

**TECHNICAL ASSISTANCE TO THE
PUBLIC WORKS DEPARTMENT
EDF PROJECT # 9.ACP.VA.02 – PWD MAINTENANCE TRAINING PROJECT**

Site visit report to Malekula
from 20/11/2006 to 23/11/2006.

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Dates : from 20/11/2006 to 23/11/2006.

Visitors : André Iatipu, project manager, with Luc Grandjean, technical adviser

Purpose: TA first visit to Malekula works division, presentation to staff and site visits of the island network.

1 Agenda

Day 1 : arrival at Norsup airport, visit of Port Stanley Quarry Pit, Litslits Wharf, Workshop, discussion with staff, site visit to the North road up to Km 27.

Day 2 : site visit to Lamap : 90 km south of Lakatoro

Day 3 : meeting staff at PW division's office, site visit to the West

Day 4 : gathering information, discussion with workshop mechanics, leave to Santo and Vila

2 Roads conditions

Roads are exclusively earth roads, most often gravelled with fossil coral stone more or less mixed with some clay. Except few kilometres between Norsup airport and Litslits wharf which are wide enough for two lanes, the road is restricted to a single lane, and, at the time of the visit, overrun by grass on both sides. On less popular sections, vegetation is growing in the middle of the lane, restricting it to a two tracks paths.

But nevertheless, roads surface is generally good with normal and comfortable speed being in the range 40 – 50 km/h with a 4x4 double cab car.

River crossing and bridges are less fortunate some (may be half) of the river crossings are still not equipped with slab crossing or bridges.

During the mission, some culvert crossings were inspected : they are most often of small diameter (< 60 cm) partly or fully obstructed with vegetation. Some did collapse due to too small thickness to top soil layer.

For bridges and slab crossing, quite all gabion works are washed away. Downstream, reverse erosion is progressing ... Bridges are not cleared from last rainy season tree trunks and branches ...

3 Traffic and traffic counts

There are more or less 100 cars and trucks on Malekula.

Traffic counts showed sections with 600 vehicles daily (around Lakatoro) and some with less than 10 vehicles per day (around Lamap)

Night traffic is really rare.

4 Equipment

The Works division in Malekula is equipped with some heavy and light equipment :

4.1 Heavy equipments

(List not comprehensive)

Type	condition
140B Grader	new
JCB 436 Loader	new
JCB 3CX back hoe loader	new
Dynapac roller	new
HaD600 bulldozer	just repaired
G205 Toyota tipping truck	not reliable
G206 Toyota tipping truck	not reliable
Fort Tractor	old but working
water bowser	old but working

There has been 3 bulldozers on Malekula, one is working, one is left aside in the north, engine removed, one is left aside south of Litlits. Most probably, they should be removed from inventory lists ...

The Ford tractor is fitted with a grass slasher and is used to clean the roadsshoulders.

4.2 Light equipments

(List not comprehensive)

compressor with hose and hammer	new
small hand compactor(vibrating plate)	in working condition

After the 2005 training, daily logs are in force.

4.3 Workshop

Workshop is equipped with very basic equipment : arc and gas welding equipment, a small lathe, grinders, drills, ...

Hand tools are mechanics personal belongings and, from first sight, are not adequate in quality and quantity : lots of small hand tools are missing.

A rather large quantity of explosive is stored ... is it really safe enough ?

4.4 Fuel

Fuel is managed in drums only, there is no tank storage in the Works division. Drums are PWD belongings and are coming from Santo filling station. Empty drums have to be sent back to filling station. Drums deposits are managed by PWD.

During the first 9 months of 2006, 80 drums were delivered on Malekula (planned requirements are 39 drums / 3 months), in six deliveries.

5 Activities

Works division is in charge of road maintenance and water supply in Norsup and Lakatoro.

Activities are closely linked with fuel availability : when fuel is not available, there are quite no activities at all in the Works division.

5.1 2007

Works division has already planned the 2007 year activities :

- three demonstration road rehabilitation sites scheduled in May, July and October.
- sectional re-gravellings and gradings
- grass cutting contracts,
- works on river crossings : slabs repairs

River crossing works are not (yet) documented: survey has been done with a tape and a small description exists. No drawings (even sketches), no detailed bill of quantities.

5.2 2006

Referring to reports is not very informative, works are not really documented and accounting is not related to operations.

Works descriptions are also too weak :

- grass cutting by contractor using tractor and slasher was said to be very cheaper than works done by hand by local communities. In fact, unit price is not defined and is not referring to the same scope of work : one or both sides of the road, how wide ? This issue has to be revised.
- maintenance vs rehabilitation
- etc.

Due to poor matching of equipment : one big loader and 2 small trucks, for example, unit costs of works are barely significant.

Some site management has also adverse effects : not been able to pay a night watcher, the Bulldozer is requested to come back at 16.30 to the Works division compound and go back to the quarry in the morning ... such commutation could cost more in fuel than a night watcher ...

5.3 Reporting

Divisions' activities are reported quarterly, during formal "divisional Managers Meeting" held in PWD Port Vila.

This comes in addition to :

- weekly reports related to vehicles and plants (heavy equipments) prepared by Senior workshop foreman and checked by divisional manager. This report is a table showing, one line for each equipment : vehicle/plant code, type, age, condition, activity ¹, hours of operations, cumulated hours of operation to date, period of breakdown, cost of servicing, cumulative cost of servicing, fuel consumption and comments ².
- weekly report for works progress prepared by senior roads foreman, checked by divisional

¹ could be : none, regrading, quarry stock, site clearing, compacting,

² could be : operate effectively, no operation this week, in the workshop, awaiting spare part, ...

manager. This report is a table showing : activity, site, unit, quantity, cost/unit, cost to date, % to date, foreman engineer, and details.

- weekly report for housing and water supply.
- Monthly reports according to standard form, including pictures.

5.4 On going activities

During the visit, road section between Norsup airport and Lakatoro was under rehabilitation : grading the road base, compacted top layer (30cm) laid down, grading of ditches and risberns.

6 Annual budget.

Annual budget is copied in annex.

A review of budget and accounting should take place :

- coding is for Ministry of Finance works and is not related to operations. Road maintenance activities funds could come from budget lines :
 - 8CFV – Fuel
 - 8CRR – Roads repair
 - 8CIE – Equipment hire
- voted budget is not fully made available for the division
- the division manager is not fully aware of what is charged on division's budget lines
- commitment procedure for small local contracts (equipment hire or works) could be revised
- procurement procedures could be revised.

7 Maintenance requirements

Presently, it is still difficult to estimate the maintenance requirements, the roads and bridges inventory is very basic : list of way points with cumulative distance from PW division office, with place names. History of intervention is not available.

Inventories could be improved with descriptions, measures, sketches or even pictures. Maintenance history has to be joined.

8 First findings:

- heavy equipment purchased under EDF funds have been commissioned and are in use. New and old equipment do not match (in size) and, more generally speaking, equipment is not adequate.
- PW staff in on duty, trained. Staff only composed of technicians and plant operators, no labourers.
- what is called "maintenance" in reports should be better referred by "rehabilitation works"
- normal maintenance works are not performed : civil works cleaning, grass cutting, ...
- road network still need lots of improvements / investments in order to reach a normal level

- workshop is missing some basic facilities : fuel tank, appropriate hand tools, ... and need to be cleaned, to benefit from some tidy up activities.
- it's seem that major improvements in division's management and more particularly relations with PWD main office (accounting, purchases, commitment authorisation to contract out , ...) should take place in order to bring back some rationality in daily management.
- 3 demonstrations works are scheduled in 2006: site selection is questionable. wouldn't it be wise to do demo works on section badly needing intervention instead of section which are still practicable ?

9 Annex : Malampa division annual budget

Government of Vanuatu
 MINISTRY EXPENDITURE REPORT
 78B4 Malampa Division
 FOR TRANSACTIONS BEFORE 16/11/2006

COA	DESCRIPTION	ANNUAL BUDGET	%
	PERSONNEL EXPENSES		
8AAF	Family Allowance	1 008 000	2,3
8AAH	Housing Allowances	1 350 000	3
8AAP	Home Island Passage Allowances	400 007	0,9
8AAS	Special Allowances		
8ASP	Provident Fund	594 570	1,3
8AWC	Contract Wages	2 000 000	4,5
8AWO	Overtime Wages	802 826	1,8
8AWP	Permanent Wages	13 053 432	29,4
PAYR	Personnel Budget Virements	758 147	1,7
	TOTAL PERSONNEL EXPENSES	19 966 982	44,9
	OPERATING EXPENSES		
8CAB	Subsistence Allowances	500 000	1,1
8CBL	Local Accommodation	200 000	0,5
8CFV	Vehicles Fuel	3 000 000	6,8
8CGM	Mail Carriage Freight		
8CGO	Other Charges - Freight		
8CGR	Transport - Freight	800 000	1,8
8CIE	Equipment Hire	900 000	2
8CJO	Office Cleaning		
8CKD	Advertising - Communications		
8CKS	Stationery - Communications		
8CKT	Telephone / Fax - Communications		
8COI	Incidentals	269 713	0,6
8COP	Official Entertainm		
8COU	Uniforms	500 000	1,1
8CRB	Buildings Repairs & Maintenance	550 000	1,2
8CRE	Equipment Repairs & Maintenance	2 000 000	4,5
8CRH	Houses Repairs & Maintenance	2 000 000	4,5
8CRR	Roads Repairs & Maintenance	5 000 000	11,3
8CRV	Vehicles Repairs & Maintenance	1 000 000	2,3
8CTI	International Travel		
8CTL	Local Travel	200 000	0,5
8CUE	Electricity Utilities		
8CUW	Water Utilities	13 000 000	29,3
8CZV	Value Added Tax	2 446 214	5,5
8EEA	Equipment - Aditonal General		
8EFH	Furniture - Housing Furniture	150 000	0,3
8EFO	Furniture - Office Furniture		
OVER	Overhead Budget Virements	-8 051 593	-18,1
	TOTAL OPERATING EXPENSES	24 464 334	55,1
	TOTAL EXPENDITURE	44 431 316	100