Ministry of Forestry and Research
Solomon Islands

PERMANENT SAMPLE PLOT DESIGN PROJECT
FOR MONITORING, ASSESSMENT AND
REPORTING IN THE SOLOMON ISLANDS

Forest Resources Management Planning & Technical Services Division
Compile by J.W.Iro

MARCH 2010
# Table of Contents

1.0 INTRODUCTION.........................................................................................................................4

2.0 OBJECTIVE.................................................................................................................................4

3.0 DESCRIPTION............................................................................................................................5
   3.1 Regional PSP allocations...........................................................................................................5
   3.2 Annual PSP Establishment Time Schedule..............................................................................6

4.0 BUDGET ESTIMATES FOR PSP FIELD WORK........................................................................6
   4.1 CONSULTANCY BUDGET..........................................................................................................7

5.0 BUDGET ESTIMATES FOR INITIAL PSP TRAINING.................................................................8

6.0 STAFF TRAINING ON PSP PROCEDURES AND ESTABLISHMENT....................................8
   6.1 BASIC DATA ANALYSIS..........................................................................................................8

7.0 STAFF ALLOCATION FOR PSP MAR WORK COORDINATION UNDER CURRENT MANPOWER POOL........................................................................................................................................9

8.0 IT TRAINING FOR DATABASE MANAGEMENT & SETUP..........................................................9

9.0 TRANSFER OF PSP MANAGEMENT AND RESPONSIBILITIES TO APPROPRIATE FORESTRY DIVISION/SECTION.....................................................................................................................9

10.0 RECOMMENDATION..................................................................................................................9
1.0 INTRODUCTION

There is an understanding that our forest resources has been quantified in two separate forest inventories under arrangements with AusAid in the early 90’s and most recently in 2003. Under these projects there are several purposes that it should serve to meet the many concerns that have been given in the many reports that were produced for each region and a national summary for the whole country. The focus mainly as it looks was an estimation of the growing stocks within the merchantable forest category for each region. That will look as forest areas above 400m a.s.l, environmentally sensitive areas (>30 deg slopes, Mangroves, Swamps, Protected areas etc) were excluded from the estimations.

With these information in hand, it could be seen that bulk of the forest resources in areas that are not suitable for production are yet to be quantified in similar ways to obtain a better estimate on the many values that the resources have in store for future development plans for both commercial and non-commercial uses.

As time goes with forest exploitation, the resources size reduces and as determined in the 2006 national forest resources update, the figures are quite alarming. The trend as indicated is well beyond sustainability and the facts cannot be denied when official record confirms a 1 million cu.meters plus, of round log export per year, since 2007.

As we turn towards the many challenges ahead, there is a need for an appropriate intervention in the forest sector and has been done in the activities implemented both in the government and private sector. The need for quality data for Planning and management purposes of our forest resources remains a commitment and as the MAR program uncovers a variety of criteria for assessment to address the many concerns that we have for our forest resources the request for technical and financial assistance have to be secured through appropriate arrangements with counter parts in the Asia pacific region.

This PSP design is an initial plan provided to open ways in getting the appropriate technical assistance that could be arranged with MAR program Team coordinators and consultants that will provide the in depth support and professionalism to activate the entire establishment program and other relevant components that will be strengthened during and after the project.

2.0 OBJECTIVE
1. To introduce the PSP design nationwide under an approved final plan for data collection and determination of the Growing Stock, Biomass, Carbon stock and Diversity of the forest resources under the current MAR criteria’s.

2. To develop additional components to the current FRIS database that will strengthen, enhance the efficiency of our SFM approaches and for better coordination with other national SFM regime in the Pacific region.

3. To strengthen technical capacity of the staff under appropriate training in forestry specialist areas under research and other management activities of the forest resources.

3.0 DESCRIPTION

3.1 Regional PSP allocations

The PSP plots are the modified FAO recommended design suited for our island nations in the Pacific region and is designed as such that it suits the PICTs situations in terms of the land mass, topography, vegetation, human resources, financial resources, monitoring parameters, and the interest of the member countries and territories.

The Plot orientation is always in the North direction and consists of four rectangular oppositely placed Sub-plots (North, East, and South & West) with centerlines forming a cross at the center of the plot.

The Sub-plots are placed 80m from the center of the plot, i.e. they have 160m distance to their opposite subplot either in north-south or east-west direction and rounded 106m distance in diagonal direction to their rectangular neighboring Sub-plot.

Because of that fact they can be seen as statistical independent surveys.

The PSP allocations for the 9 regions in our country is plotted over a 20km grid over each respective region allowing chances that its grid intersections on the land will be a plot location and has been described into two access conditions. The EAP (Easy Access Plot) and the DAP (Difficult Access Plots).

The EAP are those plots that could be established less than 2 day’s work and the DAP are those plots that could be established more than 2 day’s work.

Given the facts on the terrain and accessibility, this type of work will be labor intensive and would require a fixed access to the plot areas by brushing bush tracks/routes that links the plot locations.

Table 1.0 Regional PSP Allocations

<table>
<thead>
<tr>
<th>REGION</th>
<th>GROSS AREA (SQ.KM)</th>
<th>SAMPLED AREA (Ha)</th>
<th>Easy Access Plots (EAP)</th>
<th>Difficult Access Plots (DAP)</th>
<th>TOTAL PSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaita</td>
<td>4220</td>
<td>8.0</td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Guadalcanal</td>
<td>5357</td>
<td>11.2</td>
<td>9</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Isabel</td>
<td>4228</td>
<td>8.8</td>
<td>7</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Choiseul</td>
<td>3302</td>
<td>5.6</td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>
### 3.2 Annual PSP Establishment Time Schedule

The work has to be carried out in the period that weather conditions is suitable and as predictions sometime fail it will be better to start in the second quarter of a year from April – December. The first quarter will allow time for Planning, logistics, arrangements for actual field work implementation throughout the year.

The program depends on the timing that arrangement are fully confirmed for actual PSP work implementation and the time will change whenever it starts to allow for a yearly program.

### Table 2.0

<table>
<thead>
<tr>
<th>TIME FRAME</th>
<th>ACTIVITY</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN- MAR</td>
<td>Office Work</td>
<td>HQ</td>
</tr>
<tr>
<td>April</td>
<td>PSP Establishment/Assessment</td>
<td>Guadalcanal</td>
</tr>
<tr>
<td>May</td>
<td>PSP Establishment/Assessment</td>
<td>Malaita</td>
</tr>
<tr>
<td>June</td>
<td>PSP Establishment/Assessment</td>
<td>Isabel</td>
</tr>
<tr>
<td>July</td>
<td>PSP Establishment/Assessment</td>
<td>Central</td>
</tr>
<tr>
<td>August</td>
<td>PSP Establishment/Assessment</td>
<td>Western</td>
</tr>
<tr>
<td>September</td>
<td>PSP Establishment/Assessment</td>
<td>Choiseul</td>
</tr>
<tr>
<td>October</td>
<td>PSP Establishment/Assessment</td>
<td>Makira</td>
</tr>
<tr>
<td>November</td>
<td>PSP Establishment/Assessment</td>
<td>Temotu</td>
</tr>
<tr>
<td>December</td>
<td>PSP Establishment/Assessment</td>
<td>Renbel</td>
</tr>
</tbody>
</table>

### 4.0 BUDGET ESTIMATES FOR PSP FIELD WORK

Solomon Islands have a land area approximately 28,000 sq.km with 9 provinces representing the 9 regions for the PSP establishment program. It is a chain of islands bordering PNG by Bougainville Island in the western part and Tikopia in the Temotu province bordering Vanuatu in the eastern part. The
means of transportation to the nine regions will be by sea, air and road where it exists and will be the influencing factor in the expenditures which are related to Fuel, transportations hires, Airfares, freights etc. The other contributing expenditures will cover accommodations, food, labor costs and equipment/tools.

The estimated budget below is a summary of what should be the average cost for regions other than Guadalcanal and with some adjustment to cater for remote regions like Temotu, Renbel and Shortlands in the Western region.

It is an estimate with careful considerations that the amount required should be adequate for the program with regards to actual field work and other related operations such as awareness through negotiations with the appropriate National, provincial and rural stakeholders/Landowners.

Table 3.0 Regional Field Budget Summary for the 9 respective regions

<table>
<thead>
<tr>
<th>REGION</th>
<th>PSP QUANTITY</th>
<th>PSP ESTABLISHMENT COST ESTIMATE</th>
<th>REGIONAL PSP ESTABLISHMENT COST ESTIMATE SI$</th>
<th>TOTAL REGIONAL ESTIMATE COST (5%) SI$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EAP</td>
<td>DAP</td>
<td>ROAD UNIT</td>
<td>SEA</td>
</tr>
<tr>
<td>MALAITA</td>
<td>7</td>
<td>3</td>
<td>$7044.44</td>
<td>$7043.69</td>
</tr>
<tr>
<td>GUADALCANAL</td>
<td>9</td>
<td>5</td>
<td>$6404.04</td>
<td>$6403.36</td>
</tr>
<tr>
<td>ISABEL</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>$7171.88</td>
</tr>
<tr>
<td>CHOISEUL</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>$7684.03</td>
</tr>
<tr>
<td>MAKIRA</td>
<td>4</td>
<td>4</td>
<td>$7364.64</td>
<td>$7363.86</td>
</tr>
<tr>
<td>WESTERN</td>
<td>9</td>
<td>6</td>
<td>$7482.72</td>
<td>$7491.93</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>$7043.69</td>
</tr>
<tr>
<td>TEMOTU</td>
<td>2</td>
<td>1</td>
<td>$8005.05</td>
<td>$8004.20</td>
</tr>
<tr>
<td>RENBELL</td>
<td>2</td>
<td>0</td>
<td>$8005.05</td>
<td>$8004.20</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>26</td>
<td>$606816.69</td>
<td>$637157.52</td>
</tr>
</tbody>
</table>

EAP – Easy Access Plots

DAP- Difficult Access Plots

4.1 CONSULTANCY BUDGET

This component will be drawn along with the MAR Professional Team involvement and that will lead towards a program that will develop further work in this study and the needs it will satisfy in terms of SFM regimes and network in the region.
5.0 **BUDGET ESTIMATES FOR INTIAL PSP TRAINING**

A one week in country training will be organized for Forestry Staff at HQ and other forestry regional staff. Their participation will provide a better direction for the PSP establishment program that will be carried out in the future. The program will certainly happen after all technical and financial components are fully agreed upon under proper official arrangement.

**Table 4 Training Budget Summary Estimates for Poitete Western Province**

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transport (all form of transport involved)</td>
<td>SB$27,737.60</td>
</tr>
<tr>
<td>2</td>
<td>Accommodation (Honiara)</td>
<td>SB$4,150.00</td>
</tr>
<tr>
<td>3</td>
<td>Allowances(25participants)</td>
<td>SB$60,000.00</td>
</tr>
<tr>
<td>4</td>
<td>5% variation</td>
<td>SB$4,594.38</td>
</tr>
<tr>
<td>5</td>
<td>Food (two weeks estimate but it all depend on course period)</td>
<td>SB$7,000.00</td>
</tr>
</tbody>
</table>

**Total Estimate Budget For MAR Training 2010**  
SB$103,481.98 /Fijian Dollar 24,038.86

NB: The above estimate is for the venue in Western Province should there be changes then it will be confirmed later under further arrangements.

6.0 **STAFF TRAINING ON PSP PROCEDURES AND ESTABLISHMENT**

Technical aspects related to the procedures and establishment of the PSP will be delivered under expert lectures during the one week training by the MAR professional Team and should provide the right skills and knowledge to the forestry officers that would undertake the training. This also should give indication of how Officers will be chosen among the entire regional staff establishment to shoulder this new responsibility and duty in the long term development of this PSP design.

**6.1 BASIC DATA ANALYSIS**

Basic data analysis of data collected in the PSP pilot location during the training will be covered and delivered by the professional team.
7.0 STAFF ALLOCATION FOR PSP MAR WORK COORDINATION UNDER CURRENT MANPOWER POOL

This subject will be discussed under arrangement with the Senior Management Team and should allocate officer within the participant list to shoulder this new responsibility and duty to carry out the expected work input of the PSP.

8.0 IT TRAINING FOR DATABASE MANAGEMENT & SETUP

Importantly this will be carried out with a consultant chosen by the MAR professional team to ensure that officers undergo training during the period of this consultancy.

9.0 TRANSFER OF PSP MANAGEMENT AND RESPONSIBILITIES TO APPROPRIATE FORESTRY DIVISION/SECTION

This will be given upon the fact that Forestry Research in our country under the Ministry of Forestry is weakening and if PSP is a base for monitoring then further strengthening of the research in one aspect will be the management of the PSP’s. There will be much useful information from the data collected to quantify the various values of our important forest resources that are not measured at the moment.

10.0 RECCOMMENDATION

- The PSP training to be carried in June this year 2010
- A pilot PSP plot be located by participants of the Training
- MAR professional team to provide the required training
- Further consultation with MAR counter parts to secure financial and technical assistance for the PSP establishment in the selected regions
- Confirm Arrangements through consultations with MAR professional team counter parts and SPC for the PSP training.
Appendix PSP01

PLOT 1
SUB-PLOTS:
N1, E1, S1, W1
à 10 x 100m

NB: The modified PSP design recommended for the Pacific island nations.
MALAITA PROPOSED PSP DESIGN
EASY ACCESS PSP = 7 PLOTS
DIFFICULT ACCESS PSP = 3 PLOTS
GROSS LAND AREA = 4,220 SQ.KM
SAMPLED AREA = 8 HECTARES
NORTH
APPENDIX CHPSP 04

PROPOSED PSP DESIGN FOR CHOISUEL

GROSS LAND AREA = 3,302 SQ.KM
SAMPLE AREA = 5.6 HECTARES
EASY ACCESS PSP = 7 PLOTS
DIFFICULT ACCESS PSP = 3 PLOTS

NORTH
PROPOSED PSP DESIGN FOR WESTERN PROVINCE
GROSS LAND AREA = 5,087 SQ.KM
SAMPLED AREA = 11.2 HECTARES
EASY ACCESS PSP = 9 PLOTS
DIFFICULT ACCESS PSP = 6 PLOTS
PROPOSED PSP DESIGN FOR CENTRAL PROVINCE
GROSS LAND AREA = 645 SQ.KM
SAMPLE PSP AREA = 2.4 HECTARES
PROPOSED PSP DESIGN FOR TEMOTU
GROSS LAND AREA: 877 SQ.KM
SAMPLED AREA: 3.3 HECTARES
EASY ACCESS PLOTS: 3 PSP
DIFFICULT ACCESS PLOTS: 1 PSP