

Anthropogenic Fires in the Ramu-Markham Valley: Underlying Causes and Motivations

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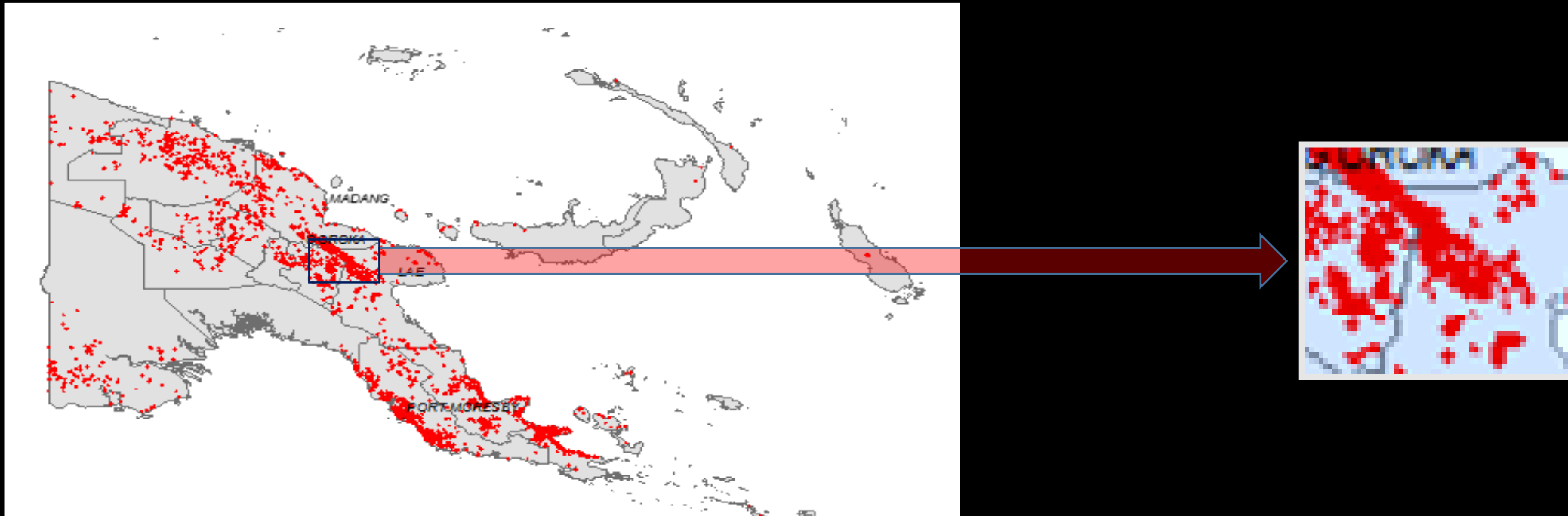
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1.Introduction

- Anthropogenic fires are common in Ramu-Markham Valley (RMV), Papua New Guinea(PNG)
- Relatively flat landform, suitable weather+ climatic conditions and fuel availability from *Imperata cylindrica* (Kunai grass) causes Anthropogenic fires to thrive.

MODIS Thermal Image of Papua New Guinea (National Aeronautics and Space Administration, 2018)



1.Introduction

- A problem in Landscape Management (Local Food Gardens, Commercial Plantations & Restored Forests)

(a) Sugar Field Fire (b) Oil Palm Block Fire



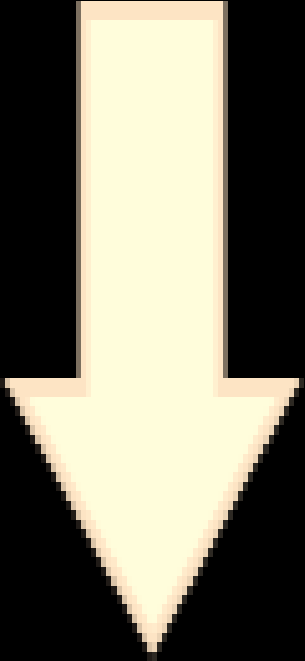
1.Introduction

- ACIAR & RAIL Partnership in Reforestation through Community Forestry Project in Ramu-Markham Valley (Enabling Community Forestry in Papua New Guinea)

(a) & (b) Fire in RAIL Reforestation area



1.Introduction

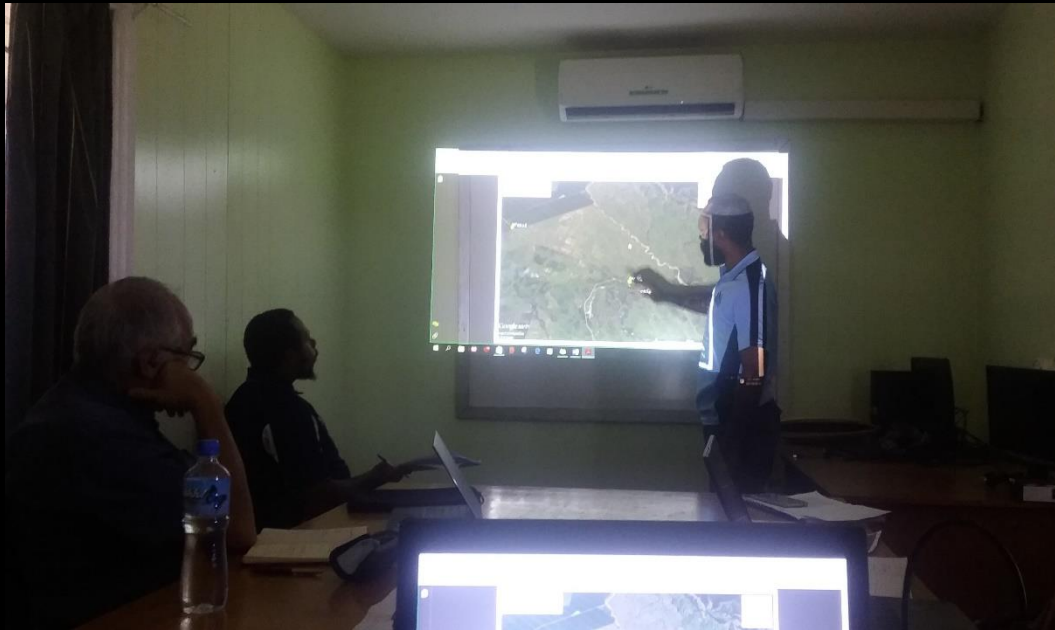


- Strategies to Manage this Problem
- Better Understanding
- Underlying Causes and Motivations

Problem Statement

- *Absence of previous systematic study in Relation to Anthropogenic fires in Ramu-Markham Valley.*

** Note that this study is an exploratory scoping study*



2. Objective

- ***Develop a Typology of Causes and Motivations related to Anthropogenic Fires in Ramu Markham Valley***



3. Methodology

Study Area

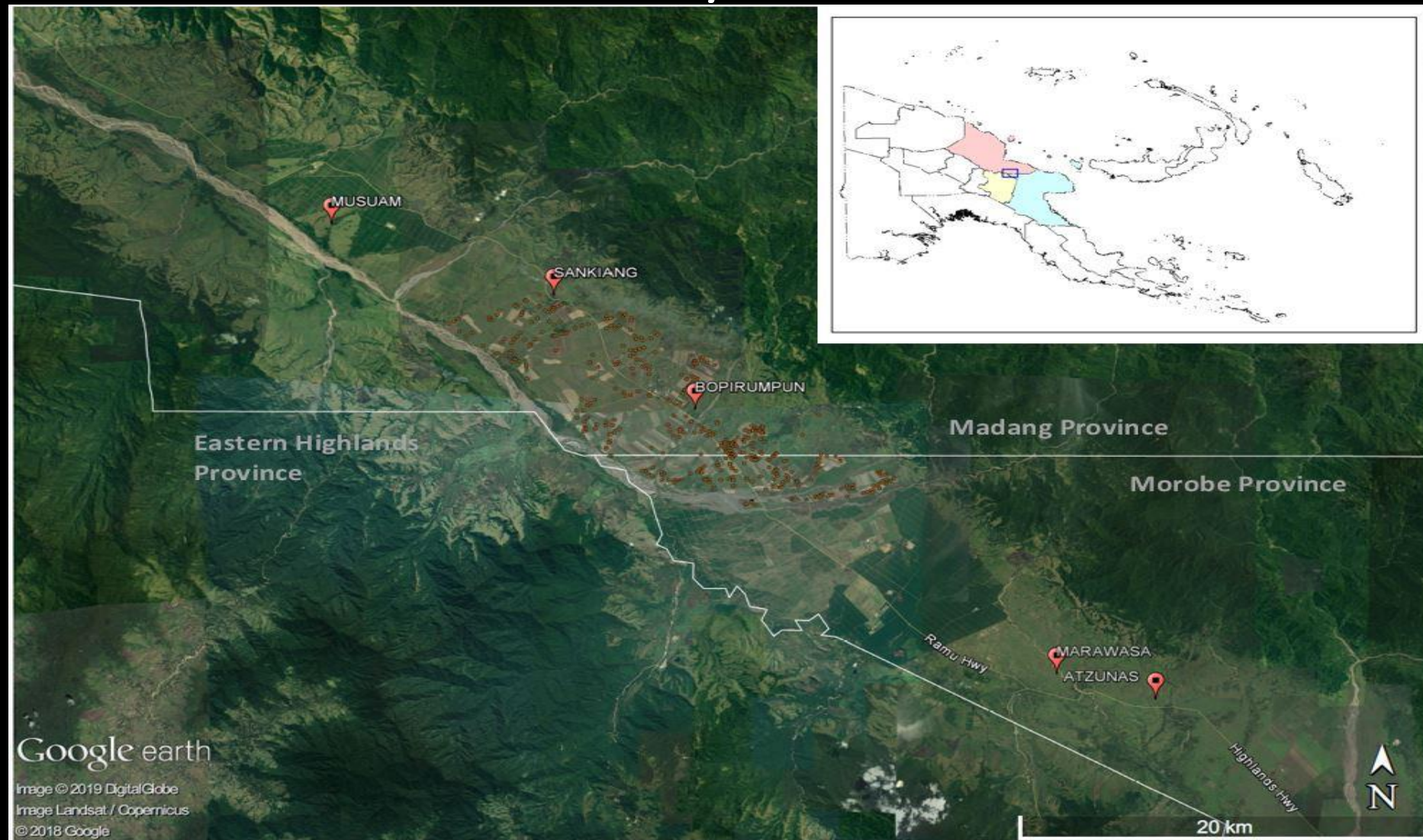
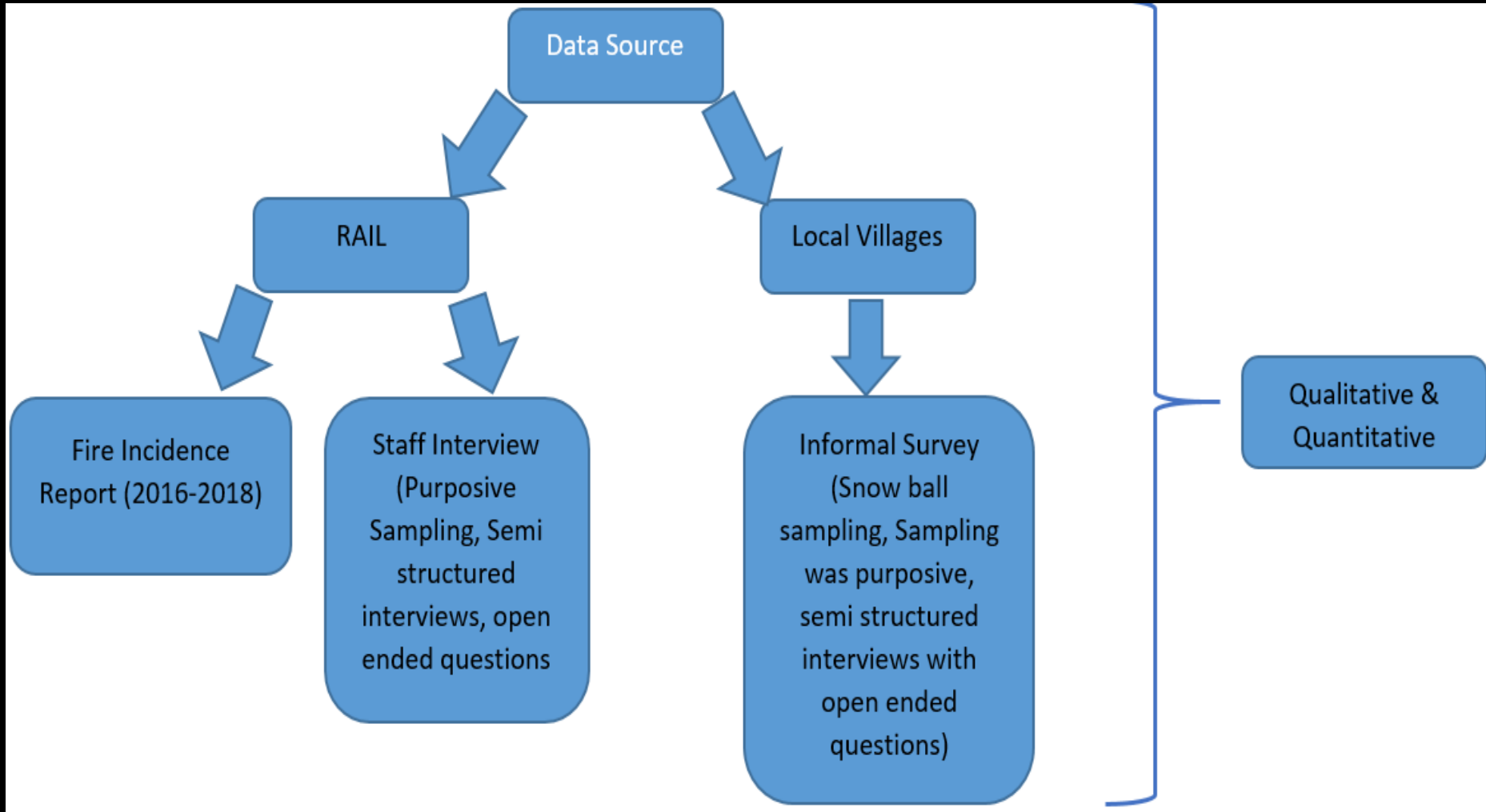


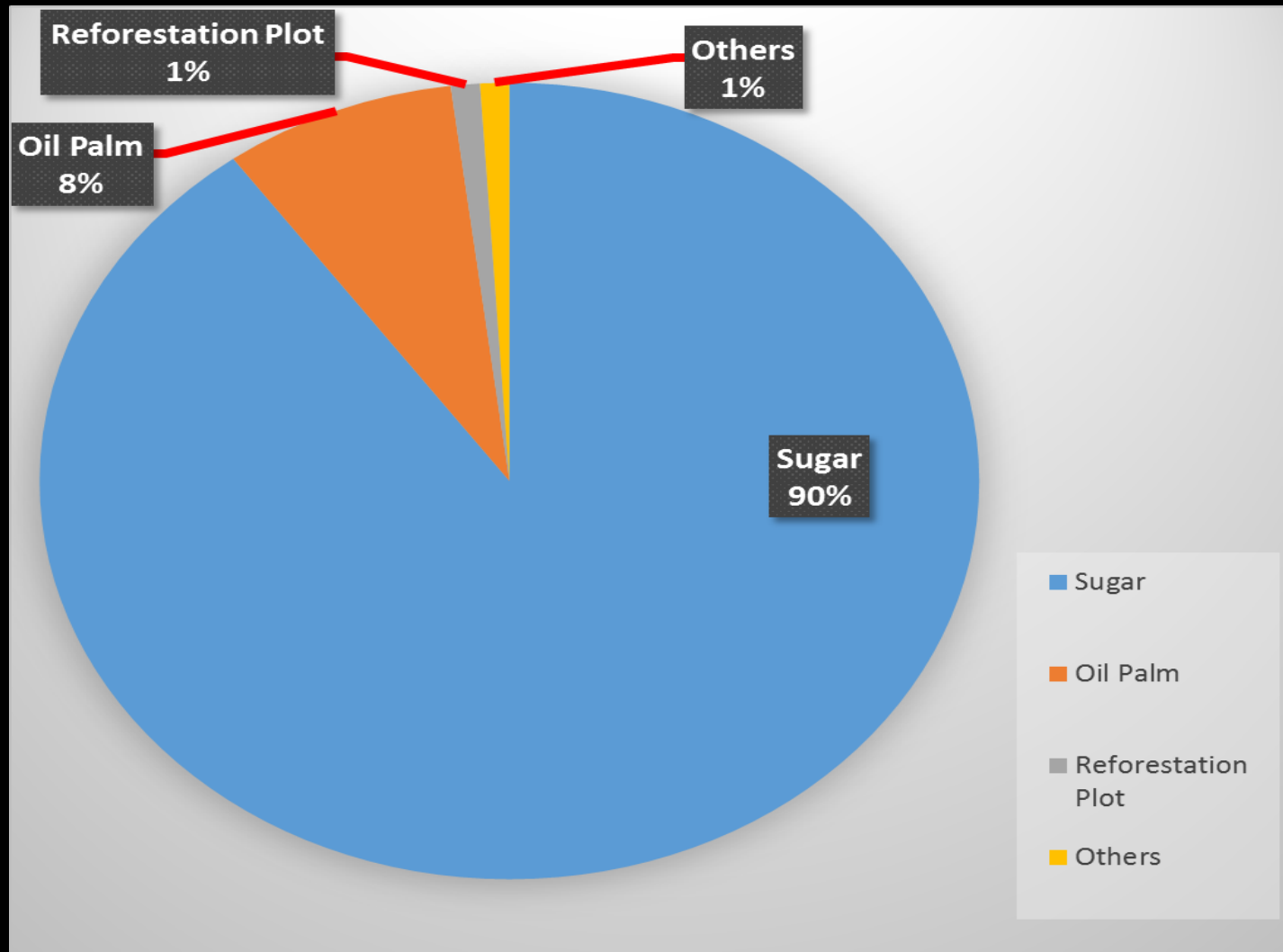
Figure 4. Map of Study Area. Only 5 villages shown, the sixth one isn't shown(Google Map, Landsat, February 8 2019)

3. Methodology



4. Results and Discussion

- Fire Incidents in Ramu Agri Industries Ltd operations (RAIL Fire Reports 2016-2018)



4. Results and Discussion

RAIL Staff Interview

Typology of Fire Lighting events	Specific Motivation
Deliberate/Natural Resource Management	Fires lit due to Natural Resource Management(NRM)
Deliberate/conflict	Due to Conflicts
Amusement (other)	Fires lit for amusement or other unspecified individual or cultural reasons

4. Results and Discussion

Local Village Interview

Typology of Fire Lighting Events	Specific Activity
NR Management	Hunting
	Slash and Burn Agriculture
	Tree regeneration for Usage
	Kunai Grass Regeneration Usage
Conflict(Vengeance, Jealousy, Disagreement)	Lighting of fires in gardens, agroforestry plots/cash crop plots
	Lighting fires in RAIL operational sites
Amusement	Unspecified motivations (“cultural”/amusement) lighting of fires in areas near Villages
	Unspecified motivations - burning beside/in RAIL Operational Areas

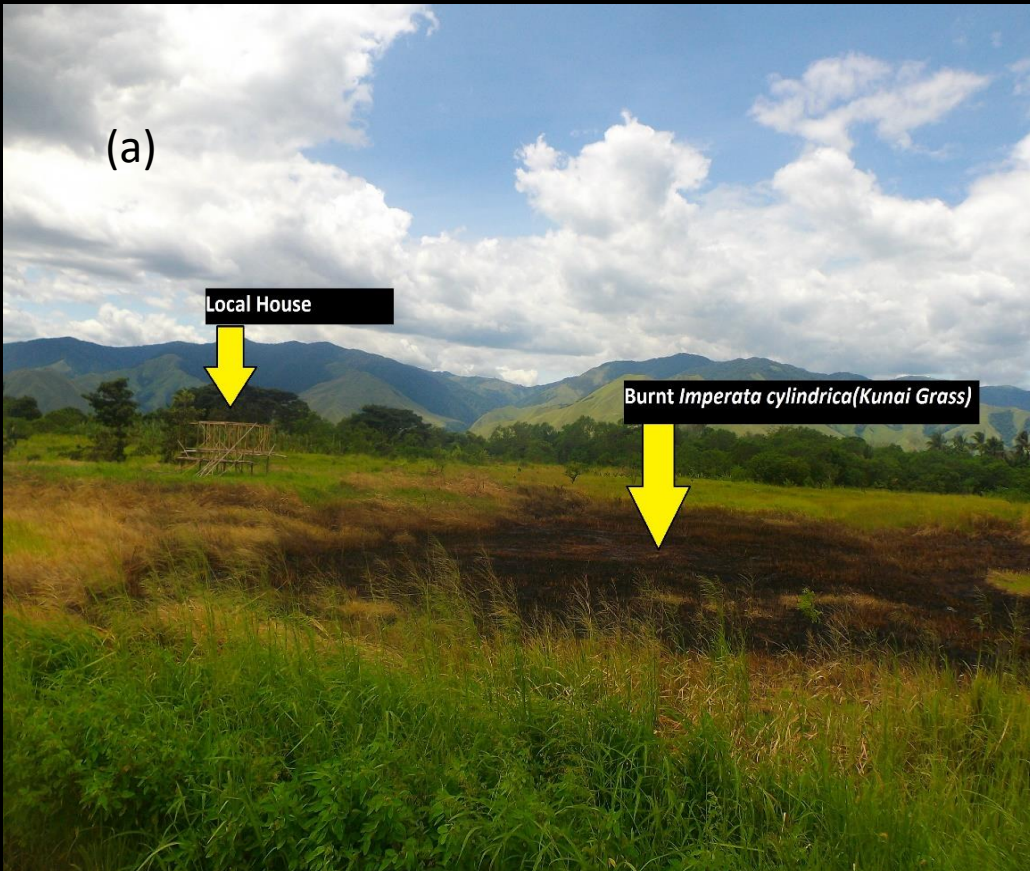
5. Conclusion & Implications

- No reports of non-anthropogenic fires (Natural).
- Variety of causes behind lighting of fires. The “just for fun” stereotype factor is certainly exaggerated.
- Most fires are lit for a **PURPOSE**, either **POSITIVE** or **NEGATIVE**.
- Uncontrolled fires, causes unintended damage.

5. Conclusion & Implications

- Common reasons of fire lighting through NRM; clearing land for gardens, lighting fires in grassland for hunting or controlling grass.

(a) & (b) Fires lit for NRM



5. Conclusion & Implications

Typology of Causes

Typology of Fire Lighting Events
NR Management
Conflict(Vengeance, Jealousy, Disagreement)
Amusement

- Future research aimed at quantifying extent of various types of causes of fire
- However, selection of interviews would be problematic
- Research should focus on understanding local practices of fire management and collaborative research with people involved in establishing forest or agroforestry plots. Greater cooperation with local communities.

Acknowledgements

- RAIL Staff for providing information and Data
- 6 Villages in Ramu Markham Valley; Bopirumpun, Sankiang ,Sausi, Marawasa, Atzunas