

# Optimalization of Revenue Forecasting in the Security of the Parliament

Sofya A. Rasyid <sup>(1\*)</sup>, Marliyah <sup>(2)</sup>

<sup>1,2</sup>Universitas Muhammadiyah Palu, Indonesia

\*Corresponding Author, Email: [sofya@unismuhpalu.ac.id](mailto:sofya@unismuhpalu.ac.id)

## ABSTRACT

Currently, the government of the Parigi Moutong Regency has sought to facilitate access to community forest plants that are truly managed by the community rather than the financiers. "Around 80% of the poor population in Central Sulawesi around the forest that can be managed by the community has now been designated as a community forest plantation area. Communities living around the forest must be empowered to increase their income and welfare to reduce poverty. This study aims to find out how much is the optimum income (Z) of community forest farming, find out how much (land capacity) at the time of optimum income, find out what is the residual value of using production facilities at the time of optimum income, find out the sensitivity value of income per hectare of community forest farming and know the sensitivity value of community forest farming production facilities. Research in the village of Suli, Balinggi Subdistrict, Parigi Moutong District with the object of research is the community forest farming system of monoculture and agroforestry with the composition of Nyatoh stands (*Palaquium* spp), and Cocoa (*Theobroma cacao*, L). The optimum net income (Z) for community forest farming is Rp. 731,692,400 with an area of 3 ha over a 20-year cycle. The maximum income of community forest farming is achieved by a combination of a nyatoh monoculture farming model with an area of 1.16 ha, cocoa agroforestry with an area of 0.9 ha, and monoculture cocoa with an area of 0.94 ha. Optimum income will not change if farm income is real with an income of Rp. 286,900,000 - increased by unlimited or reduced to Rp. 246,072,500. Real agroforestry and cocoa with an income of Rp. 326,900,000, - if raised to Rp. 392,224,000, - or reduced by unlimited, - Cocoa with an income of Rp. 111,360,000 - increased to Rp. 120,009,335. The sensitivity value indicates that an increase in 1 unit of production facilities for land and TSP will increase the optimum income value, while for seeds, cocoa seedlings, hole making, planting, manure, insecticide, maintenance 3x a year, NPK, Urea, KCL, thinning, cocoa harvesting and harvesting, if it is increased indefinitely it will reduce the value of optimum income because each additional inventory will be the remaining value of the inventory.

**Keywords — People's Forest, Income, Revenue, agroforestry**

## INTRODUCTION

Excessive exploitation of forest resources causes forest resources to be unable to provide optimal benefits due to damage, decreased productivity, and quality of forests and creates critical land everywhere. One alternative solution is

to develop plantation forests in unproductive forest areas or community forest development (1).

The total critical land in Central Sulawesi is 625,302.80 ha. Of this area, ± 220,333.33 ha is located within the forest area, and ± 404,969.47 ha is

outside the forest area. In Parigi Moutong District, the total critical land area is 99,997.31 ha, with details of 24,292. Ninety-seven hectares are located within the forest area, and 75,704.34 ha is located outside the forest area (2). Based on the data, the critical land outside the forest area or the cultivation area of Other Use Areas (APL) reached 33.36% of the whole APL cultivation area, covering 226,949 ha (3).

The Central Sulawesi Forestry Service encourages communities to manage forests to increase income and welfare through the Community Forest Plantation scheme (4). At present, the government has made efforts to facilitate access to community forest plants that are managed by the community rather than by investors. "Around 80% of the sparse population in Central Sulawesi around the forest that can be controlled by the city has now been designated as a community forest plantation area (5). Regarding the management of the area, the government will also give business permits to manage forests to the people easily. The people who live around the wood must be empowered to increase their income and welfare to reduce poverty. Therefore, opportunities for fulfilling the right to forest resources for the community to be accessed and utilized sustainably have an impact on increasing the income of forest farmer households, in particular poor families who do not own land. The purpose of this study is to find out the optimum amount of income (Z) of community forest farming, find out how ample (land capacity) at the time of optimum income, find out what the residual value of the use of production facilities at the time of optimum income, find out the cost of sensitivity per hectare income from community forest farming, knowing the sensitivity value of community forest farming production facilities.

## METHODOLOGY

The research took place in Suli Village, Balinggi District, Parigi Moutong Regency, Central Sulawesi Province. The main object examined in this study is the farmers who own community forest forests in the village of Suli, who are cultivating nyatoh agroforestry crops and cocoa, by including input on production facilities and optimizing the income received from the farming of the community forest. The analysis used is as follows:

### Linear Programming Analysis

Where the LP model formulation is formulated as follows : Maximize objective function (profit) Max

$$Z = \sum_{o \in e} C_o X_e,$$

$X_e$  = Decision Variable (optimum income) from the production of community forest farming.

$C_o$  = Goal function parameters  
smallholder forest farm income)

With the constraint function

$$\sum_{j=1} a_o X_e = b_o$$

$a_o X_e$  = Parameter constraint function o  
for decision variables e

$b_i$  = Capacity constraints o

### Sensitivity Analysis

In a sensitivity analysis, the analysis examines the results of economic study by considering the effects of changes in the values of the main variables. Sensitivity can be referred to as a percentage change in income caused by specific changes in input-output or price or a "break-event" value where expenditure equals income

## RESULT & DISCUSSION

The findings in this study in the activities of using production facilities in the cultivation of nyatoh, palapi, and cocoa-based on supplies and time

periods over a 20-year cycle are as follows:

**Nyatoh (*palaquium spp*)**

Production facilities used in the operation of nyatoh community forests during 20-year recycling can be seen in Table 1:

**Table 1. Production Facilities and Processing Period for Cocoa**

Production Facilities	Duration (Year)	Stock	Unit
Cocoa Seeds	1	1000	Batang
Hole Maker	1	4	HOK
Planter	1	6	HOK
Manure	1 s/d 4	5000	Kg
Insecticide	1 s/d 10	10	Liter
Maintenance 3x a year	1 s/d 10	750	HOK
Urea	1 s/d 10	500	Kg
KCL	1 s/d 10	300	Kg
TSP	1 s/d 10	300	Kg
Harvesting Cocoa	4 s/d 15	1200	HOK

The activities of using inputs of nyatoh and cocoa agroforestry production facilities based on supplies and periods over a 20-year cycle are as follows:

**Nyatoh and Cocoa Agroforestry**

Production facilities used in the exploitation of community forests of nyatoh and cocoa agroforestry types during a 20-year cycle can be seen in Table 2.

**Table 2. Production and Processing Period of Nyatoh and Cocoa Agroforestry**

Production Facilities	Duration (Year)	Stock	Unit
Nyatoh Seeds	1	300	The stem
Cocoa Seeds	1	500	The stem
Hole Maker	1	8	HOK
Planter	1	12	HOK
Manure	1 s/d 4	5000	Kg
Insecticide	1 s/d 10	10	Liter
Maintenance 3x a year	1 s/d 10	700	HOK
NPK	1 s/d 10	500	Kg
Urea	1 s/d 10	400	Kg
KCL	1 s/d 10	200	Kg
TSP	1 s/d 10	300	Kg
Thinning	10 dan 15	8	HOK
Harvesting Cocoa	4 s/d 15	1000	HOK
Harvesting	20	75	HOK

**LINEAR PROGRAM ANALYSIS (LP)**

The formulation of the Linear Program model for the planning shown has decision variables and constraints, in this

case, the resources available to produce all types of products in each industry with one objective function (maximizing income).

The income from community forest farming is obtained from the sale of timber from harvesting and thinning of community forest products and cocoa harvesting. The amount of revenue from community forest farming can be calculated based on the average amount of harvest from the form of standing tree products per unit area multiplied by the current monetary value. The types of income from community forest farming can be seen in Table 3.

**Table 3. Farming Forestry Ownership Per hectare / 20 Years**

Type	Unit	Income (Rp / ha)	Value (Rp)
Nyatoh			
- Thinning I	3 m <sup>3</sup>	300.000	900.000
- Thinning II	4 m <sup>3</sup>	700.000	2.800.000
- Harvesting	236 m <sup>3</sup>	1.200.000	283.200.000
<b>Income A</b>			<b>286.900.000</b>
Nyatoh and Cocoa Agroforestry			
- Thinning I	3 m <sup>3</sup>	300.000	900.000
- Thinning II	4 m <sup>3</sup>	700.000	2.800.000
- Harvesting	203 m <sup>3</sup>	1.200.000	243.600.000
- Harvesting Cocoa	3.980 Kg	20.000	79.600.000
<b>Income B</b>			<b>326.900.000</b>
Cocoa			
- Harvesting Cocoa	5.568 Kg	20.000	111.360.000
<b>Income C</b>			<b>111.360.000</b>
<b>Income A+B+C</b>			<b>725.160.000</b>

Table 3 shows that the total income for three types of smallholder farming is Rp.

725,160,000 / ha for a 20-year cycle, for nyatoh agroforestry farming and cocoa, the income obtained is higher than that of monoculture folk farming. This proves that farming with an agroforestry system has good prospects in developing community forest farming.

## CONCLUSIONS

The study concluded that if you want to use a vasectomy, the contraceptive tool should not be decided with a partner, but most of the respondents must be decided with a partner because the contraceptive vasectomy is a family. An effective plan for the childbearing age to prevent pregnancy with a single action, so that there must be a husband's agreement to do already not want any further descendants. This review recommends to the community, especially the fertile age couple in men who have participated in the family planning to participate in providing understanding and understanding of the importance of men participating in the planning family.

## REFERENCES

1. Beard VA. Individual determinants of participation in community development in Indonesia. Environ Plan C Gov Policy. 2005;
2. Kabagenyi A, Jennings L, Reid A, Nalwadda G, Ntozi J, Atuyambe L. Barriers to male involvement in contraceptive uptake and reproductive health services: A qualitative study of men and women's perceptions in two rural districts in Uganda. *Reprod Health*. 2014;
3. Withers M, Dworkin SL, Zakaras JM, Onono M, Oyier B, Cohen CR, et al. 'Women now wear trousers': men's perceptions of family planning in the context of changing gender relations in western Kenya. *Cult Heal Sex*. 2015;
4. Hardee K, Croce-Galis M, Gay J. Are men well served by family planning programs? *Reproductive Health*. 2017.
5. Kabagenyi A, Ndugga P, Wandera SO, Kwagala B. Modern contraceptive use among sexually active men in Uganda: Does discussion with a health worker matter? *BMC Public Health*. 2014;
6. Hamdan-Mansour A, Malkawi A, Sato T, Hamaideh S, Hanouneh S. Men's perceptions of an participation in family planning in Aqaba and Ma'an governorates, Jordan. *East Mediterr Heal J*. 2017;
7. Kim YM, Putjuk F, Basuki E, Kols A. Increasing patient participation in reproductive health consultations: An evaluation of "Smart Patient" coaching in Indonesia. *Patient Educ Couns*. 2003;
8. Fortin M, Bravo G, Hudon C, Vanasse A, Lapointe L. Prevalence of multimorbidity among adults seen in family practice. *Annals of Family Medicine*. 2005.