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ANALYSIS OF FACTORS AFFECTING THE IMPLEMENTATION OF GOOD AGRICULTURE PRACTICE (GAP) FOR RICE PLANTS IN RAMBUTAN DISTRICT OF BANYUASIN REGENCY, INDONESIA

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ABSTRACT

Need will consumption always rice increase could affect level endurance Indonesian food. Because of that sector agriculture is one important thing to do noticed as supplier food tree for society. Things that can be done are to renew practice agriculture in accordance with guidelines technical cultivation or Good Agriculture Practices (GAP). Purpose of this study is to learn level application of rice GAP to farming rice in Sako and Gelebak villages in Rambutan District and factors influencing the level application of rice GAP.

KEY WORDS

Good agriculture practice (GAP), rice swamp beak, food security, Indonesia.

Swamp land swamp and tidal land can becomes big prospect that has potency as an alternative to production agriculture if managed by appropriate through application technology appropriate to use in accordance with characteristics of each region. Development agriculture on land swamp radish Becomes strategic move in utilization potency source power natural by maximum and optimal for reduce shrinkage land agriculture in the Java area, equity development between regions, increase productivity as well as level life public so that impact in give big donation as well as increase in business base plant food specifically production plant rice (Djamhari, 2010).

Things to try for done in realize endurance food is with always update practice suitable farming with guidelines technical cultivation or Good Agriculture Practices (GAP) so that more productive and efficient as well as more responsible answer to consumers who aim to be able to ensure quality products needed by society. Use technology specifications location consisting of from method processing soil, technique planting, use seeds, use fertilizers, pesticides, and activities harvesting in general has have criteria certain deep thing this called application of GAP because If the application of GAP has been implemented will optimally generated productivity in accordance its potential (Ofong, 2020).

So far this study about application of rice GAP only especially in rice organic, whereas lowland rice still very limited and few. Even though if investigated more far away, partially big rice consumed by the community originated from suboptimal lowland rice even total more farmers many compared paddy organic.

With state above, research about implementation of GAP in Rambutan District, Banyuasin need done because districts this is one area with production paddy tall so that meaning from study this to know level adoption technology farmer going to implementation of Good Agricultural Practices (GAP) and influencing factors implementation on farmers' lowland rice in the district Banyuasin.

METHODS OF RESEARCH

This study carried out in Sako Village and Gelebek Dalam Village in Rambutan District, Banyuasin. Election location done by purposive sampling (intentionally) with consideration that districts this is most districts farmer who cultivates plant rice and already many technologies that enter the district Banyuasin. As for the time data collection and collection in the field conducted in June – July 2021.



Method used in study this is method survey. This method done with plunge direct to location research, visit, and interview farmer paddy swamp lebak in Rambutan District for taken sample from population. To analyze level adoption technology going to implementation of GAP in Rambutan District with use analysis statistics with tabulation score. Researcher give question that answered by the respondent and the score given different for every available answers. Every statement given score 3 for apply, score 2 for not enough apply, and score 1 for no apply. In measuring level implementation of GAP will used 4 indicators namely: Setup land, planting, maintenance, and harvesting. In indicators there is several sub- indicators in accordance questionnaire. As for the calculation achievements score aspect application use formula under this:

$$\text{Average Score} = \frac{\text{Total sub-indicator score}}{\text{Many sub-indicators on the indicator}}$$

For every indicator from processing land until harvest analyzed with score and share Becomes three classes listed in the table below this:

Table 1 – Scoring on the Indicator of the Level of Application of the Paddy GAP

Category	Score Range
Low	1.0 – 1.6
Currently	1.7 – 2.3
Tall	2.4 – 3.0

This thing for criteria level adoption technology going to application of the rice GAP, as for calculation achievements score aspect application use formula as following:

Table 2 – Category Overall Level of GAP Paddy Application

Category	Score Range
Low	0.00 – 33.32%
Currently	33.33 – 66.65%
Tall	66.66 – 100.00 %

Factors influencing level adoption technology farmer towards GAP on farmers paddy swamp radish analyzed using *multiple linear regression*, with variable dependent is implementation of GAP (Y) and variables independent is age (X₁), Farming Experience (x₂), Education level (X₃), Total Member family (X₄), and land area (X₅), Total Counseling (X₆):

$$Y = +_1 X_1 +_2 X_2 +_3 X_3 +_4 X_4 +_5 X_5 +_6 X_6 + e$$

Where: Y = GAP Implementation Score, α = constant, β = value coefficient regression, X₁ = Age (Years), X₂ = Experience Farming (Year), X₃ = Education Level (Number of years, school), X₄ = Total Member Family (soul), X₅ = Land Area (Ha), X₆ = Total Counseling.

Determination Test used for know how much far variable (independent) explains the variable that is affected (Dependent), the test of determination (R²) is used. On variable level implementation of the rice GAP in Rambutan District if same R² value with or close to 1.

$$R^2 = \frac{ESS}{TSS}$$

Where: ESS = *Explained Sum of Square* (Sum Square regression), TSS = *Total Sum of Square* (Total Total Square).

F test used for test is a number of variable by together influential to GAP implementation rice in Rambutan District. F test done with use formula as following:

$$F = \frac{ESS/(k-1)}{TSS/(n-K)}$$

Where: ESS = *Explained Sum of Square* (Sum Square regression), TSS = *Total Sum of Square* (Total Total Square), K = Total Variable, N = Number of Samples.



Taking decision:

- If level significance > 0.05 H_0 is accepted and H_1 is rejected, then influencing variables rice GAP implementation or Independent (X) by together no influential to rice GAP implementation;
- If level significance 0.05 H_1 is accepted and H_0 is rejected, then influencing variables rice GAP implementation or Independent (X) by together influential to application of rice GAP.

In the t test used for know the influence of each variable to rice GAP implementation. T test is performed with formula as following:

$$T \text{ count} = \frac{\beta_i}{Se(\beta_i)}$$

Where: β_i = i-th regression coefficient, Se = Standard error coefficient regression i-th.

Taking decision:

- If level significance > 0.05 H_0 is accepted and H_1 is rejected, then variable i-th no influential to application of rice GAP;
- If level significance 0.05 H_0 is rejected and H_1 is accepted, then variable i-th influential to application of rice GAP.

RESULTS AND DISCUSSION

The level application of rice GAP by whole own achievement of 75.58 percent which includes into the criteria medium. This thing could conclude that farmers in Sako Village and Gelebak Dalam Village, Rambutan District, have applied rice GAP with enough good. As for indicators highest application exists at the time harvest with level GAP implementation reached 98.33 percent and the lowest was during the maintenance process with level application reached 48.67 percent.

Influencing factors implementation of GAP Padi in Sako Village and Gelebak Village In this processed use analysis Multiple Linear Regression with help SPSS 24 application. Multiple Linear Regression is also used for see influence variable free to variable tied. In Multiple Linear Regression involve more from one variable free.

Table 3 – Analysis Results Multiple Linear Regression

Model	Regression Coefficient	t- count	Sig.	Collinearity statistics	
				Tolerance	VIF
Constant	31,224	14,550	.000		
Age (X1)	-.030	-.928	.356	.577	1,733
UT Experience (X2)	.016	.565	.574	.574	1,744
Education Level (X 3)	.205	2,124	.037	.860	1.163
Amount Member Family (X4)	.289	1,129	.262	.904	1.106
Land Area (X 5)	2.290	4,502	.001	.933	1.072
Amount Counseling (X6)	.402	.660	.511	.945	1.059
$R^2 = 0.575$					

Note: * Significant at 5%.

The value shows that by 57.5 percent variable x can be explained by variable y. Then by 42 percent the rest explained by other variables outside from research. Based on results the above estimate, can obtained a regression model from implementation of GAP for lowland rice, that is as following

$$Y = 31,224 - 0.030X_1 + 0.016X_2 + 0.205X_3 + 0.289X_4 + 2.290X_5 + 0.402X_6$$

Influencing factors level application implementation of the rice GAP in Sako and Gelebak Dalam villages Rambutan sub - district positive is level education and broad land,



while those who do not influential significant is age, experience farming, amount member family, and number counseling.

Effect of each variable to application of rice GAP will outline as following.

Age (X1). Coefficient value regression on variable age of -0.030. Variable age no influential significant to level GAP implementation. This thing seen from mark the significance of 0.356 more big of 0.05 at level 95% confidence. This thing in line with Kurniawan's research, (2012) where age influential negative. Kurniawan stated that along with enhancement age farmer, power fight in try, desire in try, desire in bear risk and desire in apply innovation - innovation new too reduced.

coefficient value regression on the variable age influential by negative in meaning the more young age somebody so power spirit for apply Thing Thing new innovation the more increase whereas farmer age old tend To do farming by down hereditary based on habits that have been they do and worry experience failure if apply GAP in cultivation agriculture.

Although thus results from regression state variable age own coefficient regression of -0.030 which means with 1 year increment age farmer so desire GAP implementation decreases by 0.030 percent. where is age influential by together to increase implementation of GAP even though no significant.

Experience Farming (X2). Experience farmer could be measured with know the length of farming rice that has been they carry out. The longer their farming do, more understand the activities and impacts that will occurs in farming (Sriyadi, Istianti, and Fivintari, 2015). So that farmer will tend more be careful in apply something innovation on land the farm, when farmer faced with adoption technology cultivation in farming, then farmer will compare suggestion the with things already applied During this, if in accordance so will applied by farmers.

Significant value on variable experience farming 0.565 more big from value 0.05 with level 95% confidence, with mark coefficient the regression is 0.016 percent it means variable experience farming no influential significant to rice GAP implementation. Based on results regression experience farming own mark coefficient regression of 0.016 which means with 1 year addition experience farming will Upgrade application of GAP by 0.016 percent.

Education Level (X3). Level of education in question in study this is formal education taken by farmers start from level school base until college high. Education level farmer will influence ability in take decision and absorb knowledge. The more tall level education so ability in thinking and taking decision manage agriculture paddy in accordance with standard operational procedures are also getting high.

Education in study this is influential variable to GAP implementation. Is known mark coefficient regression level education is 0.205 with mark the significance by 0.037 more small or same with of 0.05 at level 95% confidence, which means variable education influential significant to application of rice GAP. From value coefficient regression 0.025 has an effect by positive, 1 year more tall Farmer education level so will Upgrade implementation against GAPs. This result in accordance with research by Rahmawati, (2010) where education influential to adoption paddy hybrid, because level one's formal education tall farmer so farmer the will own pattern forward thinking and fast adopt innovation.

Amount Member Family (X4). Variable total member family own mark coefficient the regression of 0.289 with mark significant of 0.262 which is more big from value of 0.05 at level 5% error means variable total member family no influential significant to level GAP implementation. Every existence adds 1 member family so upgrade farmer for apply rice GAP by 0.289 percent. The more many total member family so trend Upgrade application of rice GAP although no significant. The more a lot total member family related with expenditure family, so situation this push farmers who have total member family more many for follow apply agriculture sustainable compared to farmers who have total member more family little. Amount total member family influence decision farmer for follow apply GAP compared to less apply.

Land Area (X5). Land area in activity agriculture is very influential taking decision farmer in apply something innovation. Coefficient value regression on variable large land of 2,290 and the value of significant of 0.001 more small from value of 0.05 at level 95%



confidence, it means that variable large land influential significant to the application of the rice GAP in Rambutan District. This thing means every existence addition of 1 ha, then farmer for implementing GAP rice rose by 2.290 percent. This thing show that large land influential to level application of GAP when farmers who have more land large tend apply GAP with more fine, though no close possibility large more land small for could apply GAPs.

Amount Counseling (X6). The average farmer in the District Rambutan joined in group farm, so they routine follow counseling carried out by extension workers local. Counseling the covers counseling about farming good rice but Average number extension attended by farmers that is no routine do by ideally consistent in one month as much three times counseling. in line with results regression from total counseling that shows value coefficient regression on variable total counseling of -0.402 and the value of significant of 0.511 more big from value of 0.05 at level 95% confidence, it means that variable total counseling no influential significant to the application of the rice GAP in Rambutan District. This thing means every existence additional 1 time counseling, so rice GAP implementation farmer tend increase by 0.402 percent. This thing occurs because farmer got information from extension workers and applies them to their farms. in line with results research by Wardani and Darwanto (2018) which states that that frequency counseling have influence significant to implementation of GAP, because the more often counseling done, then the adoption process will the more fast too.

CONCLUSION

From result study could concluded that the level of application of rice GAP in farming rice in Sako and Gelebak Dalam villages, Rambutan sub -district whole are on criteria currently with achievement of 76.54%. of the four indicator rice GAP implementation, level highest application that is when harvest, then maintenance own level lowest adoption compared indicator application of other GAP and influencing factors level application implementation of the rice GAP in Sako and Gelebak Dalam villages Rambutan sub - district positive is level education and broad land, while those who do not influential significant is age, experience farming, amount member family, and number counseling.

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