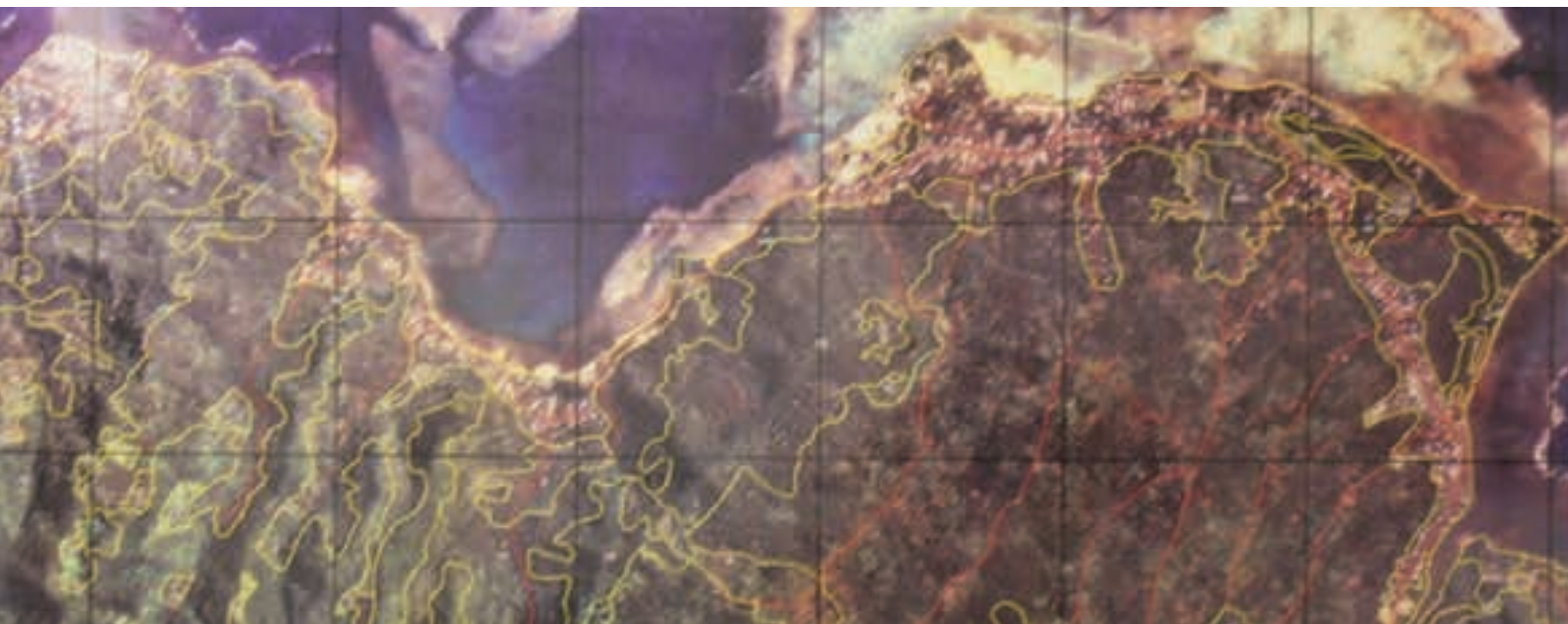


Scoping Study & Post-Training – Participatory 3-Dimensional Modelling for ICCRIFS sites and communities in Samoa

18th – 25th February 2013



ICCRIFS Project

Integration of Climate Change Risks and Resilience into Forestry Management in Samoa

Integration of climate change to forest management in Samoa ICCRIFS Project - FIELD REPORT SERIES

2. Scoping Study and Post-Training – Participatory 3-Dimensional Modeling for ICCRIFS sites and communities in Samoa

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ABOUT THE ICCRIFS FIELD REPORT SERIES

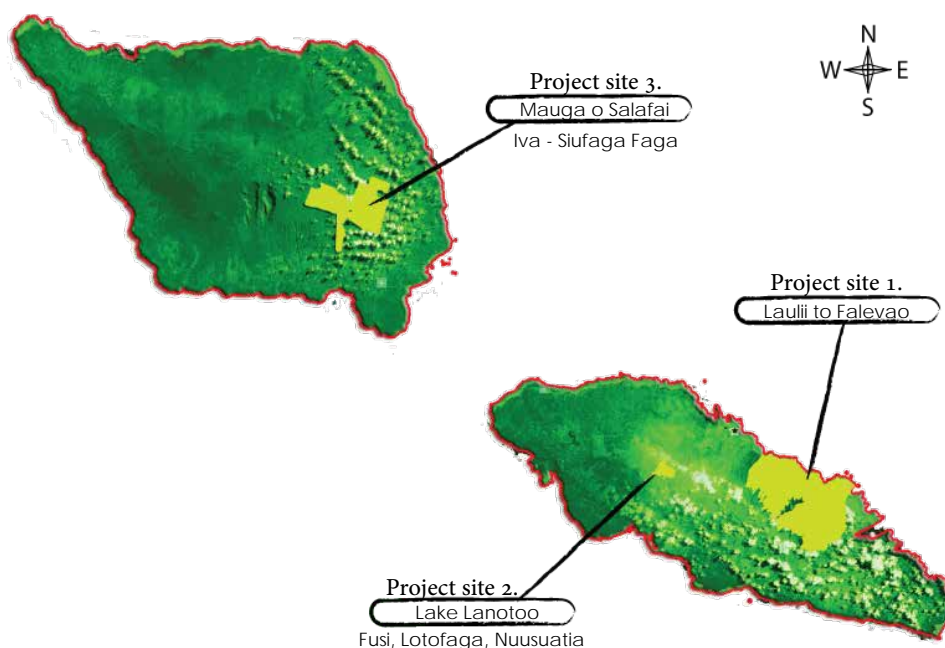
This brief document is part of a field report series from activities undertaken by the ICCRIFS project in Samoa and funded by the GEF, UNDP and the Government of Samoa. The main purpose of this series is to disseminate information on project activities that document the work carried-out by ICCRIFS project officers leading towards the implementation of their project outputs, to our partners and local communities, a broader audience of professionals within the MNRE, along with interested members of the public and students. The reports are being prepared on an ad-hoc basis as activities are completed and written up.

THE ICCRIFS PROJECT - INTEGRATION OF CLIMATE CHANGE RISKS & RESILIENCE INTO FORESTRY MANAGEMENT IN SAMOA

The ICCRIFS project aims to increase the resilience and adaptive capacity of Samoa's forest areas and dependent communities to the threats of climate change. The project is implemented on Upolu and Savaii Islands covering 26 villages as main stakeholders in the conservation and sustainable management of their lowland agro-forestry areas (25,000 hectares) and three upland rainforests covering more than 10,000 hectares (Lake Lanoto'o National Park, Mauga o Salafai National Park and the community upland forests of the Lauli'i-Falevao area). The three major components of the project are:

1. Integration of climate change Risks and Resilience into the Forestry policy Framework.
2. Demonstration of Climate Resilience Agro-forestry and Forestry Techniques in Lowland and upland Areas.
3. Capturing, Analyzing and Disseminating Project Knowledge and Lessons Learned.

LOCATION MAP OF THE PROJECT IN SAMOA



Acronyms & Abbreviations

ACEO	Assistant Chief Executive Officer
CEO	Chief Executive Officer
CKMO	Communication Knowledge Management Officer
CTA	Technical Centre for Agricultural and Rural Cooperation
GEF	Global Environment Facility
GIS	Geographical Information System
GoS	Government of Samoa
GPS	Global Positioning System
ICCRIFS	Integration of Climate Change Risks & Resilience into Forestry Management in Samoa
MESC	Ministry of Education, Sports and Culture
MNRE	Ministry of Natural Resources and Environment
P3DM	Participatory 3-Dimensional Model
PC	Project Coordinator
PNG	Papua New Guinea
PwM	Partners With Melanesians Inc.
RAMSAR	Name given to the International Convention for the Conservation of Wetlands
TOR	Terms of Reference
TSAT	Technical Support and Advisory Team (to the ICCRIFS project)
UNDP	United Nations Development Program

Acronyms & Abbreviations



Integration of Climate Change Risks and Resilience Into Forestry Management in Samoa



FIELD REPORT

Scoping Study & Post-Training – Participatory 3-Dimensional
Modeling for ICCRIFS sites and communities in Samoa

(18th – 25th February 2013)

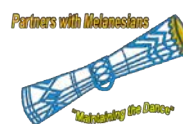


Table of Contents

About the ICCRIFS Project Field Report Series .....	.02
The ICCRIFS Project - Integration of Climate Change Risks & Resilience into Forestry Management in Samoa .....	.02
Location Map of ICCRIFS Project in Samoa .....	.02
Abbreviations and Acronyms .....	.03
List of Annexes .....	.05
Acknowledgements .....	.06
1. Introduction.....	.06
2. Background on Participatory 3D Modelling .....	.07
3. Objectives and Methodology .....	.08
4. Scoping for the P3D model exercise .....	.09
4.1 Selecting the geographic area .....	.09
4.2 Groundwork at community level for the workshop .....	.10
4.3 Drawing up the Participants' List for the workshop .....	.11
4.4 Organize the logistics for the workshop .....	.12
4.4.1 Location of workshop venue .....	.13
4.4.2 Accommodation of consultants and core team members .....	.15
4.4.3 Food and catering .....	.16
4.4.4 Transportation for community members and students ...	.16
4.4.5 Lighting at the venue .....	.16
4.4.6 Materials for the construction of the P3DM .....	.16
4.5 Preparing Topographic Maps and Base Maps .....	.17
4.5.1 Scale of the model .....	.18
4.6 Construction of the Base Table .....	.19
4.7 Forming a team to work on the Model .....	.20
5. Advance information for staff learning and preparation .....	.22
6. Communication & Documentation .....	.22
7. Orientation .....	.23
8. Planning the construction of the Participatory 3D model .....	.24
9. Hand-over of the P3D Model .....	.25
10. Final reporting on the P3DM exercise .....	.26
Conclusion .....	.26
References .....	.27
LIST OF ANNEXES:	
Annex 1 - Terms of Reference for P3D Scoping Mission .....	.28
Annex 2 - Training Report on P3D modelling (P. Amerika and Iosefatu (Joe) Reti) .....	.29
Annex 3 - Draft Programme/Agenda for the P3DM workshop in Samoa35
Annex 4 - List of Materials for ICCRIFS P3DM in Samoa38

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1. Introduction

1. INTRODUCTION

Partners With Melanesians Inc. (PwM) is engaged by the Government of Samoa (GoS) Ministry of Natural Resources and Environment (MNRE) on a consultancy under the Project funded by the UNDP/GEF and the Government of Samoa (GoS). The title of the project is Integration of Climate Change Risks and Resilience into Forest Management in Samoa. (ICCRIFS).

Under this project, one of the outcomes is the development of a Participatory 3 Dimensional Model (P3DM) for the project areas and for planning future activities with the local communities. The project covers three sites and the site selected for this P3DM initiative is the Laili'i-Falevao area, or project site No.1. This first P3D model exercise in Samoa will be used for training and building the capacity of the MNRE Forestry and project Staff to take charge and conduct P3D models for the other two project sites at a later stage.

The report is based on the tasks for the scoping and pre-planning activities for the preparation of the P3DM and also includes observations, actions and recommendations for the MNRE – Forestry and the ICCRIFS Project Team to take note of and follow-up to see that the activities are implemented and ready on time for the full completion of the P3DM model exercise for the area. The exercise also served at developing the skills and capacity of the Core Team members with the MNRE and more specifically the Project Team in P3DM.

Inserted into the report are action points that are required to be followed-up by the Project Team/Core Team so that all logistics and materials for the actual model-making are all ready for implementation with local communities.

2. Background

2. Background on Participatory 3D Modeling

The Participatory 3-Dimensional Modelling (P3DM) process integrates participatory, resource mapping, and spatial information (contour lines) to produce a stand-alone scaled relief model, which has proved to be a user-friendly and relatively accurate research, planning and management tool.

Participatory 3D modelling is a fully collaborative exercise that combines community mapping with open discussions on land-use and land-use planning scenarios. It combines geographic precision with local, individual spatial knowledge and ‘mind-maps’ of locality and familiar settings. During a P3DM exercise, all participants contribute to make a physical, hands-on wood-and-paper model, to scale, of their village or community. This is typically made on a large table in the centre of a meeting or community hall, school or other public place. Once the model is made, then local people become “resource persons” and informants, and everyone will contribute to placing features and places onto the model. Key informants, such as elders and experienced hunters or gardeners, will offer their view of past events, of boundaries, of key localities and times for certain activities, and these can be discussed, and learned, by all participants.

In this way, the model is more than just a map; it is a representation of spatial knowledge of the community, and a source of discussion and interpretation around key issues. Although one key objective of this exercise is to plan for protection and restoration of key natural features, and to plan for possible climate changes, other issues that are important to the community can be discussed in the same context. Furthermore, the model and the information belong in the community and can be used repeatedly, over time, for community discussions and planning on key development issues.

In terms of the ICCRIFS project in Samoa, P3DM has been identified during the project Inception Phase as a tool to unlock the potential of all stakeholders to adequately plan for effective management of sites for climate change resilience and ecosystem services on the islands. P3DM can help the ICCRIFS stakeholders, through both process and output, fuel self-esteem, build local ownership into the project activities and raise local awareness of interlocked ecosystems and land management issues.

In this context, two Forestry Division staff participated in a P3DM workshop held in the Solomon Islands in 2012 and were introduced to the tool concept, hands-on approach and community participation process. This scoping mission and construction of a Site P3DM in Samoa will provide post-training support for these Forestry officers, while introducing the participatory tool in land-use management to other

Annex - 2
see page -29

MNRE staff and projects. For sake of completeness, *Annex 3* gives a full report of the ICCRIFS project staff participation in the Solomon Islands workshop in 2012.

3. Objectives / Methodology

3. Objectives and Methodology

The objectives of the scoping mission for the P3DM are to assess the logistic requirements; the issues related to procurement of equipment; to refine the methodology and programme of the P3DM workshop in the Samoan context. Finally, To provides recommendations for actions by the project and ministry staff for the planning of the full exercise with local communities later on in the year. It also allows the consultants to rapidly familiarize themselves with the local context and meet face-to-face with their local counterparts.

Term of Reference
Annex - 1
see page 28

This field report describes all aspects of the scoping and all the tasks required under the TOR for this contract (refer to *Annex 1- Terms of reference* for the P3DM Scoping mission).

The scoping mission started on the 18th of February to the 25th of February or a total of 10 days (8 in Samoa and 2 in transit back to PNG in Fiji) and the departure of the consultant from Samoa was on the 23rd February and transit through Nadi (Fiji) to PNG. The mission consisted in meeting with MNRE, Forestry and ICCRIFS project staff to assess capacity and existing materials, maps and equipment. The consultant assessed the availability and costs of materials through visits to local suppliers, hardware stores and stationary stores.

Finally, the consultant looked at logistics and preparations needed on the ground including locations to hold community consultations and the construction of the P3DM.

From past P3DM exercises, there has to be a lead time of 3-4 months advance timing for logistics and preparation on the ground so that, the actual modelling exercise is executed with very little hold-up and delays.



4. Scoping for the P3D Model

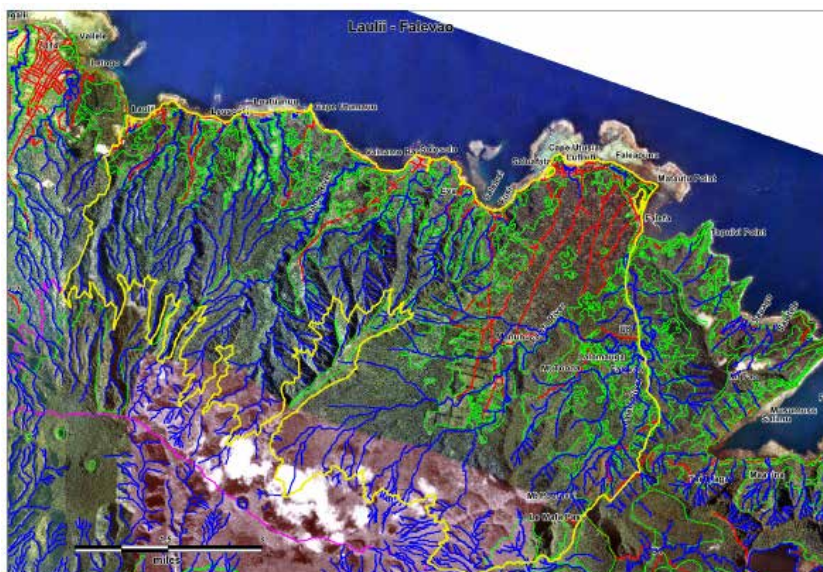
4. Scoping for the P3D model exercise

A preliminary scoping trip for initiating a P3DM is essential to determine the size of the area for the model, assess the logistics required and to work out a timeframe with the project management and all other stakeholders to get everything organized for the construction of the model. The aim is to plan for the best possible outcome – a fully participatory 3-dimensional model of a community at site level.

4.1 Selecting the geographic area

In the case of the ICCRIFS project, there are three potential sites at which to apply P3DM. It would be ideal to scope all three, yet focus on one site for the initial P3DM activity. Using an initial demonstration will help sensitize and orient participants and project staff for future P3DM efforts. The area to be reproduced in three dimensions has to be precisely defined from existing topographic or administrative maps. There are several factors to be considered, including administrative, customary and geophysical boundaries among others. The size of the target area will influence the dimensions of the model itself, and the necessary requirements and logistics.

The site selected with the Core Team of the ICCRIFS project, was Project Site 1, the Lauli'i to Falevao Area which consists of 14 village communities on the north-east coast of the island of Upolu - refer to map below for a view of the Lauli'i to Falevao area. This is the largest site of the project and the one that contains the largest number of communities. The scale of the model will in part be defined by the size of the area and its suitability for a working 3D model.



4.2 Groundwork at community level

A critical step in the P3DM process is to introduce the concept of participatory modelling to community representatives, indigenous peoples' groups, local government and non-governmental organizations reaching agreement and consensus on the use to which the process is to be put. The ICCRIFS is an ongoing project just over two (2) years in its implementation, so it is assumed that, during the past 2 years, there has been a lot of community consultation and the consultant has seen and observed that the members of the community from the 14 villages have participated and have an understanding of the work and the project. It is also the consultant's assumption that, the Members of the community are aware of the project outputs and the P3DM for the project area is one that will be delivered.

These assumptions were confirmed at the community meeting which was held on Friday 22nd February 2013 at the MNRE main conference room, where representatives and elders from the 14 project communities attended. At the meeting, a project overview was presented by the Project Coordinator and supported by the ACEO. There was good interaction and comments. This is clearly an indication of community understanding of the project and its outcomes.

One key step of the groundwork at community level during the scoping is the completion of the model's legend and colour coding through consensus with the local stakeholders and community members. Due to the short time frame for the meeting, it was not possible to undertake and complete this activity. The Legend and Coding for the P3DM is thus one key exercise that will need to be conducted in the first day of the workshop with all the selected members of the Community at the workshop venue prior to the engagement of each village community participants on the blank model. This is critical to ensure all villages understand and use the same legend and codes during the workshop.

Action Point No.1

Task: Community agreement on model's legend and colour coding

Responsible: ICCRIFS Project Coordinator

Description: To ensure to include in the workshop's programme one session or day for the village representatives to develop and agree on the P3DM legend and colour coding prior to the start of the work on the model.

4.3 Drawing-up the participants' list for the workshop

Essentially there are two types of community participants who can best contribute to the construction of the model. The first group is made up of students or youth groups, possibly from locally based institutions or schools dealing with arts and crafts or sciences. They will be instrumental in assembling the "blank" model. The second group is made up of "custodians of local knowledge", comprising indigenous groups, various economic sectors (farmers, fishers, etc.), governmental and non-governmental organizations, and the private sector. They will create the landscape of the model by merging their mental maps into collective knowledge. For the process, informants (resource persons) will be clustered into focus groups on the basis of residence, economic endeavour, cultural affinity, advocacy and other criteria. It is important to always ensure that women, youth and elders are adequately represented.

So, there will be two lists of community participants to be developed for the ICCRIFS model, one list for the school students and the second list for the community participants from the 14 villages.

As for the school students' group, the Project Coordinator will liaise with the Ministry of Education, Sports and Culture (MESC) to identify the schools from the Project site and for the Ministry/Department of Education to write to the schools for the release of students to participate in the model making (blank model). Since this will be an educational exercise and to ensure the model is completed in time, the students from the schools have to either be at Form/Grade 9 level and to have done basic geography so that they have an understating of contours and scales.

At the scale and elevation with only 52 layers of cardboard sheets for the blank model, the number of students required will be around 20. That is if four (4) schools are to be selected, we will have 5 students per school for the making of the blank model for up to 5 days.

Action Point No.2

Task: First student or youth group participants' list

Responsible: ICCRIFS Project Coordinator and Core team

Description: Selection of the Schools and the number of Students. It is planned that out of 4-5 schools from within the project area will be chosen and 4-5 students from Grade/Form 8-9 will be selected per school so in total we will need 20-25 students over the period of 4-6 days for the blank model construction.

As for the second group, community members from the 14 villages, at least 10 members from each village from all sectors in the community need to be selected, that is among:

- Community Elders Male and Female
- Youths
- Farmers and Fisher folks
- Chiefs (Matais)

This list of participants for this second group has to be compiled in consultation with the village chiefs (matai) and a cross-section of the community will need to be selected, also not forgetting the importance of gender equality and fairness for all stakeholders in the community.

As discussed with the Project Coordinator and the Core team, the selection of the informants has to be done properly so that many knowledge holders like people from the village who use the upland and lowland forests and/or do other important activities on a daily basis with field knowledge will be an important source of information needed to populate the model.

Of course, the team needs to consider, in the selection process, the people that were part of the workshop and community consultation held on Friday 22nd February at the MNRE Conference room. Altogether, we are looking at a list of 10 people from each of the 14 villages to attend the workshop as programmed. Technically, two villages should attend at the same time over the remaining part of the workshop (7-8 days) until the model is populated with all their mental and local knowledge.

Action Point No.3

Task: Participants' List - Second community members group

Responsible: ICCRIFS Project Coordinator and Core team

Description: Selection of community participants, approximately 10-15 per village from all sectors/gender/seniority/background. Participants should be drawn from youth, elders, farmers, fishers, women folks, chiefs, etc. The list should start with the participants from the Friday 22nd February 2013 community consultation meeting held at the MNRE.

4.4 Organizing the logistics for the workshop

This part of the scoping serves at identifying the venue where the model will be built and housed; organizing transport, accommodation and catering for the period of the construction. Additionally, compiling a list of required materials and items to help construct the model, and identifying which can be sourced locally and which would be required

to order or bring to Samoa. This was done in close collaboration with the Project Coordinator and the Core Team from the project and Forestry Division.

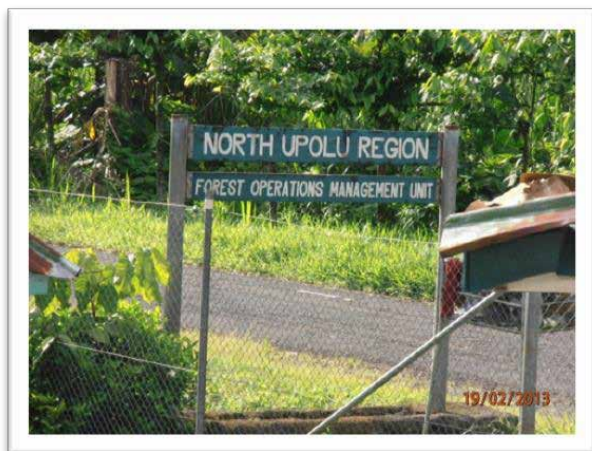
4.4.1 Location of workshop venue

As the site selected is the Lauli'i to Falevao area – refer to section 1.1 above – the location for holding the workshop should be in a village in the area or close by in Apia. For a P3DM exercise, large space is required for the meeting and needs to take into account the number of participants. Catering capacity and other important aspects related to model construction like storage of paints and materials need to be considered in the final selection. Also to be considered are the availability of large floor space for tracing and cutting of cardboard sheets. A small space cannot adequately accommodate the model, materials and the participants, as more space and room is needed so that all participants can work effectively and also learn from the making of the model.

In this context, two sites proposed by the Core Team were looked at for the staging of the workshop, the North-Upolu Forestry Headquarter office located at Vailima, south of Apia and the Galusina Village Resort located in Solosolo village within the project area.

1. Vailima Forestry Office and Conference Room: the Forestry Station at Vailima (North Upolu) is an excellent site with good space outside, but the conference room is too small in terms of space for the number of participants and facilitators expected. It is likely that participants from the various groups will be bumping each other and walking over materials. In addition, the doors are too small and once the model is built inside, its dimensions will mean it cannot be taken out the Conference Room. Otherwise, catering facilities and accommodation are located close to the potential venue.





Plates of the Vailima Forestry North-Upolu Headquarters

2. Galusina Village Resort: the resort is located around 20 minutes drive from the centre of Apia. It would provide an “all-on-site” venue including lodging, catering, storage and conference room facilities. The balcony with open air and sheltered space has a good floor area for tracing, cutting and for gluing of the cardboard layers onto the base table. Besides, in terms of logistics for the community members coming to the model building will be a lot easier and convenient as the location is right in the middle of the project area and students from the schools and the community participants can make their way to participate in the model as programmed. This same venue was used successfully for the Site Management Planning Capacity –building workshop held in August 2012 by the ICCRIFS project.

After a brief review of both locations advantages and disadvantages, the Core Team and the P3DM consultant agreed that the Galusina Village Resort will be the most convenient location for holding the P3D model building and workshop and have sufficient space and facilities for all participants, materials and facilitators.





Plates of the Galusina Village Resort facilities.

Action Point No.4

Task: Location of workshop agreed at Galusina Village Resort

Responsible: ICCRIFS Project Coordinator

Description: To arrange and secure booking of the resort facilities as soon as final workshop dates have been agreed on between the P3DM consultant and the ICCRIFS team.

4.4.2 Accommodation of consultants and core team members

Now that it was agreed to hold the P3DM workshop at the Galusina Village Resort, it is important to negotiate rates for hosting the opening ceremony, the daily consultations and model construction, as well the lodging of the consultants, core team and other Forestry Division staff participating in the two-week workshop.

It will also be logical and ideal for the hand-over ceremony or closing

ceremony to take place right there as it provides everything. A discount should be negotiated for the workshop, accommodation and the catering plus the hosting for the handover ceremony.

4.4.3 Food and catering

Food plays an essential part in keeping our participants happy and working effectively. Catering for the students and community members plus Core Team Members for the duration of the workshop is very important so that there is enough food and beverages, mostly water, throughout the two weeks of the workshop. Breakfast and lunch should be pre-ordered every day together with morning and afternoon tea/coffee for all participants and staff, and also dinner provided for the Core Team and facilitators staying at the resort. The P3DM work can be very demanding and when participants are fully involved they will require good and nutritious meals.

4.4.4 Transportation for community members and students

The project team will need to assess the transport requirements on a case by case basis for each village and schools participation and also consider contingencies in case of weather conditions or other uncertainties. It is critical that work on the model is not delayed and students and community members arrive at the venue in time for activities to start at 9:00am so we can complete the work at the latest 5:00pm (the normal working hours in Samoa). The team needs also to consider if this time schedule is appropriate or needs to be adjusted to suit participants and ensure full engagement.

4.4.5 Lighting at the venue

Adequate lighting is required for the work on the model especially for the Core Team and some members of the community who wish to work on the model after hours and at night. The project team will discuss these requirements with the resort manager in advance of the workshop, so lighting is adequate from the beginning.

4.4.6 Materials for the construction of the P3DM

The model's construction requires a set of standard materials, from strings to pins, paints and cardboard. All materials required are to be sourced and made available for the activity at the venue. Missing items and delays can undermine the whole process, it is very important to stay on top of the many aspects required for the on-time procurement and delivery of the materials.

One important element in the assessment of materials needed is the legend and coding. This exercise is normally done as part of the scoping community work. As this was not possible during the mission, the consultant will endeavour to anticipate and identify, based on past

experiences in P3DM with other communities, the types and numbers of flags, codes and pins that will be required for the Samoa exercise. The consultant and core team visited several hardware and stationary suppliers in Apia and were able to source a large number of items and materials that could be purchased in Apia, and also assess the materials and tools that will require to be purchased from overseas and Papua New Guinea.

For stationeries, only some are available in Apia and others will be purchased from PNG and brought over by the consultants or purchased in Australia (Brisbane) and sent over to Apia by Express Courier Mail. The reason for outside purchase being that, all quotations and invoices have a 14-day limit and if the materials are not purchased within the given time of the quotation, the price changes and so with limited budget of US\$5,000.00, this matter be looked at closely and carefully so that all purchases are within budget.

The main material list and location/ supplier identified are as follows:

- Cardboard (3 mm corrugated core): to be obtained from New Zealand via a Supplier based in Apia (Selprize Ltd)
- Water Based Colour: Samoa or PNG
- Glue (Water based Glue): Samoa or PNG
- Hardware Materials and tools: All in Samoa
- Plywood and Timber, Nails and Bolts (Base Table): All in Samoa
- Yarn coloured colon and acrylics: Samoa or PNG

The full material list with source of material based on experience with a model at 1:10,000 scale and project requirements is presented in Annex 4. It is always better to purchase more than required if within budget, so that any left-over material from this first exercise can be stored and use later for the construction of the next two ICCRIFS sites' models.

*Material list
Annex - 4
see page 38*

Action Point No.5

Task: Acquisition of all materials and tools required for the P3DM construction

Responsible: ICCRIFS Project Coordinator and Partners With Melanesians

Description: To source, order and purchase all listed materials and tools required for the P3DM construction and ensure shipped and available before the beginning of the workshop.

4.5 Preparing Topographic Maps and Base Maps

Without topographic maps or digital contour intervals it is impossible to produce scaled relief models. It is very important to have the map ready, printed in the exact size needed for the construction of the model. Three copies of the map are needed (one to glue to the table, one to trace and one for spare). As such, assessing the GIS capacity

and availability of spatial data is an important part of the scoping trip.

A site and field visit of the Lauli'i to Falevao ICCRIFS Project area was conducted jointly with the Forestry Division GIS officer. The team visited all the villages along the coast and going up the plantation roads into the upland areas. After this site visit and a visit and assessment of the mapping information and GIS facilities of the MNRE, it became very obvious that the best data available is from the Land Division and also the GIS Data using MAPINFO in SAMFRIS and these should be the source to generate the Base Maps of the project area for the model construction.

4.5.1 Scale of Model and Base Map

Following the field visit, the Core Team and consultant determined that a map scale of 1:10,000 will best suit the area covering the Lauli'i to Falevao upland and lowland areas. This is also based on the corrugated cardboard sheet sizes available for the contour layers, as these will be ordered from New Zealand. At this 1:10,000 scale, the Lands and Mapping Division within MNRE will be able to produce the Base Map for the model.

The perimeter of the ICCRIFS site is currently defined on maps by the ridge and watershed contour lines between the villages of Lauli'i to the north-west to Falevao village to north-east. Thus, in order to have a base map done, and to have it to fit the cardboard sheets for the layers, a buffer of 200 meters was agreed to the edges of the project area boundary. The GIS Unit was then requested to produce the base map based on the 200 meter as buffer and that gave the dimensions of the base map at 1:10,000 as 1,720 mm x 1,300 mm.

The Division of Lands within the Ministry has the capability, data system and information for Samoa including detailed satellite images and contour information from sea level to the highest point within the project area (1028 meters) with contour intervals of 20 meters.

The aerial photo (satellite image) below is the area of the project that will be modelled, and with the help of the GIS Specialist from Forestry and Lands division, the base map generated will be in four parts - all glued together - that will serve the purpose as the base map for the P3DM exercise.

Aerial/Satellite 2D image of the Lauli'i to Falevao Project Area using MAPINFO for the generation of the Base Map.



Action Point No.6

Task: Production of Topographic Maps needed to assemble Base Map

Responsible: Forestry Division GIS Officer

Description: To produce and print three copies of the 4 topographic maps at the scale of 1:10,000 (with 20-metres contour intervals) covering the entire site area inclusive of the buffer needed for the model base map.

4.6 Construction of the Base Table

The entire P3D model will be built on a solid base table from the Base Map at sea level upwards until reaching the maximum height of the landscape in the Lauli'i to Falevao at around 1,200 metres. Again, important elements that need not be overlooked in the construction of the base map table are as follows:

- The height of the table off the floor/ground must be around 80 – 100 centimetres;
- The base of the table must have a thickness of no less than 15 mm;
- The dimension must be exactly the size of the base map that is 1,720 mm x 1,300 mm and no extra edge should ever be allowed;
- The Base Map must fit onto the table exactly so that the table provides guidance for the participants to align the cardboard layers on the table as they progress up to the highest elevation from zero (sea level).

The reason why it must be the exact size of the base map and cardboard sheets is for proper setting of the contour layers and so there is no mismatch and twisting and skewing of the layers to cause inaccuracies in the model when completed. Refer to picture below as an example of a good Base Table.



A picture of a base table as an illustration for the carpenter and project Core Team.

This table is tilted on the side to photograph the model, but this angle provides a good view for the carpenter to see how the table can be built and made sturdy from moving or shaking. It has to be solid and rigid and not too heavy as it will be moved around for the purposes of this project for community consultations and meetings.

During the scoping the various hardware shops selling the plywood sheets and timber were visited and prices obtained and so with the table dimensions known, the task of building the table goes to the team. A carpenter was identified who works for the Forestry Division and will be tasked to build the table.

Action Point No.7

Task: Construction of Model Base Table

Responsible: ICCRIFS CKM Officer with Forestry Division carpenter

Description: To build in advance a sturdy and solid table with the following specifications: 1,720 x 1,300 mm with 15 mm plywood top layer as the base and the table must be 80 to 100 cm off the floor/ground. Table need to be ready for relocation to venue prior the workshop.

4.7 Forming a Team to Work on the Model

For a P3DM it is recommended to have a facilitation unit of at least 3 people (Partners With Melanesians and project staff to be trained in P3DM facilitation).

It is essential to have at least two trained facilitators for large models and for activities with a large number of participants. The process contains many steps, which while simple on a technical level, must be correctly supervised and coordinated. Two core facilitators can also ensure that the facilitation goes beyond process to make sure participation and learning outcomes are achieved (i.e. the model is built but also the process is documented and the engagement, participation and cognitive understanding is achieved).

For this we now have 2 participants from Samoa that attended the P3DM Training and Conference in Honiara in May 2012 (refer to workshop report in Annex 2) and so, it is expected that they will assist. Officer Patrick Vuet who facilitated the Honiara P3DM model will also assist along with the 2 Samoan counterparts to do the training and facilitation.

In addition, the scoping trip can identify which groups and individuals that the P3DM activity will require inputs from, including:

- GIS technical expert to help incorporating information
- Other project staff: to take care of logistics for the whole

-
- operations, learning and taking in information during the process
 - Protected area managers and key technical staff of other projects in MNRE

The project Core Team Staff that were identified and introduced during the scoping visit are:

- Ms Yvette Kerslake, ICCRIFS Project Coordinator: Overall Project Coordinator who will oversee the implementation of all Project Activities including the P3DM, from the inception to the publication of the proceedings.
- Mr Paulo Amerika, ICCRIFS Communication & Knowledge Management Officer. Paulo was part of the Solomon Islands Training on P3DM. He will play a leading role in the facilitation. He will be responsible for liaison and doing the media work and also ensuring that all stages of the P3DM is photographed. He will prepare photos along with descriptions of all stages for learning and communicating the work to other agencies in MNRE and GoS and within the region for any future work.
- Mr Iosefatu Joe Reti, GIS Officer, Forestry Division. Joe also attended the Solomon Island Training. He will be one of the members of the Core Team who will work closely with the Consultants on this exercise and who will take the lead for the other 2 P3DM activities later with Mr. Paulo Amerika. Joe will be responsible for the technical building of the blank model with the first group of participants and assist the facilitators on the technical work including the model grid-lines and GIS mapping.
- Ms Susau Siolo, ICCRIFS Native Forest Officer. Responsible for coordination of community members and key stakeholders on the model as well as leading model discussions with local communities on Community-Based Conservation Areas or potential areas for conservation of upland forests and watersheds.
- Mr. Lulaiufi Aiono, ICCRIFS Agroforestry Officer. Responsible for the Legend and Colour coding, as well as facilitate village members in the mind mapping exercise
- Ms Ephna Fa'afetai, ICCRIFS Corporate Assistant. Responsible for all administrative matters and will play a key role in the P3DM exercise in terms of all purchase orders, equipment and material sourcing and orders, liaison with venue, catering, logistics for participants and facilitators and materials.

Action Point No.8

Task: List of technical assistants to Core Team for P3DM

Responsible: ICCRIFS Project Coordinator

Description: To complete list of technical staff from MNRE and NGOs to be invited to participate and assist the Core Team in different aspects of the model building with local communities.

5. Advance Information for Staff Learning

5. Advance Information for Staff Learning and Preparation

At the start of the scoping a package of the Training and manual and Video was provided to the Project Coordinator and a set of 20 units will be ordered with CTA to be sent to Apia and for distribution to the Project team members, so they can read the manual and also to familiarize themselves with the steps and the process of facilitation for the P3DM.

Also a set of references with internet links was sent to the Project Coordinator, so this material will help the staff in their understanding of the P3DM before we start on the construction of the model with the local communities. In addition, the facilitators will plan for a pre-model making training for 1 day or half day with the Project team to go through the process step by step and then to organize ourselves in how to facilitate the model making and how to deal with participation of the school children and the village community members from the 14 villages.

Action Point No.9

Task: Training Manual and Video on P3DM

Responsible: Partners With Melanesians facilitators

Description: To order from CTA and send to Apia 20 sets of the P3DM Training Manual and Video prior to the workshop.

6. Communication and Documentation

6. Communication and Documentation

The P3DM activity should be well documented to help project learning and mobilization of the tool to achieve project outputs, but also in terms of learning on the application of the tool for adaptation to climate change work in Samoa. Various options can be discussed, including

project options for video and reporting roles.

This is the first time a P3DM is implemented in Samoa and it is important to note the unique cultural context, in particular the role of matais and the Fa'a Samoa. The final Report on this consultancy to the Project and MNRE will incorporate a special section on consultation in the Samoan context, so this information can be used for future P3DM activities in Samoa.

As for the communication of the process in Samoa during the actual workshop for the building of the model, the Project Coordinator and the ICCRIFS CKMO will be the key point person to liaise with the media on a day-to-day basis to ensure the process is covered and is communicated to the media for the general public. This will also ensure the participants are engaged and introduced to the media to get their views and comments on the learning process. Finally, it is important to document the usefulness of the exercise and how it fits well into the Samoan local context. Interviews with the technical team should be planned on the actual achievement of the Project objectives and how it will be useful for overall planning in the sector i.e. climate risk and forestry management.

The process will be fully captured with high density still photographs and the final report will document each step of the process from start to finish.

The video documentation of the P3DM exercise cannot be guaranteed, however if the Project team has the skills and capacity and equipment to handle that, it is welcomed to do that, as footage from the P3DM exercise could be useful for other productions and publications either by MNRE or CTA in the future.

Action Point No.10

Task: Media and communication strategy for the workshop

Responsible: ICCRIFS CKM officer

Description: To prepare a brief communication strategy for the media coverage of the P3DM exercise, including press release and invitations to media.

7. Orientation

7. Orientation

The orientation of technical staff, students and community members is a very important part of the P3DM process. so, as part of the orientation phase, the Consultant and his Assistant (Patrick Vuet) plan to meet with

the Project Team Members firstly to deal with the issues of the workshop process, look at the video and identify the core responsibilities, so staff are familiarized with the P3DM process and what to do in the event of issues raised by the students and community members so that the workshop activities are achieved as planned from start to completion and handing over of the model. (Technical Staff - Half Day)

The Students will come in later and together with the Project Staff and consultants to brief them in the P3DM process, what their roles will be in the development of the blank model and also to allow for questions and answers so that, their task is clear from the start. Each group of students will be assigned specific responsibilities and there will be clear lines of communication established in order to complete the assigned tasks within the time allocated. (Students - Half Day)

The community members will be given an orientation at the start of the process when the model legend and codes are developed in a workshop at the Galusina Village Resort. This is also for a day and provides a very good opportunity to further inform them about the project and also assess if all different groups of community members have been selected to be part of the process or more groups need to be selected. (Community Members - Half Day)

8. Planning the construction of the P3DM

8. Planning the construction of the Participatory 3D model

The blank model is the foundation of the final P3DM. It needs to be accurate in scale and contours to realistically reproduce the local landscapes, rivers, mountains and other key natural features such as slopes and aspects. The construction phase will start initially with the students coming from day #1 to start with the following steps:

1. Base Maps Joining, Gluing on Table & Carbon Paper Joining, Sticking on Base Map
2. Tracing, Cutting & Gluing of Contours 20 – 320 = 300 : 15 contour layers
3. Tracing, Cutting & Gluing of Contours 340 – 640 = 300 : 15 contour layers
4. Tracing, Cutting & Gluing of Contours 660 – 1020 = 360 : 18 contour layers
5. Gluing of Toilet paper to smoothen the contour Layers & whitening the model ready for the next phase (Data & Information insertion by Community Members)

6. Day 6-7 is supposed to be a weekend and so final touches will be done by the Project Team and Consultants to get this ready for the next stage when community members will come in to do their part.

The next steps are for each village and community participants to contribute in populating the model with local knowledge and data. For these final community discussions, it is expected that the communities will be allocated only four (4) days to do their whole model, however if that will not be sufficient for all 14 villages to come in, then extra time will be needed. A draft/tentative workshop programme by days is presented in Annex 3.

*Draft workshop
programme Annex - 3
see page 35*

9. Hand-over of the P3D Model

9. Hand-over of the P3D model

The model will be formally handed over from the local stakeholders to the MNRE and project staff, as their community planning model. This is an opportunity to hold discussion and dialogue over the results of the activity. This will allow the project and other stakeholders to continue the dialogue using the model as a platform to raise opportunities and challenges related to project objectives and other local development concerns.

If there are no delays in the whole workshop plan from materials purchase to blank model, to completion, then the hand-over of the completed model has to be on the Friday from 1:00 – 4:00 pm and the event should be finalized and held at the Galusina Village Resort. A more detailed programme will be developed by the Project Coordinator in consultation with the MNRE and Forestry staff.

The main elements to cover in the hand-over ceremony are:

- Presentation of certificates of appreciation and participation
- Speeches by the community Representatives
- Speeches by the project teams
- Speeches by the students
- Media interviewing selected community members and students, plus core Team members.
- The Head of Forestry or VIP from Government receiving the model from the community and making speeches
- Photograph sessions of model with all villages participants and student groups.

It is to be done in the Samoan traditional way to give the first model its full meaning and significance.

Action Point No.10

Task: Hand-over ceremony final agenda

Responsible: ICCRIFS Project Coordinator

Description: To finalize timeframe, agenda and process for the final hand-over of the P3DM from the local communities to the MNRE and project staff. This will include the design and printing of Participation Certificates.

10. Reporting

10. Reporting

The final report will fully document the P3DM process as this will be setting a national standard in Samoa for MNRE (Forestry) being the first Division to embark on a P3DM exercise for community participation and engagement in the ICCRIFS Project objectives.

The final report will capture all the steps implemented as part of the P3DM for Lauli'i to Falevao village area and will document the integration of local knowledge into planning for climate adaptation and land management issues.

The facilitators, after having provided hands on training for project staff during the implementation phase and the creation of P3DM, will then focus on the production of a methodological manual with a "step by step" approach, adapted to the Samoan context using the example of the model built.

This will include providing documentation (i.e. video, still images, report) of the construction of the 3D model and a guiding manual for project team and Forestry staff to be able to extend and share the lessons learnt.

11. Conclusion

11. Conclusion

This field report documents the work undertaken as part of the scoping mission for the implementation of the first Participatory 3-Dimensional Model for the ICCRIFS project in Samoa. This mission was conducted by Mr. Kenn Mondiai from the 18th to 25th February 2013 to prepare the ground for the model's construction later in the year.

The consultant was able to look at different venues, facilities and materials that are available and the logistical difficulties involved in purchasing and getting all the materials in time for the workshop.

Most outcomes needed for a successful P3DM scoping visit were achieved including the selection of the area, the selection of the venue, the organization of logistics, the decisions related to scale, base maps and topographic maps, the design of the Base Table and finally the forming of a Core Team to work on the model. In addition, the scoping mission produced a first draft programme and a list of materials needed for the construction of the model.

The meeting with project community representatives from the 14 villages allowed getting their initial reaction and also getting the feel of the climate and environment for the implementation of the workshop. It provided insights on how it will be like in a real modelling activity and how to deal with all the technical also the humane side of things especially dealing with members of several Samoan village communities.

The only matters remaining to be sorted are the sourcing of the materials and, in particular, of the large sheets of corrugated cardboard for the layers of the model, as well as who will be responsible for the payments in order to comply with the financial rules of the contract agreement between MNRE and the consultant.

The report contains specific Actions Points that need to be acted on in Samoa but on the whole; all is now in place for the construction and participatory workshop for the ICCRIFS project's first P3D model. The final phase and workshop dates will be finalized as soon as sourcing of materials is completed and schedule is agreed between the project in Samoa and the PwM team in Papua New Guinea.

Reference

References

Gaillard Jean-Christophe, Maceda Emmanuel A., 2011. Participatory three-dimensional mapping for disaster risk reduction. In Participatory learning interactions 60, p.109 – 118.

Mondiai Kenn, Vuet, Patrick, 2013. P3DM Scoping Trip Report. A report to MNRE, Samoa. Partners With Melanesians Inc. 27 pages + two annexes.

Rambaldi Giacomo, Callosa-Tarr Jasin, 2002. Participatory 3-Dimensional Modelling: Guiding Principles and Applications. ASEAN Regional Centre for Biodiveristy Conservation. 72 pages.

Annex 1. Terms of Reference

Terms of Reference for P3D Scoping Mission

Participatory 3-Dimensional Model for the ICCRIFS Project
Phase 1 – Scoping Mission

BACKGROUND

Integration of Climate Change Risks and Resilience into Forestry Management in Samoa (ICCRIFS) aims to increase the resilience and adaptive capacity of Samoa's forest areas and dependent communities to the threat of climate change. Climate change poses a set of climate-induced risks to forests, which exacerbate current pressures due to unsustainable forestry and land-use practices. The combined effects of these reduce the resilience of forest ecosystems, which in turn affect the resilience of the livelihood of communities dependent on forestry goods and services. The adaptation option is to introduce a set of alternative forestry practices adjusted to changing climate regimes, and supported by an enabling environment through policy changes, institutional strengthening, capacity building and knowledge management action.

The three major components are:

1. Integration of climate change risks and resilience into forestry policy framework;
2. Demonstration of climate resilience agro-forestry and forestry techniques in lowland and upland areas; and
3. Capturing, analyzing and disseminating project knowledge and lessons learned.

This Project will be implemented through the active engagement of the communities involved and various related ministries in the country. The project framework is four (4) years and twenty six (26) villages will be involved.

TASKS:

- Conduct scoping to determine the size of the area for the model, assess the logistics required and to work out appropriate timeframe.
- Select the area to be reproduced from the three sites under the project and has to be precisely defined from existing topographic or administrative maps and from other considerable factors such as customary and geophysical boundaries.
- Identify the venue where the model will be built and housed and compile a list of required materials and items to help construct the model, and identifying which can be sourced locally and which would be required to bring in to Samoa.
- Identify assistance needed for the model construction and

work closely with project team in the process of selecting suitable participants from the communities for the work as well as a suitable place for construction of the 3D model.

- Prepare topographic maps for the three sites of the project and find out other relevant mapping information to help construct the 3D model in time.
- Forming a team to work on the model.
- Produce a report on P3DM scoping mission to Samoa on the results of each of the tasks above.

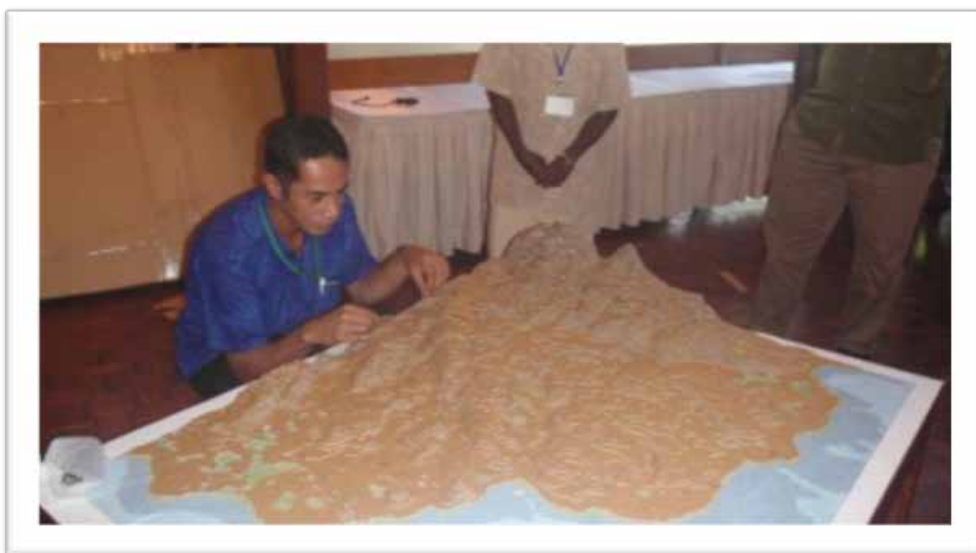
Annex 2. Training Report on P3D modelling

Training Report on P3D modelling (P.Amerika, J.Retu)

Title of Course:

"Participatory Mapping and Community Empowerment for Climate Change Adaptation Planning and Advocacy".

An Orientation and Project Planning Workshop



Iosefatu Reti configures the size of the model and verifies the horizontal scale

Training Venue:
KITANO MENDANA HOTEL
Honiara, Solomon Islands

Dates:
(May 21st to May 26th 2012,)

Goals/Objectives:

The overall goal was to promote the adoption of innovative Information and Communication Technology (ICT) tools and approaches to help address developmental challenges. This in turn would increase resilience to climate change through enhancing the integration of local knowledge in adaption, planning and implementation processes.

Content & Skills learnt - (Workshop Content & Lessons Learnt)

A one week orientation and planning workshop was organized by a number of developed agencies lead by the Technical Centre for Agricultural (CTA), Partners with Melanesians, The Nature Conservancy (TNC) and the United Nation Development Programme (UNDP). The workshop was held from the 21st to 26th May 2012 in Honiara, Solomon Islands.

Participants from the Pacific region, the Caribbean and representatives from the local community attended this productive workshop and all shared experiences, new ideas and contributed to the discussion on the use of participatory ICT tools such as P3DM in the context of local planning and communication. The event exposed participants to selected processes, methods and illustrations around the guiding principles.

The PS for Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM) officially opened the workshop and welcomed all the participants. He extended his wishes to all members for a fruitful and a successful conference.

Day – 1:

Mr. Giacomo Rambaldi was the first presenter. His presentation was very comprehensive and it clearly set out the objectives of the workshop and the expectations of the day. This session was co-facilitated by Dave de Vera.

- Solomon Case studies
The impacts of climate change in Small Island Developing States. (SIDS)
- Participatory GIS in Developing Countries/by Mr. Giacomo
The presenter speaks mainly on the method both theoretically and practically which is more than just making the model but allowing traditional knowledge to integrate with modern technology like Geographic Information System (GIS) and Global Positioning System (GPS).
- P3DM Experiences in the Pacific (PNG)
- Local Scale Experience in Solomon Island – Boeboe

Participants had the opportunity to share experiences with representatives from Boeboe village who have already gone through the process of manufacturing a coastal P3DM. They also gave an insight of how they use the model for planning purposes. This has given us a clear idea of what would be most appropriate for Samoa and the Pacific.

- **P3DM Experience in the Philippines & Africa (Worldwide)**

Participants also witness other examples worldwide, for instance in the Philippines it has been very effective and powerful experience in the process and the application of the tool P3Dmodel.

In the afternoon we continued with the Open Session – Opportunity for ten speakers; each one of them were given a 3 consecutive slots of 5 minutes to present their case, work space at the Global, National and Local Scale while another 10 minutes was allocated for questions and answers. The exercise was a success in terms of exchanging knowledge and lessons learnt from different perspectives.

Day – 2:

The focus was looking at the method and the process of the tool P3DM. Day one was about the participatory ICT tool namely P3D model; what was P3DM and how local stakeholders used P3DM?

We started the second day with the presentation by Mr. Patrick Vuet;

- **The Introduction to the parallel session.**

His 2 slide presentation demonstrated basic scale to construct a 1m to 1.25m model.

- **Mr. Giacomo the second speaker came up with a detailed presentation on the process of the 3DModel including the METHOD and PROCESS of P3DM.**

1. **Method of P3DM,**

- Integrated local spatial knowledge with data about elevation (for land) and depth (for sea)

- facilitated learning and analyzed issues related to territory.

Method works best when integrated with Global Positioning System (GPS) and Geographic Information System (GIS).

2. **The P3DM Process in detail – the preparation of the Base Map, Logistics, and the Process (Trace, cut and paste).**

3. **Map Features.**

Presentation by Mr. Jacob Zikuli on the preparation of the map legend. It is very important to prepare a legend before the model.

4. **Using the Model.**

The presentation by Gideon Solo on P3DM for climate adaption and planning highlighted the uniqueness of this model in addressing

climate change issues. The model could identify parameters such as the vulnerability of the community to climate change. The model also provides equal opportunities through participatory, Gender Balance and involvement of all age groups.

Day 2 was concluded with an exercise whereby participants shared their learning with each other;

DEMOCRACY WALLS

"I noticed..., I discovered..., I felt..., I learnt...",

Large sheets of paper were fixed on the wall and participants were invited (on day 1 and later-on day 5) to record their opinions and summarize using meta cards.

We were also asked to make suggestions on how to improve the process. The exercise built a lot of confidence in both participants and facilitators. It was also a way of checking in to ensure that everyone was on the same page.

Day – 3:

We kick-started day three by visiting the plain mini 3D model constructed by the students and local informants. Participants had the chance to cite and observe the 2 day process of the model. Participants were also given the opportunity for short hands-on experiences.



We continued on with the presentation by Mr. Giacomo Rambali on Attitude, Behaviours and Ethics in PGIS practices. The entire idea of day 3 session was aimed on:-

- Understanding your target audience which is the communities, and how you interact with them as a good and thoughtful facilitator.

It was learnt that Facilitators should be consistent in the way they dress, the way they behave and the way they interact with people. PGIS facilitators needed to know themselves and understand how

behaviours of people they were dealing with are influenced by their attitudes, values and beliefs. Ownership of the project by the community is an important factor to consider as a facilitator when addressing participating mapping in the communities.

The exercise on GROUND RULES followed and we had group work and group presentations. We also watched some of the participatory Videos and closed with a panel discussion.

Day – 4:

The picture below is the result of the 3 days initiatives by the students and local informants. This is a complete P3Dmodel of Naro village presented by the informants. Open floor for further questions and discussion of any issues regarding the model.



The size of this 3d model 1.0m x 1.25
The size of support table 1.1m x 1.35m
Horizontal scale – 1:5000
Highest elevation on .model – 490m a.s.l
Contour interval – 10m
Carton thickness – 4mm
Vertical exaggeration 4x
Expected height of the model a.s.l 19.6m

Participants also learnt the On-screen digitizing process, starting on preparing the model for data extraction...

- Placing a grid on the 3dmodel
- Capturing data using digital photography.
- Georeferencing of photographs ... etc

This stage of the process depicts the application of the P3Dmodel. There was also focus on using the model, to generate data and their potential application - the uses and risks of mitigation. This tool is very authoritative in that it can be used for the development of future management plans, information sharing and for integrating of traditional and scientific knowledge systems through participatory approaches.

Day – 5:

On the final day of the workshop, each group worked on drafting their country specific P3Dmodel action plan. The intention of the exercise was for participants to start formulating this idea to a form which is negotiable and to get things going, assuming that this P3DM process applies to their project back home.



Iosefatu Reti and Paulo Amerika rep from Samoa Lake Lanotoo site.

Looking at the 3 pilot sites of the ICCRIFS project, we had taken Lake Lanotoo site as our focus for the adoption of P3DM for integrating climate change risks and resilience into forestry management and conservation strategies. With the principal objective of increasing awareness of rural communities in participating in sustainable farming and water conservation practices, the P3D Model would be employed as a tool to best plan natural resource management activities and increase community participation.

Presentation of Country Specific P3DM Action Plans in the afternoon followed by the presentation of participants certificates. The workshop was officially closed with remarkable words by the UNDP representative, Mr. Gabor Vereczi.

Expected learning outcomes of the workshop:

At the completion of the workshop participants are expected to be in the position to:

- describe participatory GIS practice and the role of innovative ICTs in facilitating community empowerment and active participation in decision-making;
- discuss the value of local spatial knowledge;
- describe how P3DM can be used to document, geo-reference and visualize local knowledge and how Geographic Information Systems (GIS) can add authority to it in an open, hands-on & accessible way;
- plan the organization of a P3DM exercise in the context of climate change adaptation;
- list a range of ICTs and web-based applications which could be used to complement the map-making process and add authority to its outcome;
- list potential risks involved in practicing participatory mapping and related mitigation measures.

Overall, most of the expected outcomes have been achieved and will be utilized to assist us in the development of our project. These outcomes have shown that there is great potential in the P3Dm tool to address climate change issues. Also with the knowledge gained throughout this workshop, we can maximize the use of the P3DM tool to tackle climate change in Samoa.

Comments/ Recommendations:

It is recommended based on the information and experience of the local communities who are already engaged in these tools that there is great potential in P3DM in addressing climate change. We can select what is relevant and most appropriate to our local context. It certainly gives us an option or one way of addressing climate change. In doing this project it can give us an idea of what works and what does not work.

Annex 3. Programme (Draft for P3DM)

Programme (Draft) for P3DM in Samoa

Program for the Samoa P3DM Workshop (Tentative) 13th – 27th of April 2013

Days	Dates	Task & Activities	Officers Resp.	Location	Target Audience	Expected Outcome	Time/Duration
1	Sat 13/4	Check on Logistics	JR/Consultants/PC	Galusinga/Apia	Suppliers/Venue	• All materials and logistics in order to start	Whole day
2	Sun 14/4	• Check on Logistics for Workshop • Meet with CT members	JR/Consultants/PC	Galusinga Hotel & Apia	Core Team Members	• CT Members fully briefed and assigned tasks agreed to	Half day
3	Mon 15/4	Orientation for CT/Students	Consultants and PC	Galusinga Hotel	CT Students	• Students/CT Members fully oriented agree to tasks ahead	Half Day
4	Tue 16/4	• Legend and Colour Coding drafting • Orientation for Community members	CT/Consultants - KM	Galusinga Hotel	Community Members (Selected)	• Legend and codes agreed and drafted • Community informed on the process and their roles	Full Day (joint sessions)
4	Tue 16/4	Final Checks on all things for day blank model Base Maps Joining, Gluing on Table & Carbon Paper Joining,	CT/Consultants - PV	Galusinga Hotel	CT/Consultants	• Table ready • Base Map glued • Carbon papers joined and clipped to Base	Full days (joint sessions)

		Sticking on Base Map				Map	
5	Wed 17/4	Tracing, Cutting & Gluing of Contours 20 – 320 = 300 : 15 contour layers	CT/Consultants/Students	Galusinga Hotel	Students	<ul style="list-style-type: none"> 20-320 m contours traced, cut and glued on table Toilet papers pasted to smoothen contours 	Full day
6	Thur 18/4	Tracing, Cutting & Gluing of Contours 340 – 640 = 300 : 15 contour layers	CT/Consultants/Students	Galusinga Hotel	Students	<ul style="list-style-type: none"> 340-640 m contours traced, cut and glued on table Toilet papers pasted to smoothen contours 	Full day
7	Fri 19/4	Tracing, Cutting & Gluing of Contours 660 – 1020 = 360 : 18 contour layers	CT/Consultants/Students	Galusinga Hotel	Students	<ul style="list-style-type: none"> 660-1020 m contours traced, cut and glued on table Toilet papers pasted to smoothen contours 	Full day
8 - 9	Sat 20/4 Sun 21/4	Gluing of Toilet paper to smoothen the contour Layers & whitening the model ready for the next phase (Data & Information insertion by Community Members)	CT/Consultants Students .. ???	Galusinga Hotel	Students ??? CT Members Consultants	<ul style="list-style-type: none"> All contours pasted with toilet paper and smoothened Painting white 	Full days
		Information insertion by Community Members)				<ul style="list-style-type: none"> for the no name model Blank model left to dry 	
10	Mon 22/4 (am/pm)	<ul style="list-style-type: none"> Briefing and Populating the Model in their respective areas Verifying the data and locations Inserting linear, point codes /data Application of colour codes to the agreed codes data Finalising the information and finishing touches to the areas on the model. 	CT & Consultants	Galusinga Hotel	Selected Community members for 5 villages attend (PC/Consultants to agree on which villages)	<ul style="list-style-type: none"> Identifying land marks Inserting point, linear, polygon Verified the data on the model Application of point legend and colour and finishing area 	Full Day
11	Tue 23/4 (am)	Same Activities as above	CT & Consultants	Galusinga Hotel	Selected Community members for next 4 villages attend	<ul style="list-style-type: none"> Identifying land marks Inserting point, linear, polygon Verified the data on the model Application of point legend and colour and finishing area 	Full day

12	Wed 24/4	Same Activities as above	CT & Consultants	Galusinga Hotel	Selected Community members for next 5 villages attend	Identifying land marks Inserting point, linear, polygon Verified the data on the model Application of point legend and colour and finishing area	Full day
13	Thurs 25/4	Same Activities as above	CT & Consultants	Galusinga Hotel	Selected Community members for 4 villages attend	Identifying land marks Inserting point, linear, polygon Verified the data on the model Application of point legend and colour and finishing area	Full Day
14	Fri 26/4	Handover Ceremony	CT/PC (a small detailed program for the afternoon to be prepared by PC)	Galusinga Hotel	VIP, A/CEO Forestry, Community, Media, Students, general Public	Model completed and handover to Government Certificates Presentation	Afternoon from 13.00 – 16.00 pm (morning used to prepare for handover)
						• Media release & Photos	
15	Sat 27/4	Data Extraction and GIS Manipulation	CT & Consultants	Galusinga Hotel		• Training & learning for the CT and GIS Experts	Full day or half day ?
16	Sun 28/4	Field Trip to Savai	PC/Consultants	Savai Island for the third project site field visit			

Note :

PC – Project Coordinator – (YK)













CT – Core Team (Forestry)

























JR – Joe Reti







Consultants –(KM) – Kenn Mondiai (PV) – Patrick Vuet

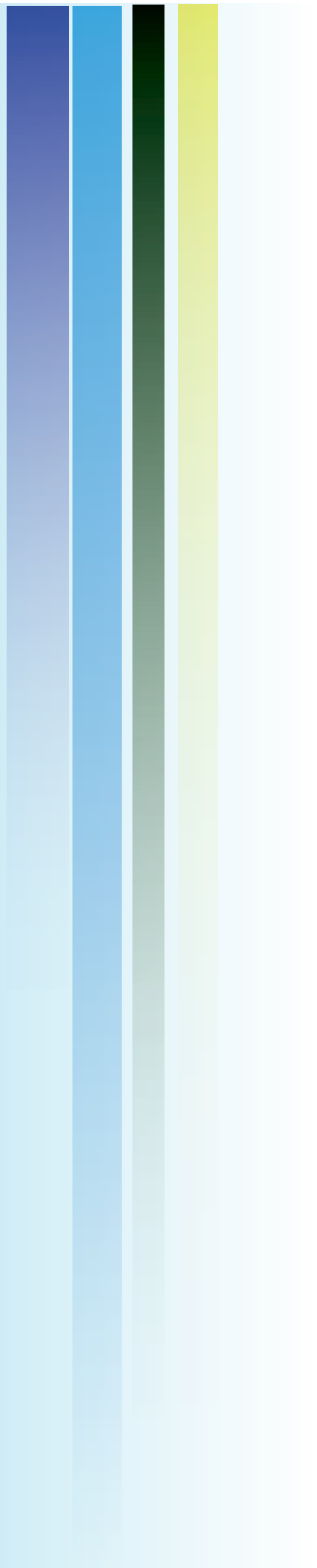
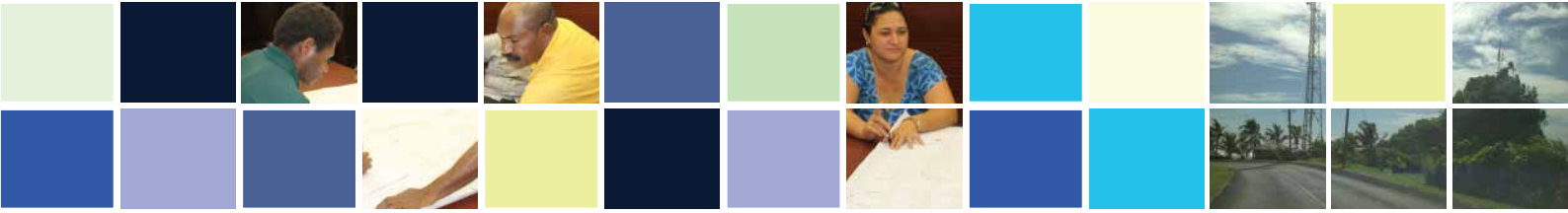
Annex 4. Material List for ICCRIFS P3DM

Material List (Excel Sheet) for ICCRIFS P3DM

Item Description for the construction of 3D model of the project site : On an island and surrounded by upland and lowland areas (Scale 1:10,000 horizontal scale); 0 meters or seas level is the lowest point and the highest is 1,028 meters asl The model measures 1.80 m x 1.36 m and is made of units measuring ? x ? m each.)		Unit of measure	Quantity
		Exchange rate	
		Supplies (Grand Total)	
	Contour map of the area where model will be built	No.	1
	Bathymetry map	No.	
	Single wall corrugated carton board sheets 1.2m x 2.2m. Inner and outer liner 175 g/m2; Thickness: 4-mm or better 3-mm. More at: http://www.iapad.org/tips/cartonboard.htm	No.	0
	Base Map: Scanning, georeferencing, manipulation, attributing and plotting (Yvette/GIS Specialist to develop) Otherwise liaise with Nate or Silika for necessary inputs, like coloured ink, paper etc.) More at method process at : http://www.iapad.org/tips/base_map.htm	No. of copies	3
	Custom-made wooden base table (1.2 m x 2.2 m) (0.6 m high) (with hooks to be able to join the two tables)	No.	1
	Acrylic paint (student grade, less expensive than professional grade) colours found in natural landscapes like blue (dark and light), green (different types), brown, okra, white, yellow (800 cc per colour); dark blue (1200 cc).	400 cc bottles	20
	White Paint (Water Based).Get additional 2-3 litres for the blank model painting and whitening..	1 Litre	2
	200 cc are enough for other colours like red, orange, black, violet, purple, maroon, orange, pink, etc.	200 cc bottles	10
	All-purpose glue, gallon bottle, non toxic PVAC based adhesive. Soluble in water.	1 gallon jar	10
	All-purpose glue, 16 fl oz. bottle, non toxic PVAC based adhesive. Soluble in water.	16 fl oz bottle	20
	Plastic bucket (10 litre capacity)	No.	3
	Egg whisks	No.	2
	Plastic container. Approximate diameter 180 mm (1 litre capacity)	No.	20
	Attendance Certificates. Better do these by your own with a colour inkjet printer during the mapping exercise. This would a cheaper and more practical solution. Ensure you cover for Appreciation and Participation . Make sure all names from start to finish are accounted for. All Logos for MNRE/Project/Govt/Sponsors etc...	No.	150
	Foldback Clip 25mm	Box of dozen.	4
	Blade Cutter	No.	20
	Tube of spare blades (pack of 10)	No.	10
	Coping saw	No.	5

	Spare blades for coping saw (wood blades) (pack of 4)	No.	15
	Carbon Paper A4 Size (Box)	No.	2
	Pencil eraser	No.	5
	Colour Marker (black, blue, red and green) (2 each)	No.	8
	Office paper white (80 g/m2)	Ream	1
	Office paper (200 g/m2) for cutting out labels	sheet	20
	Pliers	No.	1
	Compass	No.	1
	Art line pen set	set	1
	Cotton cable (yellow); Weight/length per ball: 50 gr =142 mt	Ball/coil	2
	In the event we have no Crepe papers (Below) then option of testing different types of toilet paper, as some are too thin and absorb more water or glue and takes longer for the model to dry.	Rolls	50
	Crepe paper (white) in the event we have none then option of testing different types of toilet paper, as some are too thin and absorbs more water or glue and takes longer to dry.	sheets	40
	Dressmaker pins	box of 1000	3
	Hammer	No.	1
	Calliper (plastic)	No.	1
	Clear plastic jars (0.5 - 0.75 litres)	No.	50
	Hand knitting yarn no. 8; 18 colours (#16) (250gm)	ball/skein	20
	Plasticized north arrow Download the Adobe PDF version from http://www.iapad.org/tips/georeferencing.htm	No.	8
	Numbers (1 to 35) Font 72 Download the Adobe PDF version from http://www.iapad.org/tips/georeferencing.htm	No.	1
	Letters (alphabet) Font 72 Download the Adobe PDF version from http://www.iapad.org/tips/georeferencing.htm	No.	1
	Plastic laminated Quick Reference guide Download the Adobe PDF version from http://www.iapad.org/tips/georeferencing.htm	No.	6
	Map pin with round head mod. 1204 (4 mm) (1000 pc bag). Colours: White, black, royal blue, jade green, light green, sky blue, orange, yellow, red and brown.	Bag of 1000	1
	Push pin mod. MP-10 (10 mm head) (1000 pc bag). Colours: White, royal blue, jade green, yellow and red.	Bag of 1000	1
	Push pin mod. A-150 (1000 pc bag). Colours: White, black, royal blue, jade green, yellow and red.	Bag of 1000	10

	Push pin mod. CL-8 (1000 pc/bag). Colours: White, royal blue, jade green and yellow. More on map and push pins at http://www.iapad.org/tips/symbols/pins.htm	Bag of 1000	5
	Shipment of pins to destination. Recommended supplier of map and push pins: http://www.meikodo.co.jp	Consignment	1
	Masking Tape (2")	Roll	5
	Measuring Tape (3 meter long)	No.	1
	Nails (0.5")	Kg	1
	Nails (2.5")	Kg	1
	Nails (5")	Kg	1
	Packing tape (2")	Roll	3
	Transparent tape (1")	No.	3
	Painting Brush # 0	No.	10
	Painting Brush # 10	No.	20
	Painting Brush # 12	No.	20
	Painting Brush # 2	No.	20
	Painting Brush # 7	No.	20
	Painting Brush 25mm	No.	16
	Painting Brush 60 mm	No.	8
	Design Pencils # 2	No.	36
	Pencil sharpener	No.	1
	Plumb ball or plumb line	No.	1
	Scaled ruler (Rothring or similar)	No.	1
	Scissors (Type 1)	No.	8
	Scissors (Type 2) small	No.	8
	Scissors (Type 3)	No.	8
	Stapler with refill (Staple wire)	No.	1
	Transport of supplies to venue	Trip	1
	Scarpel - Surgeon's Blades	box of 50	3
	Butcher papers	roll	2
	Coloured Wall Papers - "Democracy Wall" AO Size	sheets	4
	Blu-Tac	Pkts	2



ICCRIFS Project

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