

PNG National Forest Inventory Research Skills Workshop

FAO Mountain Partnership

**Presented by; Sapienza University of Rome, Italy
and The University of Queensland, Australia**

PNG Forest Research Institute, Feb 2018



Acknowledgements

Thank you to;

- PNGFA/FRI for hosting and organising
- FAO PNG NFI team for organising and supporting
- FAO Mountain Partnership for supporting the development of the workshop materials and program
- and you, the Participants

Workshop Aims

To help participants;

- Develop better research planning skills.
- Develop and write a research plan and proposal.
- Work towards publishing their research in respected peer-reviewed journals

Note: this is part 1 of a 4 part workshop series

Workshop Objectives

1. Understand definitions of successful research
2. Understand how to write a good research plan
3. Set a research problem
4. Set research objectives and questions
5. Develop good literature review skills
6. Understand how to choose a methodology
7. Develop data collection and analysis skills
8. Develop research project logistics management skills
9. Develop skills in communicating research outcomes

Materials

- Please refer to handbook (note activities)
- References provided are freely available via links
- **Academic supervision assistance proposal**

Workshop Agenda

1 Monday 0830hr to 1000hr	INTRODUCTION – SUCCESSFUL RESEARCH
2 Monday 1030hr to 1200hr	DEVELOPING VIABLE RESEARCH QUESTIONS AND OBJECTIVES
3 Monday 1300hr to 1430hr	LITERATURE REVIEW
4 Monday 1500hr to 1630hr	LITERATURE REVIEW
5 Tues 0830hr to 1000hr	METHODOLOGIES AND DATA COLLECTION
6 Tues 1030hr to 1200hr	METHODOLOGIES AND DATA ANALYSIS
7 Tues 1300hr to 1430hr	RESEARCH PLAN PRESENTATIONS
8 Tues 1500hr to 1630hr	CONCLUSION - SUCCESSFULLY MANAGING RESEARCH PROJECTS

Introductions – Presenters

Paul Dargusch – The University of Queensland

Fabio Attorre – Sapienza University of Rome

Nick Leseberg – The University of Queensland

Introductions – Participants

- Dambis Kaip PNGFA
- Constin Bigol PNGFA
- Gewa Gamoga PNGFA
- Elizabeth Kaidong PNGFA
- Samuel Gibson PNGFA
- Bruno Kuroh PNGFA/FRI
- Miller Kawanamo PNGFA/FRI
- Penniel Lamei PNGFA/FRI
- Tiberius Jimbo PNGFA/FRI
- Peter Homot PNGFA/FRI
- Graham Kaina PNGA/FRI
- June Mandawali PNGFA/FRI
- Leroy Moripi PNGUoT
- Gibson Sosanika BRC
- Redley Opasa BRC
- Jacob Yombai BRC
- Bulisa Iova BRC
- Jason Paliau/Robert Kiapranis
- John Pena NFI/FAO
- Kasbert Evei NFI/FAO

Session 1

Doing Successful Research

Discussion - What makes 'successful' research?

Linking structure to be used through the course:

Knowledge + Experience

References, Notes

Problem Statement

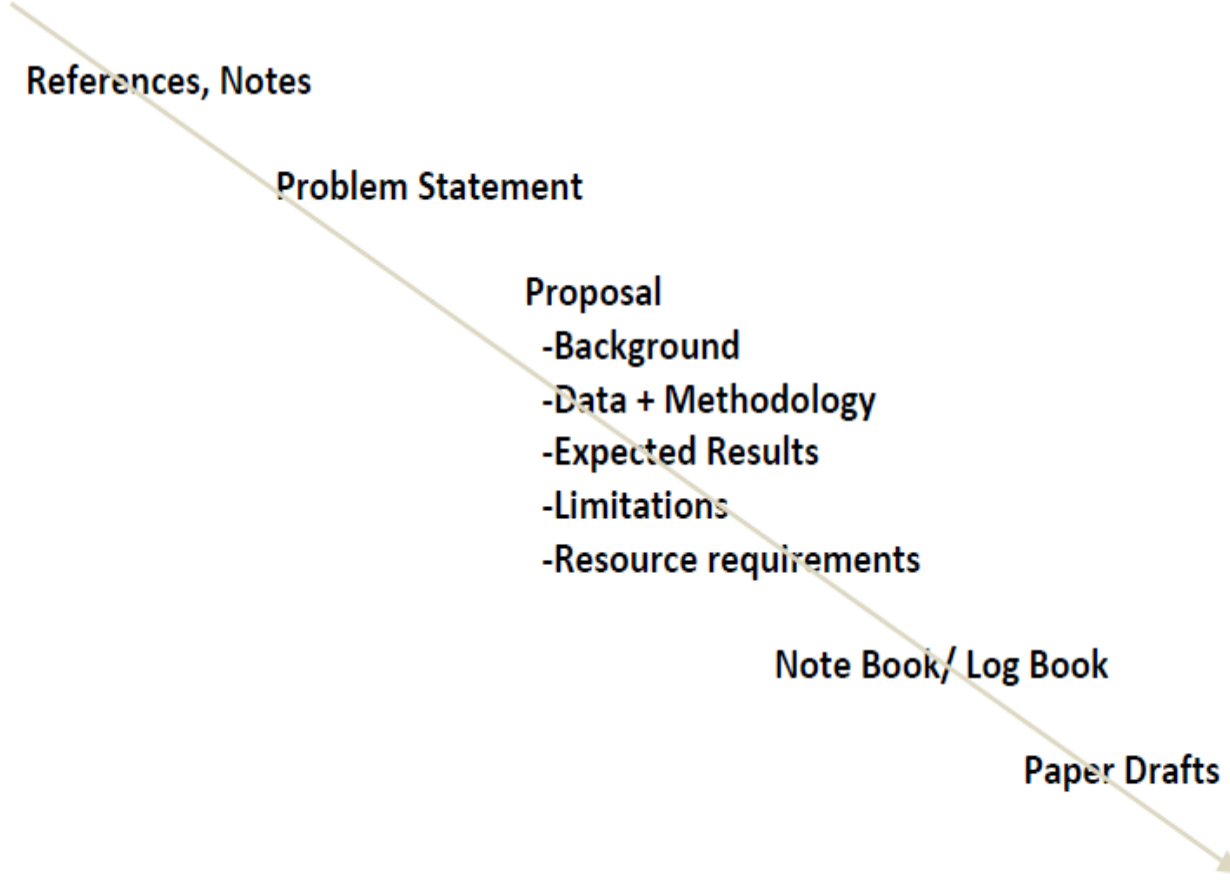
Proposal

- Background
- Data + Methodology
- Expected Results
- Limitations
- Resource requirements

Note Book/ Log Book

Paper Drafts

Publication



Basic Procedure of Research

- Review related work
- Set a Research Problem
- Set Research Questions (sub-problems)
- Design methods
- Collect data/evidence
- Analyse data
- Derive conclusions
- Use results to update knowledge and improve outcomes
- Develop next stage of research

Supervision and Support

- Refer to the table on page 6 of the handbook
- The relationship with your academic supervisors is very important. The table on page 6 of the workshop handbook outlines some useful issues to discuss with your supervisor.
- Before proceeding to develop your research plan you should discuss these issues with your academic supervisors.

Why do we need a Research Plan?

- Structure a complex activity
- Set quality standards
- Maintain budget
- Assist in reporting
- Manage time constraints
- Predict and manage problems
- Enable contingency plans

Research Plan Format

- Cover page, Title and Table of Contents
- Introduction, Rationale, Research Problem & Questions
- Literature Review, Synthesis and Significance
- Methodology (Data Collection and Analysis)
- Projected Timeline and Resource Requirements
- Expected Limitations
- Expected Results
- References

Research Plan Format - Introduction

- Engage the reader's interest
- Explain the subject area
- State the significance of your research
- State and explain the research problem
- State the research questions
- Outline the format of the rest of the plan/proposal

Research Plan Format – Literature Review

- Review the literature – don't just summarise
- Demonstrate your knowledge of past research
- Demonstrate knowledge of methods used previously
- Understand major findings of past research
- Understand limitations of past research
- Emphasise links between previous studies
- Search for underlying themes in the literature

Research Plan Format – Data and Methodology

- State why you chose methodological approach
- Explain the methodology
- Link the methods to the research questions
- Outline data collection plan
- Outline data analysis plan
- Highlight limitations
- Consider resource requirement

Research Plan Format – Timeline and Resources

- Identify major tasks in your project
- Estimate time needed for major tasks
- Include a flowchart or a Gantt chart
- Identify the resources you need; data, experiments, travel, assistance

Research Plan Format – Limitations

- What are the limitations of your;
 - Data collection methods
 - Data analysis methods
 - Scope of research
 - External validity
 - Reliability

Research Plan Format – Expected Results

- Identify each stage of your data analysis
- Identify the likely output from each stage
- Link that output with your Research Questions
- Summarise the significance of your results

Research Plan Format – References

A consistent and logically structured reference list to accompany literature cited in the research plan/proposal, using an appropriate referencing format.

Example Paper Structure

Title

Table of Contents

Acknowledgements

Abstract

Introduction

Literature Review / Background

Methodology / Methods

Findings and Analysis

Conclusions and Recommendations

References

Appendices

Tips (PAGE 18)

- Plan the structure of your plan/proposal
- Start writing as soon as possible
- Use a standard bibliographic software
- Back all your work up every day
- Support arguments with examples and evidence
- Be consistent with capitals, terms and acronyms
- Reference from primary sources
- Give credit to others when due
- Ask others to read your work and give feedback
- Keep it simple

Day 2 Session 7 Exercise

- Everyone will be required to present an outline of their Research Plan/Proposal tomorrow in Session 7, at 1300hr to 1430hr.
- The outline should follow the suggested research plan structure and include at least one and up to three key points under each heading.
- Please work on your Research Plans as we progress through the workshop today and tomorrow morning.

Session 2

Research Problem and Research Questions

Example

Nick Leseberg's PhD research on the Night Parrot

Research Problem - Preparation

- Most important part of your plan/proposal
- Must clearly represent the aim of your research
- Should be a complete grammatical sentence
- Does NOT need to be answerable by 'yes' or 'no'
- Does NOT need to compare two datasets
- *Find a problem that is important, interesting and doable*

Research Problem - Choosing

- Is it original?
- How is it relevant to the discipline?
- Is it significant?
- Do you have the resources to do it?
- Who will supervise your work?
- Does it match your personal professional goals?

Research Problem – Stating the Problem

- Define and delimit the research problem
- Identify the problem clearly
- Ensure the statement says exactly what you want it to say
- Ensure the problem is feasible for you to investigate

Research Problem – Sub-problems

- Breaking the problem into smaller parts will help you identify suitable data collection and analysis methods
- Each sub-problem becomes a unit of research
- The number of sub-problems should be small (I think three is ideal for postgraduate research)

Research Problem – Issues to Consider

- Is the problem clearly stated?
- Have you divided into sub-questions?
- Are all terms in the problems clearly defined?
- What will you need to do to solve the problem?

Examples of Research Problems

How should the effectiveness of peatland forest restoration activities in Central Kalimantan Indonesia be assessed?

How can REDD+ be used to better balance timber production and ecosystem health in the Matang Mangrove Forest Reserve Malaysia?

What is the financial performance of small-scale coconut-wood production systems in New Ireland Papua New Guinea?

Examples of Research Questions

RP: How should the effectiveness of peatland forest restoration activities in Central Kalimantan Indonesia be assessed?

RQ 1 What methods are available to restore peatland forest ecosystems in Central Kalimantan?

RQ 2 What are the key hydrological, biogeochemical, biological and socio-economic indicators of peatland restoration effectiveness in Central Kalimantan Indonesia?

RQ 3 How can the hydrological, biogeochemical, biological and socio-economics aspects of restoration activities be usefully integrated to assess peatland restoration effectiveness in Central Kalimantan?

Day 1 Session 2 Exercise

Please take some time now to write a Research Problem statement and a set of three Research Questions for your research project.

We will ask for some of you to present your Research Problems and Research Questions to the class so we can discuss them and learn from them.