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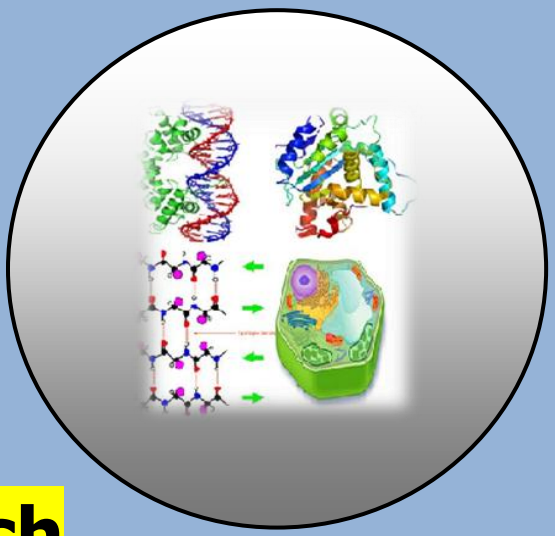

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Dr. Susanto & Sirappa, M.Si
http:// www.sasjournals.com
http:// www.jbcr.in
jbiolchemres@gmail.com
info@jbcr.in

RESEARCH PAPER
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Land Potential for Development of Clove with Agro Ecological Zone Approach at Buru Island, Moluccas Province, Indonesia

Andriko N. Susanto, SP., MP and *Ir. M. P. Sirappa, M.Si
Soil Researcher of North Moluccas for Assessment Institute of Agricultural Technology, Jl. Inpres Ubo-Ubo 241. South Ternate - North Moluccas, Indonesia
***Agronomist Researcher of West Sulawesi for Assessment Institute of Agricultural Technology, Office Complex of West Sulawesi Government, Jl. Abdul Malik Pattana Endeng, Mamuju, West Sulawesi, Indonesia**

ABSTRACT

Moluccas widely recognized by the world community as a center of high genetic diversity, including commodities producer of high economic value, such as cloves. Although Moluccas has substantial resources, but has not been able to provide adequate welfare for society because natural resources are available not optimally managed. Therefore, it is necessary to study the potential of land for the development of the regional commodity. This research aims to determine the land potential and his referrals use for the development of cloves on Buru Island. The methodology used was a desk study of some libraries. Land potential of Buru Island for developing a clove commodities based on data analysis and use of existing biophysical taking into account the status of the forest is an area of 86,140 ha covering an area of moderate to high potential area of 58,650 ha, and low potential areas covering an area of 27,490 ha with limiting factor drainage, rooting conditions, nutrient retention, slope, rooting conditions, floods, water availability, and slope (data from Agricultural Official of Moluccas in 2008). Whereefer according by Agroecological Zone (AEZ) approach from Assessment Institute of Agricultural Technology (AIAT) Moluccas with using AEZ analysis data, present land use, and statistical data for 4 years (2009 – 2012) is an area of 34,923.36 ha with covering sub zone II ax 15,952.78 ha, sub zone II ax.i 8,924.26, sub zone II ay 5,887.99 ha, and sub zone II ay.i 4,158.33 ha.
Keywords: Land potential, Cloves, Buru Island, Genetic diversity and AEZ approach.

INTRODUCTION

Agricultural development policy refers to the agricultural area layout should consider the feasibility, both biophysical, economic, social and cultural, so that outcomes could improve

the lives of farmers and the sustainability of agricultural systems. Therefore, the development of innovative approaches to agricultural research and agricultural development in accordance with the vision of Indonesia, which is building a farm with agro ecological approaches (Kasryno *et al*., 2002). According Wiradisastra (1996), agricultural development by Agro ecology Zone approach (AEZ) is sorting an agricultural development area into units smaller and have relatively homogeneous characteristics so that the recommendations given in accordance with the needs and potential of the region owned farms. Plantation sector has a very important role in the strategic and national development, especially in improving the prosperity and welfare of the people. The main target is the development of plantation planters improving standards of living as whole and sustainable farming systems by implementing integrated sustainable plantations.

Leading commodities development strategies should be implemented based on the principle of benefit and sustainability and integration. To achieve these objectives, the development should be based on potential plantation land, primarily directed at the land suitability class is suitable (S1) and is quite suitable (S2). To be able to utilize resources in a focused and efficient land necessary to provide comprehensive data and information on the climate, soil and other physical properties of the environment, as well as the growing requirements of the crop. Data on climate, soil, and other physical properties of the environment that influence plant growth and the management aspects need to be identified through the survey and mapping of land resources. Land resources data is required primarily for the benefit of agricultural development planning and development. The data generated from the survey and mapping of land resources is still difficult to be used by the user (users) for a plan without any interpretation for certain purposes (http:/bbsdlp.litbang.deptan.go.id/). Land evaluation is an approach or a way to assess the potential of land resources. Land evaluation results will provide information and /or direction of land use and value of production expectations are likely to be obtained.

Dent & Young (1981) states that the land evaluation is the process of estimating the potential of land for alternative kinds of use, is one of the important components in the process of land use planning (FAO, 1976). According to FAO (1976), suitability of land or land suitability classification is a way of land suitability for a particular use. While the land suitability classification is the appraisal process and grouping of units of land according to its suitability for a particular use (Hakim *et al.*, 1986). One system used in this study is a framework for land suitability evaluation of the FAO. Land suitability assessment is divided into 4 levels of detail, ie order, class, subclass, and unit (Rossiter, 1994; Djaenudin *et al*., 1993), but were commonly used only to the subclass level.

Potential of an area for the development of agriculture is essentially determined by the match between the physical nature of the environment and land use requirements or the requirements of growing plants (Departmentt of Agriculture, 1997). Each agricultural commodity production to be able to grow and require specific growing conditions. According Djaenudin *et al*. (2003), commodities are cultivated on the land in accordance with the requirements of the growth will be able to produce optimally with high quality and requires relatively low inputs. Therefore, the potential and suitability of land as well as inhibiting factors for the development of a commodity to know in order to set the most appropriate commodity (Rossister & van Wambeke, 1997).

Buru Island is one of a relatively large island in the Moluccas region with an area of approximately 860.787 ha (Moluccas Provincial Agriculture Office, 2008). Potential land resource area is quite diverse because of differences in climate, parent material, soil, and topography/relief. The diversity of the land resource potential indicates the need for a proper land use planning, optimal and sustainable. To that end, the data and information of land resources is necessary to support agricultural development planning.

This paper aims to provide information on the potential use of land and direction for the development of the clove plant on the island of Buru.

MATERIAL AND METHODS

Reshaping Analysis Map of Agroecology Zone (AEZ)

AEZ realignment map aims to validate the map of AEZ long Buru, which includes the districts of South Buru. AEZ map is a map spatial agricultural development for macro planning, including estate planning. In this mapping factor slope, soil, climate, and land use now (present land use) serve as the basis for zoning. Stages of the preparation of the map AEZ described below. *Preparation of maps/data*. Land resource data, includes map RePPProT 1:250,000 scale soil map 1:100,000 or 1:250,000 scale, temperature and rainfall data from multiple weather stations and climate graduated there in the area over the last 10 years, the data/information relating the socio-economic situation, maps Joint Operational Geographic (JOG) and administrative maps prepared. *Interpretation of the data*. To specify an alternative commodity to be commercialized performed using Expert System software. Climate data and other resources that have been collected are prepared in accordance with the predetermined format to get agroecological zoning alternatives with commodities that have the potential to be developed in the zone. *Proper overlap (overlay)*. Overlap exactly done to map AEZ with forest status maps and present land use. It aims to determine whether the region has seen in the manner intended, not suitable for use is lower than its capacity or is not appropriate because it is used beyond its capacity. At this stage also determined whether an area is needed intensification, extension or rehabilitation or conservation in the form of reforestation. *Completion map*. Completion of the map is intended to explain the symbols in the map unit AEZ by making the legend map. The map legend provides the information contained in each set of maps covering AEZ: symbol zones, temperature regime (elevation), moisture regime, physiography, slope, soil group (Soil Survey Staff, 1998), drainage and agricultural development zoning / forestry consisting of alternative production systems and commodities.

Criteria Used as Basis of ZAE Map

The criteria used in the preparation of ZAE map is

1. Moisture regime, distinguished by 'humid (x)' if the dry months is equal to or less than 3 months, 'a little dry (y)' if the dry months between 4 to 7 months. If the state of the land is always inundated either permanently or periodically then given the symbol 'z'.
2. Temperature regime, divided into 3 groups: hot temperature regime/isohyperthermic (a) if the difference in average air temperature of the warmest and coldest daily greater than 5 ° C (the area with an altitude of < 750 m asl), the temperature cool/isothermic (b) if the difference average air temperature of the warmest and coldest day of less than 5 ° C (altitude > 750 to 2,000 m asl.), and cold temperatures (c) at altitude > 2,000 m asl.

3. Relief, there are eight (8) groups based on the state of the ground zone, topography and land use types, namely:
   a. Zone I is the area with slope > 40%, the type of land use for forestry;
   b. Zone II is the area with slopes 15 - 40%, the type of land use for plantation (annual crops);
   c. Zone III is the area with slopes between 8 - < 15% with the type of land for agro-forestry);
   d. Zone IV is the area with slopes between 0 - < 8% with the type of land use for food crops;
   e. Zone V is the region with the slope < 3%, peat soil type to the type of land use for horticulture (shallow peat with thickness <150 cm) or forestry (deep peat with thickness > 150 cm);
   f. Zone VI is the region with the slope < 3% in the acid sulfate soil or saline soil by land use type for fisheries (aquaculture) or to forest (mangrove);
   g. Zone VII is a region with a slope < 3% with a growing set of soil from quartz with the type of land use for forestry beach/marsh (pandanus);
   h. Zone VIII is the area with slopes < 8% in shallow or rocky soil with the type of land use for livestock (pasture).

Symbol 'i' on agroecologycal subzona means the use of land in accordance with its designation now means the area should be identification.

Field Verification

Verification is done to get a general overview of efforts by farmers and plantation as well as match results, with the actual conditions in the field.

Data Collection

Data collected included primary and secondary data. Collection of secondary data obtained from the CBS, districts, and related agencies, including acreage, harvested area, production and productivity of plantation crops. Primary data were collected with participatory rural approach.

RESULTS AND DISCUSSION

Climate and Soil Types

Climate of northern regions of Buru Island (Namlea) including Awa categorized according to Koppen classification and category class D according to Schmidt and Ferguson with an average of 6.1 months and 4.2 months of dry wet, while areas of Buru Island and southern central part, including Afa according to the Koppen classification and class B category according to Schmidt and Ferguson with an average of 8.4 months and 2.6 months wet dry (Table 1). Oldeman based classification, regional climate Namlea included in class E, which is an area with a wet month less than 3 months in a row and the long dry months, while the area Leksula including climate type C1, ie wet month over 5 months and in a small area of adjacent to the mountains to have a different climate class.

Table 1. Rainfall average monthly of Buru Island.

Station	In Obser-vation	Number of DM < 60 mm			Number of WM > 100 mm			Q	Schmidt & Ferguson	Koppen	Oldeman	Annual Rainfall (mm)
		Mean	Max	Freq	Mean	Max	Freq					
Namlea	20	4.2	7	1	6.1	10	1	68.8	D	Awa	E	1,388
Leksula	20	2.6	8	2	8.4	11	3	30.9	B	Afa	C1	2,919

Sources: Moluccas Provincial Agriculture Office (2008)

Soil types found on the island of Buru include Histosols (Typic Sulfisaprists and Typic Sulfihemits), Entisols (Sulfic Fluvaquents, Typic Fluvaquents, Aquic Udifluvents, Lithic Udorthents, Typic Udorthents, Lithic Ustorthents, Typic Ustorthents, Typic Udipsamments, Typic Ustipsamments, Typic Hapludolls, and Typic Haplustolls), Mollisols (Typic Hapludolls and Typic Haplustolls), Inceptisols (Fluvaquentic Endoaquepts, Sulfic Endoaquepts Aeric Endoaquepts, Typic Endoaquepts, Typic Epyaquepts, Aquic Eutrudepts, Fluvaquentic Eutrudepts, Lithic Eutrudepts, Typic Eutrudepts, Aquic Haplustepts, Fluventic Haplustepts, Lithic Haplustepts, and Typic Haplustepts), and Alfisols (Typic Hapludalfs and Typic Haplustalfs).

Land Use

Landsat image analysis results were equipped with field observational data indicate that the use of land on the island of Buru divided into fields, grass and bushes, shrubs, moor and village, eucalyptus and shrubs, coconut and mixed farms, primary forest, secondary forest, mangrove, sago forest, and open land, such as in Table 2.

Table 2. Buru land use analysis based on Landsat Imagery.

Land Use	Area (Ha)	Percentage (%)
1. Wetland	8,900	1.03
2. Grass and Shrubs	2,685	0.31
3. Shurblands	4,014	0.47
4. Moor and Kampong	21,667	2.52
5. White Wood and Shrubs	159,772	18.56
6. Coconut and Mixed Garden	2,212	0.26
7. Primary Forest	422,341	49.06
8. Secondary Forest	193,043	22.43
9. Mangrove	4,554	0.53
10. Sago Swamp Forest	19,785	2.30
11. Open Land	21,814	2.53
T o t a l	**860,787**	**100.00**

Sources: Moluccas Provincial Agriculture Office (2008)

Agro ecology Zone (AEZ) for Plantation

Buru Island consists of two districts, namely Buru and South Buru. Buru district is administratively divided into 5 districts, namely District Namlea, Air Buaya, Waeapo, Waplau, and Batabual. Similarly, South Buru district consists of 5 districts namely Waisama, Leksula, Kapala Madan, Namrole and Ambalau.

Agro ecological zones Buru is very diverse. There are five (5) zones are then lowered 15 subzona, that I ax, I bx, I cx, II ax, II ax.i, II ay, II ay.i, IV ax, IV ax.i, IV ay, IV ay.i, IV az, IV az.i, IV bz.i, and VI az (Susanto & Bustaman, 2006).
In this paper, we review the zoning only for plantations, including zone II. Zone II for estates having an area of about 34,923.36 ha, which is divided into 4 (four) subzona, namely II ax, II ax.i, II ay, and II ay.i, while other zones covering an area of 821,134.59 ha, as in Table 3.

Table 3. Agroecology zone extents for plantation on the Buru Island (Buru and South Buru Regency)

Agro ecology			Development of Agriculture and Forestry		Total Area	
Sub Zone	**Physiographic**	**Slope (%)**	**System**	**Commodities**	**Ha**	**%**
I ax	Mountains, hills, karst, force, volcanic, plains	> 40	Mixed forest	Natural vegetation, coconut, cloves, cocoa, nutmeg.	429,794.24	50.21
I bx	Mountains, hills forces, volcanic and karst	> 40	Forestry	Natural vegetation	310,878.50	36.32
I cx	Mountains, hills forces, volcanic and karst	> 40	Forestry	Natural vegetation	8,532.81	1.00
II ax	Terrace, wavy, hilly, mountains, hills, plains, force, vulkan, karst	16 - 40	Agro forestry	Coconut, oil palm, cocoa, cloves, nutmeg, walnuts, durian, banana, duku, mangostan, jackfruit, bark, rambutan.	15,952.78	1.86
II ax.i	Terrace, wavy, hilly, mountains, hills, plains, force, vulkan, karst	16 - 40	Agro forestry	Coconut, nutmeg, cocoa, cloves, banana, duku	8,924.26	1.04
II ay	Terrace	16 - 40	Agro forestry	Coconut, coffee, cashew, mango, pineapple, watermelon, bark, banana, eucalyptus, citrus, cotton	5,887.99	0.69
II ay.i	Terrace	16 - 40	Agro forestry	Coconut, coffee, cashew, mango, pineapple, banana, eucalyptus,	4,158.33	0.53

				citrus		
IV ax	karst plains, terraces, fans and lava, meanders, alluvial	3 - 8	Dryland agricultural	Upland rice, corn, beans, tubers	4,514.57	0.53
IV ax.i	Alluvial, fans and lava, karst terrain, terraces, meander	3 - 8	Dryland agricultural	Corn, beans, tubers	7,573.51	0.88
IV ay	Plain, fan and lava, karst and terraces	3 - 8	Dryland agricultural	Upland rice, corn, beans, tubers	4,070.32	0.48
IV ay.i	Plain, fan and lava, karst and terraces	3 - 8	Dryland agricultural	Corn, beans, tubers	3,300.58	0.39
IV az	Alluvial plains, alluvial valleys and alluvial river	< 3	Wetland agricultural	Rice, horticultural	27,828.57	3.25
IV az.i	Alluvial plains, alluvial valleys and alluvial river	< 3	Wetland agricultural	Rice, horticultural	9,685.28	1.13
IV bz.i	Alluvial plains, alluvial valleys and alluvial river	< 3	Wetland agricultural	Rice, horticultural	2,546.26	0.30
VI az	Tidal swamp	< 2	Shrimp Fishery	coast, crabs, milkfish	11,385.05	1.33
Lake			Freshwater carp	carp, tilapia, cork, etc	1,064.80	0.12
TOTAL					**856,057.95**	**100.00**

Sources: Susanto & Bustaman (2006) (data reprocessed 2013)

Subzona II ax

Subzona II ax broad is 15,952.78 ha, located in the physiographic porch, wavy, hilly, mountains and hills, plains, force, volcanic, and karst with slopes between 16% to 40%. This area of the biophysical potential to be developed for the plantation business with yard pattern, monoculture, polyculture and alley cropping. Alternative commodities that can be cultivated are coconut, oil palm, cocoa, clove, nutmeg, walnuts, durian, banana, duku, mangostan, jackfruit, bark and rambutan.

Subzona II ax.i

This is a broad subzona 8,924.26 ha, located in the same physiographic subzona II ax. Subzona has cultivated plantation society with primary commodities coconut, nutmeg, cocoa, clove, banana and duku. Intensification of plantation needs to be done here to improve farming techniques and increase productivity.

Subzona II ay

Broad subzona II ay is 5,887.99 ha, located on the terrace physiographic slope between 16% to 40%.

This Subzona for the development of agricultural commodities such as coconut, coffee, cashew, mango, pineapple, watermelon, bark, banana, eucalyptus, citrus, and cotton.

Subzona II ay.i

Broad subzona II ay.i is 4,158.33 ha, located on the terrace physiographic slope between 16% to 40%. This Subzona for the development of agricultural commodities such as coconut, coffee, cashew, mango, pineapple, banana, eucalyptus, and citrus.

Land Potential for Development of Commodity

Development of commodities in Moluccas province, including on the island of Buru (Buru and South Buru district) is very fast compared to the potential land available. Based on data AEZ, potential land for plantation on the island of Buru (Buru and South Buru district) area of 34923.36 ha, excluding other uses (forestry, agro-forestry, dry land for food crops, and others) which covers an area of 821,134.59 ha (Susanto, 2013, rationalization of data) (Table 4).

Existing plantation area in Buru island of 64,696 ha, far in excess of the total potential of the land based on the data AEZ, consists of 13,933 ha of coconut, 11,008 ha of cocoa, clove 36,564 ha, 296 ha of coffee, nutmeg 1,689 ha, and 1,406 ha of cashew (Buru BPS, 2013; Susanto, 2013 data rationalization).

Table 4. Buru land potential for plantation development by AEZ.

Code AEZ	Physiographic	Slope (%)	Agriculture System	Alternative commodities	Land Potential	
					Ha	%
II ax	Terrace, wavy, hilly	16 – 40	Agro-forestry	Coconut, palm oil, nutmeg, cocoa, clove, rambutan, durian, banana, duku, mangostan, bark	15,952.78	1.86
II ax.i	Terrace, wavy, hilly	16 – 40	Intensification of agro-forestry	Coconut, nutmeg, cocoa, clove, durian	8,924.26	1.04
II ay	Terrace, wavy, hilly	16 – 40	Agro-forestry	Coconut, coffee, mango, cashew, nanas, watermelon, bark, banana	5,887.99	0.69
II ay.i	Terrace, wavy, hilly	16 – 40	Intensification of agro-forestry	Coconut, coffee, cashew banana.	4,158.33	0.49
Total II (ax, ax.i, ay, ay.i)					34,923.36	4.08
Other uses (forestry, agroforestry, drylands, wetlands, ponds, coastal forests, and lakes)					821,134.59	95.92
Total					856,057.95	100.00

This is presumably because some things, namely (1) the data of land use for agricultural commodities overlap because each commodity is calculated based on the plantation, the thing on the ground is mixed farms, and (2) the use of land for plantations have exceeded their addresses which may have been using the agricultural zone dry land (zone IV), agro-forestry zone (III) or forest zone (zone I).

Based on data from Agriculture Office of Moluccas Province in 2008, the potential of land for plantation crops in Buru area of 169,979 ha, consisting of highly suitable class (S1) covering an area of 51,597 ha, is quite appropriate class (S2) covering an area of 54,235 ha, and the corresponding marginal (S3) covering an area of 64,147 ha, while the class is not in accordance measuring 690,809 ha (Moluccas Provincial Agricukture Office, 2008), as shown in Table 5.

Table 5. Suitability of land for crop clove on Buru Island

Land Suitability	Limiting Factor	Area (Ha)		Total Area Potential	
		Buru	South Buru	Ha	%
Suitable (S1)	Drainage, rooting conditions	33,260	18,337	51,597	6.00
Enough Suitable (S2)	Nutrient retention, slope, rooting conditions, flood hazards, water supply	28,629	25,606	54,235	6.30
Marginally Suitable (S3)	Rather steep slope, rooting conditions, the availability of water	35,843	28,304	64,147	7.45
Not suitable (N)	A steep slope, rooting conditions, floods, temperature, nutrient retention, water supply, drainage, sulfidic danger.	362,877	327,932	690,809	80.25
TOTAL		460,609	400,179	860,788	100.00

Sources: Moluccas Provincial Agriculture Office (2008) (data reprocessed)

Table 6. Average acreage, production and productivity of other crops vs. cloves in Buru Island.

Commodities	Area Planted (Ha)		Production (Ton)		Productivity (Ton/Ha)	
	2012	Mean of 4 years*	2012	Mean of 4 years*	2012	Mean of 4 years*
Clove	**36,564**	**16,601**	**1,905**	**2,281**	**0.88**	**0.80**
Coconut	13,733	15,032	14,920	10,387	2.22	2.22
Cocoa	11,008	5,815	6,255	2,768	2.20	1.50
Nutmeg	1,689	1,907	318	365	1.07	0.83
Coffee	296	814	100	143	1.30	0.93
Cashew	1,406	1,190	873	524	1.60	1.48

Sumber : CBS Moluccas Province (2009, 2010, 2011, 2012) (data reprocessed)

* tahun 1999-2012

Crop Condition Clove Oil Vs Other Crops

Clover is one of the mainstay commodities Buru Island with an average acreage in the last 4 years (2009-2012) amounted to 16,601 ha, while in 2012 amounted to 36,534 ha, much higher compared to other commodities (Table 6). Cloves are the largest area in South Buru, especially in sub Ambalau, Waisama, Namrole, whereas in Buru contained in sub Leksula and Batabual. Clove plant productivity is still relatively low, with an average of 0.80 to 0.88 tonnes/ha/year. The low productivity of clove mainly because most plants are old and fertilization in plants.

Based on the statistical data of 2012, commodity clove plantations cultivated in South Buru Buru and each area of 1,062 ha and 35,502 ha. The average productivity of cloves Buru and South Buru in 2012 amounted to 0.84 t and 0.04 t/ha/year (CBS Moluccas Province, 2012; Susanto, 2013 data rationalization), much lower than the productivity that could be achieved if the commodities are done with the application of innovative technology. Conditions cloves and other plantation crops are shown in Table 7.

Table 7. Cloves and Commodity conditions Other Plantation on the island of Buru (Buru and South Buru Regency) Year 2012.

No.	Commodity/Location	Area (ha)				Production (ton)	Productivity (ton/ha)
		IP	PP	PO/D	TOTAL		
1	**Clove** :						
	- Buru	173	820	69	1,062	691	0.84
	- South Buru	1,486	32,656	1,360	35,502	1,214	0.04
	Total Buru Island	***1,659***	***33,476***	***1,429***	***36,564***	***1,905***	***0.44***
2	**Coconut** :						
	- Buru	1,216	2,553	529	4,298	2,836	1.11
	- South Buru	1,353	6,912	1,170	9,435	7,686	1.11
	Total Buru Island	***2,569***	***9,465***	***1,699***	***13,733***	***10,522***	***1.11***
3	**Nutmeg** :						
	- Buru	93	102	3	198	77	0.75
	- South Buru	363	771	357	1,491	241	0.31
	Total Buru Island	***456***	***873***	***360***	***1,689***	***318***	***0.53***
4	**Cocoa** :						
	- Buru	1,450	3,514	1,783	6,747	4,763	1.36
	- South Buru	2,331	1,768	162	4,261	1,492	0.84
	Total Buru Island	***3,781***	***5,282***	***1,945***	***11,008***	***6,255***	***1.10***
5	**Coffee** :						
	- Buru	43	84	3	130	96	1,14
	- South Buru	7	25	134	166	4	0,16
	Total Buru Island	***50***	***109***	***137***	***296***	***100***	***0,65***
6	**Cashew**:						
	- Buru	297	844	100	1,241	832	0,99
	- South Buru	92	67	6	165	41	0,61
	Total Buru Island	***389***	***911***	***106***	***1,406***	***873***	***0,80***

Description: IP=Immature Plant; PP=Plants Produce; PO/D =Plants Old/Damaged

CONCLUSION AND RECOMMENDATIONS

Based on the analysis of the map of Agro ecology Zone (AEZ), was inventarization area of 34,923.36 ha (4.08%) of the total area of the island of Buru potential for plantation. The area does not include land and dry land agro forestry for food, spread on subzona II ax, II ax.i, II ay and II ay.1. However, based on data from the Provincial Agriculture Office, potential land for plantation crops Buru area of 169,979 ha, consisting of highly suitable class (S1) covering an area of 51,597 ha, is quite appropriate class (S2) covering an area of 54,235 ha, and the corresponding marginal (S3) covering an area of 64,147 ha. Based on the statistical data, the actual land that has been cultivated for commodities cloves and other commodities (nutmeg, coconut, cocoa, coffee, cashew nut) already exceeds the potential of land based on the data analysis AEZ, ie. 64,736 ha. Suspected in addition to statistical data is the result of the cumulative acreage per farm commodity, is also thought to have been existing since most land use land forestry, agro forestry or dry land for food crops.

Regional commodity Buru Island in addition to coconut and cocoa. These commodities have comparatively favored because production is relatively high compared to the same commodity in all districts/cities in the Moluccas Province. Coconut and cocoa can be considered as a commodity if its production can be increased.

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Corresponding author: Dr. Andriko N. Susanto, SP., MP and *Ir. M. P. Sirappa, M.Si, Soil Researcher of North Moluccas for Assessment Institute of Agricultural Technology, Address: Jl. Inpres Ubo-Ubo 241. South Ternate – North Moluccas, Indonesia
Telephone/Faximile: 0921-326250;
E-mail: andriko_notosusanto@yahoo.co.id; HP. 0811471541
***Agronomist Researcher of West Sulawesi for Assessment Institute of Agricultural Technology, Address : Office Complex of West Sulawesi Government,**
Jl. Abdul Malik Pattana Endeng, Mamuju, West Sulawesi, Indonesia
Telephone./Faximile. 0426-2325340;
E-mail : mpsirappa_64@yahoo.co.id; mpsirappa@gmail.com