



10th International Symposium of IWoRS 2018

"ECOSYSTEM-BASED UTILIZATION OF TROPICAL FOREST
TO SUPPORT SUSTAINABILITY OF NATURAL RESOURCES"

Manokwari, 07-08 September 2018



Secretariat : Faculty of Forestry UNIPA, Manokwari

Email : mapeki-iwors2018@unipa.ac.id

Manokwari, August 10th, 2018

INVITATION LETTER

**Dear Ms. Yuyun Puji Rahayu
(UNIPA)**

The 10th IWORS Committee would like to invite you to present your paper in Mansinam Beach Hotel with the following details:


Date : Friday, September 7th 2018
Class : General Forestry (Nuri Room)
Session : 1
Time : 13.00 – 15.00 WIT
Presenter :

Name	Title
Rahmawati	Inventory of Medicinal Plant in Agroforestry land at Gunung Ambat Village Sci Binge Sub District langkat District Sumatera Utara Province
Makkarennu	Sago Enterprice Development Strategy in South Sulawesi
Nurhaidah I Sinaga	Freycinetia a Climbing Pandanaceae on their forest habitat in Sarmi, Papua
Aulia Hasanusi	Productivity and Quality of Fast Growing Teak (FGT) of Perhutani Age 9 years
Arga Pramudia	Stumpage Cost Calculation of Perhutani Teak Wood With conversion Value approach
Yuyun Puji Rahayu	Income analysis of firewood local collectors in Wageeuto Village Paniai Region Papua

Your present will be highly appreciated. Thank you

Yours sincerely,

Chairman of the 10th International Symposium of IWoRS 2018


UNIPA & MAPEKI
MANOKWARI, 2018
H. Wahyudi, M. WoodSc, Ph.D



SURAT TUGAS


NOMOR : *260*/UN 42.7/ KP/2018


Dekan Fakultas Ekonomi dan Bisnis Universitas Papua menugaskan :

No	Nama	NIP	Pangkat/ Gol	Ket
1.	Yuyun Puji Rahayu, SP., M.Dev.Econ.(Adv)	198105222006042003	Lektor/IIIc	

Untuk mengikuti kegiatan The 10th International Symposium of Indonesian Wood Research Society (IWoRS) Tahun 2018 dengan judul "Income Analysis of Firewood Local Collectors in Wegeuto Village Paniai Region Papua". Kegiatan ini akan dilaksanakan pada tanggal 07-08 September 2018 di Hotel Mansinam Beach, Manokwari Papua Barat.

Surat Tugas ini dibuat untuk dilaksanakan dengan penuh tanggung jawab.

Manokwari, 06 September 2018
Dekan

Ir. Achmad Rochani, MS
NIP. 19550912 198403 1 003





Certificate of Appreciation

The certificate is awarded to

YUYUN PUJI RAHAJU

in recognition of contribution as

PRESENTER

in

**THE 10th INTERNATIONAL SYMPOSIUM OF WOOD
RESEARCH SOCIETY (IWORS)**

**"Ecosystem-Based Utilization of Tropical Forest to Support Sustainability
of Natural Resources"**

Mansinam Beach Resort Manokwari
September 07-08th, 2018



**Indonesian Wood
Research Society**

and



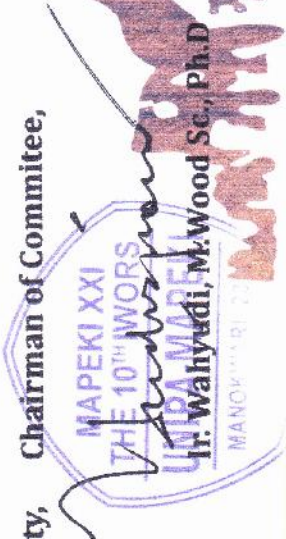
Papua University



BANK PAPUA
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Chairman of Indonesian Wood Research Society, Chairman of Committee,
Dr. Joko Sulistyono, S.Hut., M.Sc



Chairman of Committee,


Ir. Wahyudi, M. Wood Sc., Ph.D



Income Analysis of Firewood Local Collectors in Wegeuto Village Paniai Region Papua

Maikel Gobay
Viktor Rumere
Yuyun P. Rahayu

Presented at:
The 10th International Symposium of Indonesian Wood Research Society (IWORS)



IWORS 2018
Mansinam Beach Hotel – Manokwari, 7 Sept 2018




 INTRODUCTION

The usage of firewood



Wood is one of the production factor and has important value added for villager as its function as firewood.

Consumer of firewood in Indonesia comes from different place (usually from higher places).

People who lives in certain latitude, with limited fuel supply, are those who use firewood as primary fuel.

Wegeuto is the largest area with a total area of 18.25% of the total Paniai Timur District or an area of 43.30 km².

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3

The purposes of firewood consumption to residents are as energy for heating body and house or cooking

The potential of forest resources has an important value for human life, one of which is fuel wood for the needs of the Indonesian people.

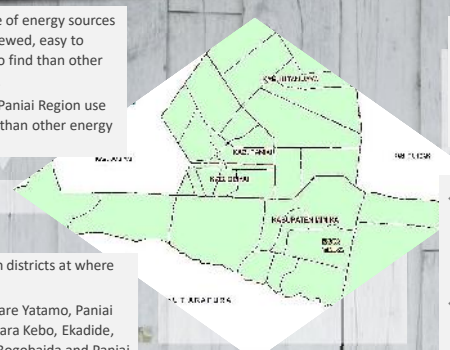
The need for firewood is still very important in the lives of people in rural areas and then referred to as production factors. In addition, firewood used by the villagers is a potential available in nature.

People live in higher place tends to use firewood than kerosene due to the fact that kerosene is difficult to find at the higher place.

4

Firewood Value


- ◆ Firewood is one of energy sources that can be renewed, easy to handling, and to find than other energy sources.
- ◆ Mee people in Paniai Region use more firewood than other energy sources.
- ◆ There are seven districts at where the Mee lives.
- ◆ Those Districts are Yatamo, Paniai Barat, Paniai Utara Kebo, Ekadide, Wedaumauto, Bogobaida and Paniai Timur.



- ◆ Wegeuto village is one of the villages in the Paniai Timur District.
- ◆ Located about 15 km from the city.
- ◆ The people in the village of Wegeuto are also very dependent on the natural resources of the forest in the area around their homes.
- ◆ The activities of forest resource utilization are quite effective carried out by the community living around the forest area.

5

OBJECTIVES



This research focuses on analyzing the economic value of firewood.

Considerations

1. Limited studies related to the use of firewood by local people.
2. The function of the forest as a buffer zone will be increasingly dehydrated. (reduced its function → reforestation).
3. Research location is the area of natural reserve forest.

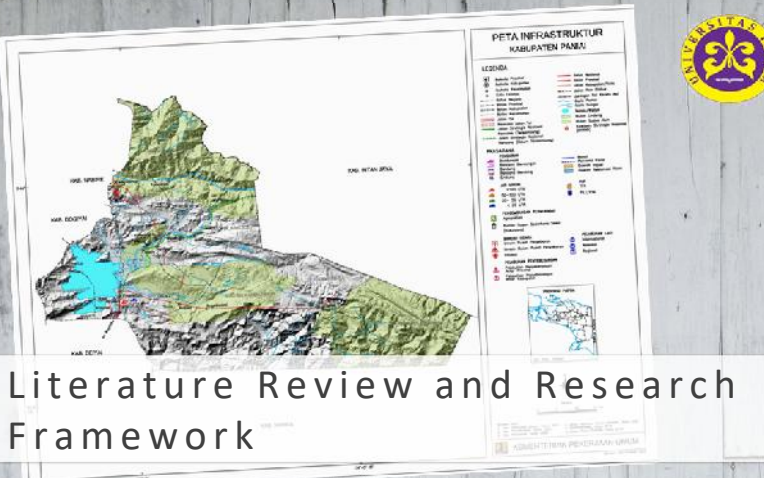
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RESEARCH QUESTIONS

Income
Total income of local collectors of firewood in Wegeuto Village



7



Literature Review and Research Framework

8



Firewood is forest natural resources in the form of stems, branches, twigs and branches. Trees that have been cut down and used as raw material for energy sources for various needs (Zain, 1997).

The types of firewood used by the Mee people are selected based on the type of wood, for example, easy to take, easy to split, easy to burn and flammable.

9

Revenue – Cost = Income

Revenue = the amount of money that a seller receives during a specific period. It is also known as a gross income, from which costs are subtracted to determine net income.


Cost = the value of money that has been used up to produce something or deliver a service, and includes all costs necessary to get a product in place and ready for use.

Income = money that an individual or business receives in exchange for providing a good or service or through investing capital. Income is used to fund day-to-day expenditures.

10

PAST RESEARCH

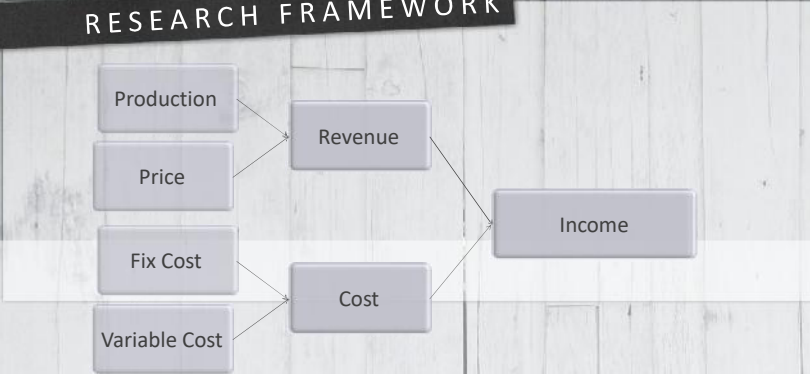
Maryatun (1999)
Research results showed that retail level of firewood in Kalibaru is an economically efficient trading level, while dry wood at the distributor level is an operationally efficient type of wood.



Budiyanto (2009)
The factor affecting the consumption of firewood in the village of Hegemanah is the number of family members, income, land ownership, the price of substituted goods and the distance from the forest

11

RESEARCH FRAMEWORK



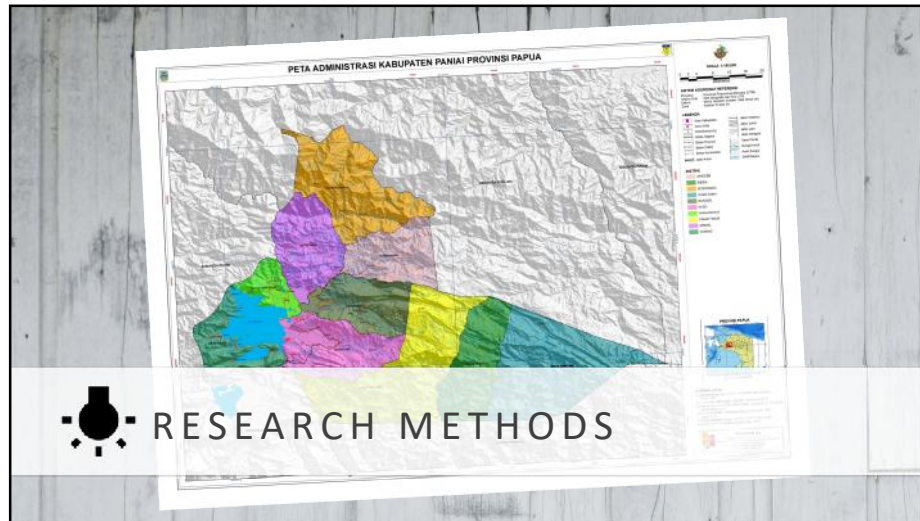
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graph LR
    Production --> Revenue
    Price --> Revenue
    Revenue --> Income
    FixCost[Fix Cost] --> Cost
    VariableCost[Variable Cost] --> Cost
    Cost --> Income
    
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Figure 1. Research Framework

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12



RESEARCH METHODS

SAMPLES
Samples consist of 87 households which are firewood collectors and sellers.

DATA SOURCE
Primary data from Wegeuto based on Questioner and interview with local residents who sell the firewood.

ANALYSING METHODS
Descriptive Statistic Analyses is used to show the result in percentage, average and/or frequency.

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14



Table 1. Respondents Characteristics

No.	Indicators	Total (HH)	Percent (%)
A.	Age		
	17 – 55	62	71.26
	> 55	25	28.74
	Amount	87	100.00
B.	Sex		
	Man	79	90.80
	Woman	8	9.20
	Amount	87	100.00
C.	Education		
	Not Educated	20	22.99
	Primary School	33	37.93
	Junior High School	17	19.54
	Senior High School	11	12.64
	Diploma	5	5.75
D.	Jobs		
	Private	18	20.69
	Laborers	56	64.37
	Sailors	13	14.94
	Amount	87	100.00

Sumber : Primer Data, 2014

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16

Respondents Characteristics

Age
Productive age accounted for 71.26%

Educational Level
Primary school is the highest level of education (37.93%)

Sex
Dominated by men (90.80%)

Works
64.37% were labourers, followed by those who work at private sektor (20.69%)

17

Table 2. Firewood Based on Its Local & Latin Name

No.	Wood Name		
	Local	Indonesia	Latin
1	Uwah	Cemara/Aru	Cosurina sp. (Casuariceae)
2	Onage	Arop	Dodoned viscosa jack (sapindacea)
3	Digii	Saninten	Nothofanuspp (Fagaceae)
4	Tipa	Nggacip	Garnicia (Gluciaceae)
5	Obay	Medang-kenawan	Castanopsis sp (Fagaceae)
6	Deba	Gatot-gatot	Litsea sp.(Lauraceae)
7	Amoo	Berangan-linsom	Eucarytuspp.(Myrtaceae)
8	Otojigi	Manggis hutan	Garnicia (Gluciaceae)

Sumber : Data Survey, 2013

18

Table 3. Firewood Based on Its Usage

No	Usage	Explanation	Frequency
1.	Honai Heater	Firewood is used as heater. Traditional stove is located in the kitchen.	Everyday
2.	Daily Cook	Cooking is done using the stove. Firewood will be left on the stove to heat the room.	Morning & Late Afternoon
3.	Sauna	Body fumigation was carried out by the Mee community in Wegeuto Village, Paniai Timur District with the aim of strengthening the body.	Everyday
4.	To Sell	Firewood that is marketed is sold in the form of trees, piles and bundles.	Sometime
5.	Traditional Party	Local parties / ceremonies performed by Mee people in the Mountains. Usually a party or ceremony will be held on December 25, mourning, formal ceremonies (such as, a ceremony to enter a new "Honai")	Sometime

Firewood Volume

Firewood in bundles



Firewood in stacks



The volume of firewood depends on its use whether the need for firewood is for individual or household usage.

During traditional parties and / or birthday celebrations, the use of firewood can reach 30 stacks or wooden bundles per week. As for daily needs such as cooking and so on, so that families can need 2 to 3 bundles of firewood every week.

20

Figure 4. The Utility and Consumption of Firewood

No.	Utility	Consumption (Bundles/HH/Week)
1.	"Honai" Heater	2
2.	Daily Cooking	3
3.	Body Fumigation	2
4.	Traditional Party	30
5.	Birthday Party	30

Source: processed data, 2018

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21

Income Analysis



Revenue

The revenue referred to in this study is the amount of production of Firewood collectors per month which is multiplied by the price per unit of product produced and sold.

Furthermore, revenue has also been classified based on the main livelihoods and side livelihoods conducted by respondents during this study.



Cost

The fixed costs intended in this study, namely costs which are types of costs that are static and / or do not change in a certain size. For instance: children's education costs, family expenses, etc.

Variable costs (variable costs) intended in this study are costs that are functioned to complement fixed costs and are dynamic. variable cost group in this study is the cost of purchasing production equipment (axes, machetes, etc.)

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22

Table 4. Revenue of Firewood Collectors

No	Description	Occupation		Total Revenue (Rp./Month)
		Main (Rp./Month)	Side (Rp./Month)	
1	Max.	2,100,000	820,000	2,920,000
2	Min.	580,000	290,000	870,000
3	Average	1,010,669	513,346	1,524,015



Table 5. Total Expenditure

No	Description	Expenditure		Total (Rp./Month)
		Main (Rp./Month)	Side (Rp./Month)	
1	Max.	780,500	1,250,000	2,030,500
2	Min.	150,000	280,000	430,000
3	Average	281,752	515,740	797,492



Table 3. Net Income

No	Description	Revenue (Rp./Month)	Cost (Rp./Month)	Net Income (Rp./Month)
1	Max.	2,920,000	2,030,500	889,500
2	Min.	870,000	430,000	440,000
3	Average	1,524,015	797,492	726,523



Firewood Market



CONSLUSIONS

CONCLUSIONS

Revenue

Maximum revenue was 2,920,000 whereas minimum revenue was 870.000

Cost

Maximum revenue was 2,030,500 whereas minimum revenue was 430,000 and 797,492 in average.

Income

Income 889,500 minimum 440,000

726,523

Distribution of Firewood

Price behavior and purchasing power of consumers also contribute to the amount of revenue obtained.

Limited access to the market will need government intervention.

Government intervention is also needed to accompany the villagers on how to train the community to do forest reforestation (reforestation).

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