team Awareness Officer.

Women folk of Navaka village showing their support by preparing lunch for everyone.



Women and Children showing support by lining up to be tested in Narocake village.

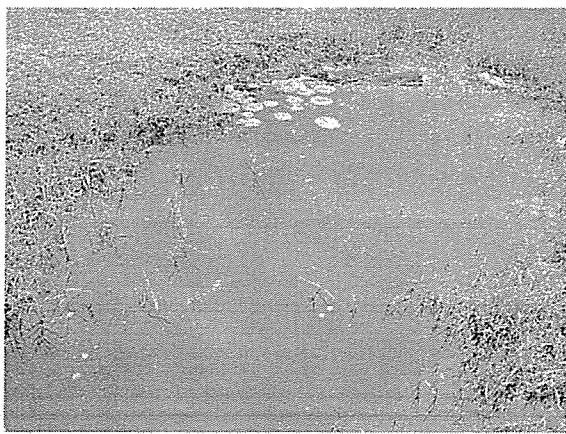
from KAP findings.....

Mosquito Breeding place – an artificial container



Mosquito Breeding Place – Coconut husks and cells.

Mosquito Breeding Place – Land Crab Hole



Mosquito Breeding Place – Stagnant Pool of Water within the village.

Other information.....



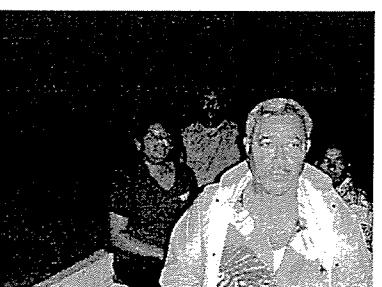
Project Area population already using bed nets.



The teams waiting for punts to go to Nukui and Vutia villages



Travelling to Viwa village by punt.



Returning from Viwa village late in the evening.



Travelling to Tavuya village by punt in the rain.



Working with inadequate light in Navaka village.



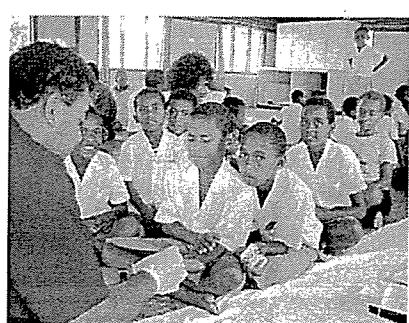
The elderly were tested.



The middle aged as well.



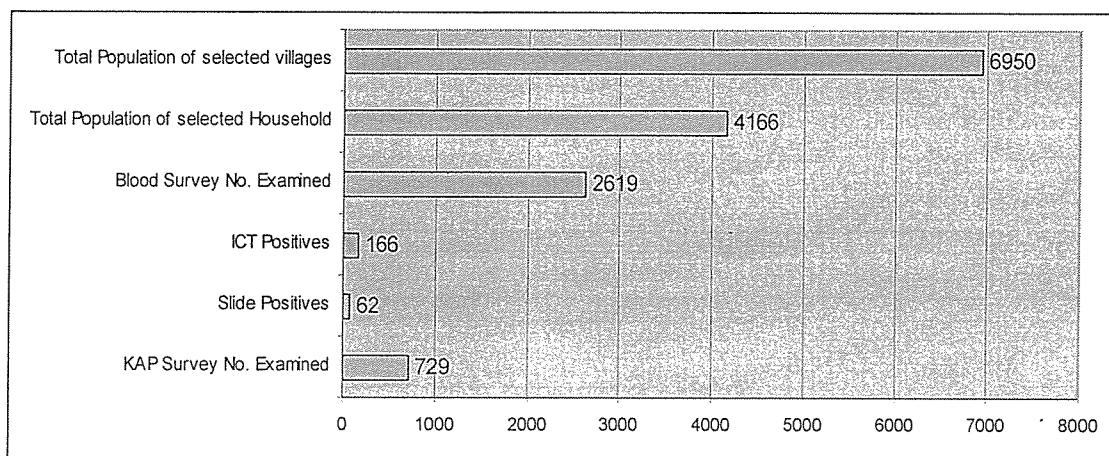
Youths also were tested



School Children being tested

Summary:

Total numbers : Selected Village Population; Selected Household Population; No. Examined; ICT Positives and MF Positives.



Total population that the two teams targeted to test from each village were the population of the selected households and the total comes to **4,166** as you have on the chart above but unfortunately as had been discussed before the actual number who turned up for testing was only **62.87%** of that total which was only **2,619**.

Total population of the thirty selected villages comes to **6,950** and if that number is taken into consideration then the percentage tested goes further down to **37.68%**.

The positive rate for ICT is **6.34%** and **2.37%** for slides.

Total number of KAP Survey questionnaires completed = **729**

Number of villages visited : **30**.

Amount of Cash Advance used for **sevusevu** : **\$310.00** (*Receipts forwarded to Mr. Gyan*)

Teams mode of transportation : Vehicle (3 Twin cabs) and Punts (*for some villages only*).

Amount of Cash Advance used for hiring punts: **\$420.00** (*All receipts forwarded to Mr. Gyan*)

Number of Officers participated : **11** (*Traveling and Working at an average seven hours per day, (11.00am to 7.00pm daily)*) comes to **77 man hours/day** and for the **twenty nine (29) days** it took to complete the job goes to **2,233 man hours**.

No.	Village	Village Code	Visit detail			Sevusevu (Return)	Boat/Hire	Village Population	Selected H/hold Population	Work detail			Numbers tested/test	
			Date	Mode of transport	Sevusevu (Return)					ICT Positives	ICT	ICT Positive Rate		
1	Taci	K	Thurs	24-Feb	Car	\$10.00		134	100	28	28.0%	100	0	
2	Nabudrau	S	Thurs	24-Feb	Car	\$10.00		196	179	0	0.0%	111	98	
3	Narocake	L	Mon	28-Feb	Car	\$10.00		190	104	2	1.9%	104	104	
4	Navilaca	M	Mon	28-Feb	Car	\$10.00		183	110	1	1.0%	110	89	
5	Nakuriwai	N	Tues	1-Mar	Car	\$10.00		75	51	2	5.9%	33	33	
6	Naqarani	Q	Tues	1-Mar	Car	\$10.00		149	142	84	1	1.2%	84	72
7	Navaka	AA	Wed	2-Mar	Car	\$10.00		227	142	92	5	5.4%	91	84
8	Nakauwaru	J	Wed	2-Mar	Car	\$10.00		68	68	3	5.0%	60	60	
9	Vanuadina	O	Thurs	3-Mar	Car	\$10.00		214	214	0	0.0%	130	130	
10	Vuci	R	Thurs	3-Mar	Car	\$10.00		228	157	101	0	0.0%	99	94
11	Nakiale	X	Mon	7-Mar	Car	\$10.00		333	161	104	0	0.0%	104	104
12	Lomainasau	Z	Tues	8-Mar	Car	\$10.00		329	132	96	0	0.0%	96	87
13	Burebasaga	BB	Wed	9-Mar	Car	\$10.00		206	162	4	3.2%	122	122	
14	Waivou	U	Wed	9-Mar	Car	\$10.00		303	167	96	0	0.0%	96	37
15	Lomanikoro	A	Thurs	10-Mar	Car/Boat	\$10.00	\$10.00	369	114	62	3	4.8%	61	56
16	Nasigatoka	B	Thurs	10-Mar	Car/Boat	\$10.00	\$20.00	56	56	37	0	0.0%	37	37
17	Nabua	C	Mon	14-Mar	Car/Boat	\$10.00	\$20.00	79	79	64	0	0.0%	64	64
18	Drekena	D	Mon	14-Mar	Car/Boat	\$10.00	\$30.00	230	165	118	3	2.5%	118	118
19	Nukui	E	Tues	15-Mar	Car/Boat	\$10.00	\$60.00	146	142	100	16	16.0%	100	91
20	Narocivo	H	Tues	15-Mar	Car/Boat	\$10.00		92	44	16	35.7%	44	43	
21	Vuria (1)	I	Tues	15-Mar	Car/Boat	\$20.00	\$60.00	262	123	15	20.0%	74	74	
22	Yunuku	F	Wed	16-Mar	Car/Boat	\$10.00	\$50.00	189	171	89	17	19.1%	89	87
23	Tavuya	G	Wed	16-Mar	Car/Boat	\$10.00	\$50.00	172	142	112	29	25.9%	112	111
24	Ovea	DD	Thurs	17-Mar	Car	\$10.00		469	129	50	3	6.0%	50	27
25	Viwa	W	Mon	21-Mar	Car/Boat	\$10.00	\$60.00	113	88	12	13.6%	88	88	
26	Namuka i bau	Y	Mon	21-Mar	Car/Boat	\$10.00	\$60.00	226	148	75	2.7%	75	30	
27	Draubuta	P	Tues	22-Mar	Car	\$10.00		479	153	104	1	0.9%	104	88
28	Natogadravu	V	Wed	23-Mar	Car	\$10.00		283	144	108	0	0.0%	106	29
29	Navatuyaba	EE	Wed	13-Apr	Car	\$10.00		285	139	88	2	2.3%	87	0
30	Mokani	CC	Thurs	14-Apr	Car	\$10.00		665	174	62	1	1.6%	61	61
						\$310.00	\$420.00	6,950	4166	2619	166	6.34%	2610	2413
													719	

