Journal of Agri Socio Economics and Business (JASEB)
Available online at: https://ejournal.unib.ac.id/index.php/jaseb/index.php/jaseb
DOI: 10.31186/jaseb.6.2.355-370

FACTORS INFLUENCING BREEDING FARMERS' DECISIONS ON SELLING MARKETABLE RICE SEEDS IN BENGKULU PROVINCE

Ari Triana[1]; M. Zulkarnain Yuliarso[2]; Satria Putra Utama[3]
[1]Study Program of Agribusiness Masters Faculty of Agriculture, University of Bengkulu
[2,3]Department of Agricultural Socio-Economics, Faculty of Agriculture, University of Bengkulu
Email: [2] mzulkarnainy@gmail.com

How to Cite :
Triana, A., Yuliarso, MZ, Utama, SP. (2024). Factors Influencing Breeding Farmers' Decisions On Selling Marketable Rice Seeds In Bengkulu Province. *Journal of Agri Socio Economics and Business*. 6(2): 355-370. DOI:https://doi.org/10.31186/jaseb.6.2.355-370

HISTORY ARTICLE
Received [22 May 2024]
Revised [10 Jun 2024]
Accepted [22 Nov 2024]

KEYWORDS
supply response,
cocoa,
SURE,
elasticity

ABSTRACT

Bengkulu Province has the potential to meet the need for rice seeds. However, not all of these potential seeds are sold by captive farmers as rice seeds. Farmers' decision making in selling their seed production is influenced by internal and external factors. The aim of this research is to: 1) analyze farmers' decisions in selling prospective rice seeds; 2) analyze the factors that influence farmers' decisions in selling prospective rice seeds. This research was conducted by interviewing 104 rice seed farmers in six sub-districts in North Bengkulu Regency and South Bengkulu Regency. The decision to sell prospective rice seeds to farmer farmers was analyzed descriptively. What factors influence the decision to sell prospective rice seeds to breeder farmers are analyzed using Multinomial Logistic Regression. The research results show that there are three decisions to sell prospective rice seeds to breeder farmers, namely: 1) consumption rice (9.6%); 2) prospective seeds and rice for consumption (73.1%); 3) seed candidates (17.3%). Factors that have a significant influence on the decision to sell prospective rice seeds to farmer farmers in Bengkulu Province are farming experience, number of people in the family and family income as well as the length of time farmers have to get money from selling prospective seeds.

INTRODUCTION

Rice is an important food crop that has a significant impact on the stability and security of a nation. The majority of Indonesian people are still very dependent on rice consumption. According to the 2021 Food

Consumption Bulletin, Indonesia currently consumes an average of 95.67 kg of rice per year. Dependence on rice among some Indonesian people is still very large and difficult to replace with other substitute commodities.

Efforts to meet rice needs have been and are still being made by the government. The government has carried out various programs to increase rice production, including a program to provide superior seeds. Seeds play an important role in efforts to increase rice production. According to Setyono (2012); Sarki et al (2022); Solok (2019) Ruslan et al (2022), superior rice seeds will produce higher yields. Seeds only account for 1-3 percent of rice farming costs, but their use has a significant impact on production and productivity. This is in accordance with Tinaprilla (2013); Novia & Satriani (2020), which states that using certified superior seeds has a positive and significant impact on production growth.

As farmer awareness increases, so does the use of certified superior seeds (Directorate General of Food Crops, Directorate of Treasury, 2021). Indonesia must strive to increase rice seed production in order to meet the demand for certified superior seeds. However, the reality on the ground is that the six requirements for fulfilling rice seeds—on time, the right variety, the right quality, the right quantity, the right price, and the right location—have not been fulfilled properly.

Bengkulu Province has a rice planting area in 2020 (source: BPS Bengkulu Province) of 62,324 Ha so it requires 1,558,100 kg of seed (assuming 25 kg of seed use per ha). To meet the need for certified superior seeds that can fulfill the 6 correct principles, Bengkulu Province must also produce certified superior rice seeds. The number of rice seed breeding areas in Bengkulu Province that have met the requirements for the field inspection stage is presented in Figure 1.

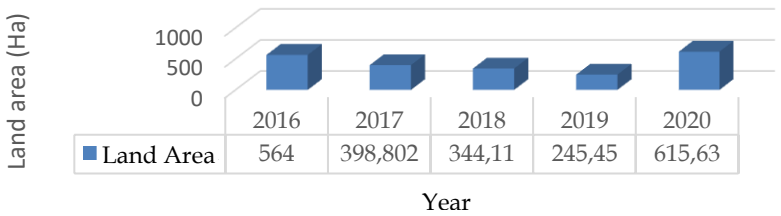


Figure 1. Area of Certified Superior Rice Seed Breeding Area in Bengkulu Province that meets the requirements of the field inspection stage for 5 years (2016 to 2020). UPT. PPSB-TPHP Prop. Bengkulu, processed (2022)

From the data above, it can be estimated (average production of 4 tons per ha) of potential seed production in Bengkulu Province. The graph below provides an overview of the production of prospective seeds in Bengkulu Province.

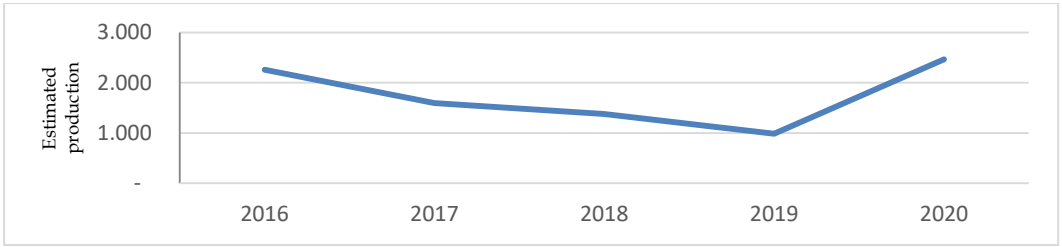
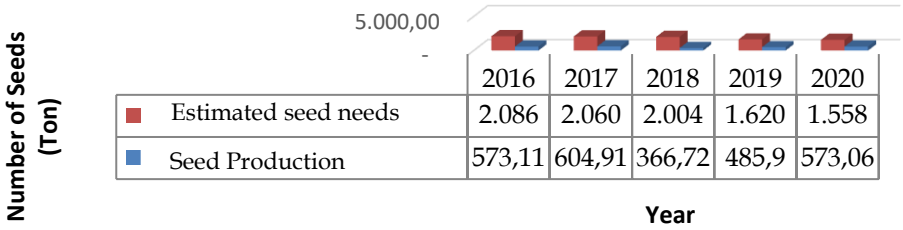


Figure 2. Estimated production of prospective rice seeds in Bengkulu Province. UPT. PPSB-TPHP Bengkulu Province (2022)

From the data above, it can be seen that Bengkulu Province (2016 and 2020) is able to meet the need for certified superior seeds independently. However, in reality, Bengkulu Province on average over 5 (five) years is only able to meet 28.52% of its rice seed needs. In Bengkulu Province, the need for seeds and production of certified superior rice seeds can be described in more detail in graph 3.



	2016	2017	2018	2019	2020
Estimated seed needs	2.086	2.060	2.004	1.620	1.558
Seed Production	573,11	604,91	366,72	485,9	573,06

Figure 3. Estimated Rice Seed Needs and Production in Bengkulu Province (2016 – 2020). UPT. PPSB-TPHP Bengkulu Province, data processed (2022)

The certified superior rice seed production areas in Bengkulu Province are spread across one city and nine districts. For 4 years (2016 to 2019), North Bengkulu Regency had an average breeding area of 52.97% and South Bengkulu Regency an average of 16.21% of the total rice seed breeding area in Bengkulu Province. North Bengkulu Regency has the largest rice seed breeding area because in this Regency there is a Source Seed Management Unit (UPBS) belonging to a State-Owned Enterprise (BUMN).

Most of the captive farmers in Bengkulu Province partner with UPBS, both from BUMN and from the UPT of the Ministry of Agriculture. Partnership between breeder farmers and UPBS in terms of selling prospective seeds so that breeder farmers get certainty about marketing their prospective seeds. This partnership for buying and selling prospective rice seeds does not bind partner farmers in determining how many prospective rice seeds they should sell to UPBS. Other partnerships are in the form of source seed loans and technical guidance in seed breeding farming businesses. Even though farmers get a higher price for prospective seeds compared to the selling price for

consumption rice, breeder farmers do not sell all the prospective seeds they produce for further processing into rice seeds to UPBS.

The production of certified superior rice seeds in Bengkulu Province is unable to meet demand. Table 1. below provides an overview of the estimated production of seed candidates and seed candidates which will continue the process to the seed quality testing stage.

Table 1. Estimated Production of Seed Candidates and Seed Candidates entering the Quality Testing Stage

No	Description	Year				
		2016	2017	2018	2019	2020
1	Estimated Production of Prospective Seeds (Tons)	2,256	1,595	1,376	982	2,463
2	Production of seed candidates at the quality testing stage (Tons)	796,124	1028.04	379,393	535.01	593.06

Source: UPT. PPSB-TPHP Prov. Bengkulu, data processed (2022)

It can be seen from Table 1. that rice seed farmers on average for 5 (five) years only sell 41.17% of their prospective seed production to proceed to the next process to become rice seeds. The process of disbursing money from the sale of prospective rice seeds to farmers which takes too long in the buying and selling process is thought to be the cause of farmers not selling all of their prospective seed production to partners as well as other factors that cause breeder farmers to be inconsistent with their initial decision when deciding to carry out a rice seed breeding business. is something new to research.

RESEARCH METHODS

The research was conducted in North Bengkulu Regency (Armajaya, Lais and Ulu Palik Districts) and South Bengkulu Regency (Seginim, Pino, Kedurang Districts) in November 2022. Location determination was carried out by considering the average size of the breeding area per Regency in Bengkulu Province during 4 years (2016-2019) where North Bengkulu Regency and South Bengkulu Regency have 52.97% and 16.21% of the total area of rice seed breeding areas in Bengkulu Province and the sub-districts in this district have the largest area as seed breeding areas .

Method of Collecting Data

The type of data in this research uses secondary data and primary data. Secondary data is information collected from various related sources, while primary data is data obtained directly from the interview process by giving closed questionnaires to 104 respondents selected using the Slovin sampling technique.

Data Analysis Method

The analysis used to determine the sales decisions of prospective rice seed farmers was carried out using quantitative descriptive analysis. Quantitative descriptive analysis is intended to provide an overview of the current situation regarding the decision to sell prospective rice seeds in Bengkulu Province in the form of figures obtained from the results of calculating research variable indicators (Nana Sudjana, 1997).

The next analysis used to determine how the dependent variable (Y) influences the independent variable (X), namely the choice of sales decision for seed candidates where the dependent variable is categorical, was analyzed using multinomial logistic regression with the SPSS 25 program.

The multinomial logistic regression model is declared feasible or not by means of a feasibility test whether tested simultaneously or partially (Hosmer et al. 2000). The following is the equation model used in this research:

$$Y(x) = \frac{exp(\beta_0+\beta_1 U+\beta_2 TP+\beta_3 PU+\beta_4 LL+\beta_5 JTK+\beta_6 P+\beta_7 HCB+\beta_8 T)}{1+exp(\beta_0+\beta_1 U+\beta_2 TP+\beta_3 PU+\beta_4 LL+\beta_5 JTk+\beta_6 P+\beta_7 HCB+\beta_8 T)}$$

Where :

Y(X) :		Farmers' decisions regarding the decision to sell prospective seeds (Y1 = consumption rice; Y2 = consumption rice and prospective seeds; Y3 = prospective rice seeds)
β0	:	Constant Value of the regression equation
β1-8	:	Regression coefficient (free variable)
U	:	Farmer Age (years)
T.P	:	Education Level (years)
PU	:	Seed breeder experience (times)
LL	:	Land area (Ha)
JTK	:	Number of family dependents (people)
P	:	Farmer Family Income (Rp/month)
HCB	:	Price of prospective seeds (Rp/Kg)
Q:		Length of time for disbursement of payment for sales of prospective seeds (weeks)

In carrying out multinomial logistic regression analysis, what must be done is: (1) estimate the parameters of the multinomial logistic regression; (2) simultaneously evaluate parameters for model fitting; (3) testing parameters partially to find out which independent variable has the most influence; (4) interpreting ratio values (Aditya et al, 2015).

To determine the significance of the test on the coefficients of the regression model parameters, the Wald test is used both simultaneously and partially on each independent variable on the dependent variable. Meanwhile, according to Santi (2018), if to determine the suitability between observation

results and prediction results, the model suitability test (Goodness of fit) with chi square is used. To see whether each independent variable influences the dependent variable, use the Wald test or Z-stat test, with the hypothesis:

H0: The independent variable does not affect the dependent variable where a1 = a2 = ... = an =0 (not significant)
H1: Variablefree to influence the dependent variable where a1 = a2 = ... = an ≠ 0 (signification)

With criteria:

H0 is accepted: $-Z\alpha/2 \geq Z0 \leq Z\alpha/2$
H1 is accepted: $Z0 > Z\alpha/2$ or $Z0 < -Z\alpha/2$

RESULTS AND DISCUSSION

Decision on Sales of Prospective Rice Seeds in Bengkulu Province

Rice seed farmers have their own decisions in selling their prospective seeds and there is no pressure from partners to sell their prospective seeds. Decisions on the sale of prospective seeds by farmer farmers in Bengkulu Province can be grouped into three, namely 1) sold as consumption rice, 2) sold as consumption rice and also as prospective rice seeds, 3) sold as prospective rice seeds.

Table 2. Number of Respondents based on seed sales decisions

No	Decision	Number of Farmers (people)	Percentage (%)
1.	Rice Consumption	10	9.6
2.	Rice Consumption and Prospective Seeds	76	73.1
3.	Prospective rice seeds	18	17.3
	Amount	104	100

Source: Primary Data, processed (2022)

Table 2 provides an overview of the decision to sell prospective rice seeds, where 73.1% of farmer farmers decided to sell some of their production as rice for consumption and prospective seeds, 17.3% sold their prospective seeds as prospective seeds and 9.6% sold their prospective seeds.

Factors that Influence the Decision to Sell Prospective Rice Seeds to Farmers

A decision is an answer to a problem that is faced firmly, so that a decision can deviate from the initial plan. The decision of captive farmers in deciding in what form to sell their production may deviate from the initial plan when deciding to carry out a rice seed breeding farming business.

Farmers' decision making in selling their prospective seed production is influenced by conditions inside and outside the farmer's household (Basu et al, 1990). In accordance with the problem formulation, namely the extent to which the factors age, formal education, experience in carrying out rice seed farming, land area, number of family dependents, total family income, price of seeds and length of time for disbursement of money for selling prospective seeds influence farmers' decisions in choosing the form of selling prospective seeds. the seeds (whether they remain as candidate seeds or candidate seeds & consumption rice or consumption rice), then analysis is carried out using multinomial logistic regression with SPPS 25 software tools.

A good regression model should have no correlation between independent variables which can be seen from the Pseudo R2 value (determinant coefficient). Data analysis in this study uses observational data and the dependent variable consists of three categories on a nominal scale so that the appropriate analytical tool used is multinomial logistic regression. According to Ghozali (2018), of the three selected categories (Y=1 consumption rice, Y=2 consumption rice & seed candidates, Y = 3 seed candidates) one must be chosen as a reference category as a comparison for analysts, so that the dependent variable has M category can compare its probability with the probability of the reference category.

Model Feasibility Test

The multinomial logistic regression model as a whole (over all) is said to be suitable (fit) as indicated by the independent variable having a real influence on the dependent variable seen from the Likelihood Ratio test value, if the significant value is smaller than alpha (sig < 0.05) then the independent variable has a real influence to the dependent variable. Table 3 provides information about the suitability of the model.

Table 3. Model Fitting Information

	Model Fitting Criteria	**Likelihood Ratio Tests**		
Model	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	157,657			
Finals	58,581	99,075	16	0,000

Source: Primary data processing with SPPS 25 (2022)

Table 3 shows that the -2 Log Likelihood value from Intercept Only to Final has decreased, this means that with the presence of independent variables in a multinomial logistic regression model the results are better compared to a model that only includes the intercept. The Chi-Square value is 99.075 and is significant at p = 0.000, meaning that the multinomial logistic regression model

with the presence of independent variables is able to provide better accuracy for predicting farmers' decisions regarding the sale of their prospective seeds.
The model feasibility or goodness of fit test was carried out to determine whether the multinomial logistic regression model fits the observation data. The basis for decision making is to look at the significant value of Chi-Square. If the significant value is large for alpha (sig > 0.05) then the multinomial logistic regression model is appropriate to the observation data.
Table 4. Multinomial logistic regression test results

Test Statistics	Description	Sig.
Model significance test	Pearson correlation on the $\chi 2$ table distribution	1.00
Coefficient of determination	Negelkerke	0.787

Source: Primary data processing with SPPS 25 (2022)

Based on the results of primary data processing, a significant Pearson correlation value of 1.00 (sig > 0.05) was obtained, meaning that the multinomial logistic regression model can predict the observation value or it can be said that the model is acceptable because it matches the observation data (Ghozali, 2018).

A multinomial regression model is also said to be good if the independent variable has a large influence on the dependent variable which can be seen from the value of the coefficient of determination. Based on the results of primary data processing, the Pseudo R2 (coefficient of determination) in this study was 0.787, meaning that the independent variable consisted of age, education level, farming experience, land area, number of family dependents, family income, price of prospective seeds and length of time for disbursement of payments. The sale of prospective seeds was able to influence the dependent variable, namely the farmer's decision by 78.7%, while the other 21.3% was influenced by variables not included in this research.

Partial Significance Test of Independent Variables

To find out which independent variables can influence the dependent variable, data processing is continued with a significance test. The significance test was carried out using two methods, namely the Likelihood Ratio Test and the Wald Test.

Table 5. Likelihood Ratio Test

Effect	Model Fitting Criteria -2 Log Likelihood of Reduced Model	Likelihood Ratio Tests Chi-Square	df	Sig.
Intercept	60,848	2,266	2	0.322
Age	59,084	0.503	2	0.778
Level of education	58,587	0.005	2	0.997
Business Experience	64,442	5,861	2	0.053
Land area	58,587	0.005	2	0.997
Number of Family Dependents	65,544	6,963	2	0.031*
Family Income	70,296	11,714	2	0.003*
Selling Price of Prospective Seeds	58,842	0.261	2	0.878
Payment Time	63,339	4,758	2	0.093

Source: Primary Data Processing with SPPS 25 (2022)
Note: *significantly different (α= 0.05)

The basis for decision making is based on the Likelihood Ratio Test Table, namely by comparing the calculated Chi-Square value with the Chi-Square table, if the calculated Chi-Square is greater than the Chi-Square table ($\chi 2$ calculated > $\chi 2$ table) then there is a partial influence of the independent variable on the variable dependent. The chi-table ($\chi 2$ table) in this study with degrees of freedom (df) 2 and a confidence level of 95% is 5.991. Decision making can also be seen by comparing the significance value with alpha. If the significance value is smaller than alpha (sig. < alpha) then there is a partial influence of the independent variable on the dependent variable.

Table 5 shows that the independent variables that significantly influence the dependent variable on farmers' decisions on selling prospective seeds are the variables of number of family dependents and family income. Meanwhile, the variables age, education level, land area, selling price and length of time to pay for purchasing prospective seeds do not have a significant effect on farmers' decisions regarding selling prospective seeds. The research results on the decision to sell prospective rice seeds are in line with the opinion of Helena et al (2019); Shalsabila et al (2022) which shows that age and education level do not have a significant influence on the decision to sell lowland rice. Research by Oktia et al (2020); Isaac et al (2019); Oktariani & Wanna (2022) state that the variable capital owned by farmers has a significant effect on the sale of lowland rice commodities in the form of grain and rice and this is in line with research results that the variables of the number of family dependents and family income have a significant effect on the decision to sell prospective rice seeds. Theoretically, sales decisions are influenced by a number of factors, including: 1) the seller's conditions and capabilities, which are related to the type of goods offered, their characteristics, and the product price; (2) Market conditions; (3) Capital, producers must have a certain amount of capital to introduce their products (Basu et al., 1990; Widianti et al., 2021; Dewi et al. 2020).

Multinomial logistic regression has a dependent variable of more than two categories on a nominal scale. In this research there are three decisions (categories) which are the dependent variable. Harlan (2018) believes that there must be a dependent variable which is the reference category in multinomial logistic regression. In the statistical processing of primary data, this research uses sales decisions in the form of candidate seeds as a reference category with the consideration that the form most expected in rice seed breeding farming is the production of rice sold as candidate seeds by captive farmers. From the three decision categories, two multinomial logistic regression models will be obtained which can be seen in Table 6.

Table 6. Estimation Results of Functional Parameters That Influence Sales Decisions for Seed Candidates

Decision	Variable	B	Wald	df	Sig.	Exp(B)
Rice Consumption	Intercept	27,598	0,000	1	1,000	
	Age	0.028	0,000	1	1,000	1,028
	Level of education	0.685	0,000	1	1,000	1,984
	Experience.Effort	-0.808	0,000	1	1,000	0.446
	Land area	1,459	.	1	.	4,300
	Number of family dependents	-1,296	0,000	1	1,000	0.274
	Income.Family	0,000	0,000	1	1,000	1,000
	Price.Sell.Prospective.Seeds	-0.008	0,000	1	0.999	0.992
	Time.Payment	-1.132	0,000	1	1,000	0.322
Rice Consumption and prospective seeds	Intercept	6,462	2,144	1	0.143	
	Age	0.036	0.487	1	0.485	1,037
	Level of education	0.010	0.005	1	0.943	1,010
	Experience.Effort	-0.301	5,068	1	0.024*	0.740
	Land area	0.091	0.005	1	0.942	1,095
	Number of family dependents	-1,086	5,450	1	0.020*	0.338
	Income.Family	0,000	6,044	1	0.014*	1,000
	Price.Sell.Prospective.Seeds	0,000	0.259	1	0.611	1,000
	Time.Payment	0.562	3,851	1	0.050*	1,754

Source: Primary data processing with SPSS 25 (2022)

Notes: * significantly different (α= 0.05); The reference decision is the seed candidate

The estimation results in Table 6 can be arranged into two multinomial logistic regression models as follows:

Model 1: Comparison between Consumption Rice Sales Decisions and Prospective Seed Sales

$$Y1(X) = 27,598 + 0.028\ U + 0.685\ TP - 0.808\ PU + 1.459\ LL - 1.296\ JTK + P - 0.008\ HCB - 1.132\ T$$

Model 2: Comparison between Sales Decisions for Rice Consumption & Prospective Seeds with Sales of Prospective Seeds

$$Y2(X) = 6.462 + 0.036\ U + 0.010\ TP - 0.301\ PU + 0.091\ LL - 1.086\ JTK + P + HCB + 0.562\ T$$

Interpretation of the multinomial logistic regression model formed was carried out on significant regression coefficients with a small probability of alpha (sig. < 0.05) by looking at the Exp (B) value (Ghozali, 2018). Independent variables that do not have a significant influence do not need to be interpreted because they do not have significant meaning.

In model 1 that was formed, none of the independent variables had a significant effect on the dependent variable (the comparison between the decision to sell consumption rice and the sale of prospective seeds) so that nothing could be interpreted. This farmer's decision could be due to the pressing need of captive farmers for cash to be used to meet their family's basic needs. The average income of breeding farmer families who decide to sell their prospective seeds only in the form of consumption rice is IDR 1,395,000, per month. This number is smaller than farmers who decide to sell their prospective seeds as rice for consumption and prospective seeds and farmers who decide to sell their prospective seeds in the form of prospective seeds. Farmers who sell their production as rice for consumption immediately receive payment for the sale of their production, whereas if their production is sold as prospective seeds, it takes time to obtain cash from the sale of prospective seeds.

Another factor that causes breeder farmers to decide to sell their prospective seeds as consumption rice only is because the average production of prospective seeds is also less than farmers who sell as consumption rice-potential seeds and farmers who sell as prospective seeds. Table 7 can show a comparison of the average amount of production, productivity and income of farming families with the three sales decisions.

Table 7. Average Production and Family Income of Respondent Farmers for Each Farmer's Sales Decision

Description / Decision Farmer Sales	Average Production (Kg)	Average Productivity (Kg/Ha)	Average Income per Month (Rp)
Rice Consumption	2,170	4,568,421	1,395,000
Consumable Rice – Seed candidate	3,628.55	5,055,362	2,292,105
Seed Candidate	3,639.78	4,581,538	3,458.33

Source: Primary Data, processed (2022)

The thing that was the initial consideration for breeder farmers in deciding to try as a seed breeder even though in the end they completely changed their decision not to sell prospective seeds as prospective seeds was the partnership factor that occurred between breeder farmers and the source seed management unit (UPBS) through farmer groups. UPBS provides source seed loan facilities to farmers who are willing to carry out seed breeding and provide guidance on the cultivation process. This can be seen from the productivity of breeder farmers who sell their prospective seeds as consumption rice which is not much different from breeder farmers who choose to sell their prospective seeds as prospective seeds and a combination of prospective seeds and consumption rice (Table 7.). This situation is in line with the opinion of Tinaprilla (2013); Panjaitan et al (2020); Ahmad & Rahmah (2019), who found that using certified superior seeds has a positive and significant impact on production growth.

Model 2 is a comparison between sales decisions for prospective seeds and consumption rice with prospective seeds having several independent variables that have a significant influence on the dependent variable. Independent variables that have a significant influence are business experience as a seed breeder, number of people in the family, family income and the length of time the farmer has to get money from selling prospective seeds. According to Ghozali (2018), independent factors that have a significant influence need to be interpreted.

1. Business experience influences the probability of farmers deciding to sell prospective consumption rice seeds, which is lower than the decision to sell prospective seeds with a coefficient value of -0.301 and is significant at $p < 0.05$ with an Odd Ratio value of 0.748, which means that the probability ratio for farmers making sales decisions as prospective seeds is higher. high at 0.748 times compared to the decision to sell consumption rice. Experience is education that a person obtains in carrying out daily activities, such as events or realities that he experiences so that experience influences a person's performance in carrying out a business (Husaini, 2011). Experience also trains farmers to make wiser decisions in facing problems in farming (Jamaluddin et al, 2021).
2. The number of family dependents influences the probability of farmers deciding to sell prospective consumption rice seeds, which is lower than the decision to sell prospective seeds with a coefficient value of - 1.086 and is significant at $p < 0.05$ with an Odd Ratio value of 0.388, which means that the probability ratio for farmers making sales decisions is as prospective seeds are 0.388 times higher than the decision to sell rice for consumption - prospective seeds. Household socio-economic characteristics influence household consumption behavior, including the number of family dependents. The greater the number of family

dependents, the more varied the goods and services consumed by the household. This situation forces the head of the household to think wisely about increasing family income so that the needs of family members can be met.

3. Family income influences the probability of farmers deciding to sell prospective consumption rice seeds higher than the decision to sell prospective seeds with a coefficient value of 0.00 and is significant at $p < 0.05$ with an Odd Ratio value of 1.0, which means that with an increase in the farmer's family income the will increase the opportunity for farmers to choose to sell their production as potential seeds by 1.0. With increasing income in the family, the proportion of household consumption expenditure for non-food will increase (Puspita, 2018). This situation will open up opportunities for farmers to be more innovative in their farming business.
4. The length of time it takes for farmers to get money from selling prospective seeds affects the probability that farmers will decide to sell prospective seeds for consumption, which is higher than the decision to sell prospective seeds with a coefficient value of 0.562 and is significant at $p < 0.05$ with an Odd Ratio value of 1.754, which means the longer the waiting time farmers to receive money from selling prospective seeds, the farmer's opportunity to choose sales in the form of consumption rice - prospective seeds will be 1.754 times higher. In Jamaluddin et al's (2021) research, capital is an important thing so that if the farmers' harvest results are paid for in more than 3 days, they will sell their prospective seed production to consumption rice traders who are able to pay in cash.

Sayaka et al (2020); Wulandari & Sudrajat (2017); Nobianti & Khairati (2019) stated that to produce more seeds, a profitable business climate must be created for seed producers and breeders. Individually, farming experience has a significant influence on the decision to sell lowland rice (Helena, 2019); Resiana et al (2023). These two statements are in line with research results that business experience and the length of time farmers have to get money from sales have a significant effect on the decision to sell prospective seeds.

CONCLUSIONS AND POLICY IMPLICATIONS

Conclusions

From the research results it can be concluded:

1. There were three decisions made by rice breeder in selling their prospective seeds, namely consumption rice at 9.6%, consumption rice-potential seeds at 73.1% and prospective seeds at 17.3%.
2. Factors that have a significant influence on the decision to sell prospective seeds to breeder farmers in Bengkulu Province are farming

experience, number of family dependents, family income and the length of time farmers have to get money from selling prospective seeds. Factors that do not have a significant influence on the decision to sell prospective seeds to breeder farmers in Bengkulu Province are age, level of education, land area and price of prospective seeds.

Suggestions

Increasing the production of certified superior seeds can be done by improving the bureaucracy in the payment process of prospective rice seeds so that breeder farmers can immediately have cash from the sale of prospective seeds and providing incentives to breeder farmers in the form of easy access to capital and lower bank interest and intensifying special trainings on the rice seed production process.

REFERENCES

Adiyta A.R, Suparti Dan Sudarno. (2015) 'Ketepatan Klasifikasi Pemiliham Metode Kontrasepsi Di Kota Semarang Menggunakan Boostrap Aggregatingg Regresi Logistik Multinomial', Gaussian 4 (1); 11-20

Novianti, A. S., & Khairati, R. (2019). Analisis Faktor-Faktor Yang Mempengaruhi Keputusan Petani Dalam Menggunakan Benih Padi Bersertifikat Di Nagari Sumani Kecamatan X Koto Singkarak Kabupaten Solok. *Journal Of Socio-Economics On Tropical Agriculture (Jurnal Sosial Ekonomi Pertanian Tropis)(Joseta)*, *1*(2).

Sayaka, Bambang., Frans B.M. Dabukke Dan Sri Suharyoni. (2020) 'Membangun Kemandirian Industri Benih Padi Nasional', Ekonomi Indonesia, 9(3) , 189-207

Ghozali, Imam. (2018). Aplikasi Analisis Multivariate Dengan Program Ibm Spss 25. Ed.9. Badan Penerbit Universitas Diponegoro. Semarang

Helena Hardina Dan Gamma Puspita. (2019) 'Pengaruh Faktor Sosial Ekonomi Terhadap Penjuanan Padi Sistem Tebasan Dan Non Tebasan Pada Petani Padi Sawah Di Desa Pojiksari Kecamatan Ambarawa Kabupaten Semarang', Ekonomi Brawijaya Pertanian Dan University Agribisnis, 3.

Shalsabila, K., Susanto, N. H. A., & Febriyono, W. (2022). Faktor-Faktor Yang Mempengaruhi Petani Padi Sawah Dalam Memilih Sistem Penjualan Di Desa Pangebatan Kecamatan Bantarkawung: Factors That Influence Lowland Rice Farmers In Choosing A Sales System In Pangebatan Village, Bantarkawung District. *Jurnal Pertanian Peradaban (Peradaban Journal Of Agriculture)*, *2*(2), 13-19.

Resiana, K., Astiti, N. W. S., & Sarjana, I. M. (2023). Faktor-Faktor Yang Berpengaruh Terhadap Penjualan Padi Dengan Sistem Tebasan Di Subak Babakan Desa Sambangan Kecamatan Sukasada Kabupaten Buleleng. *Jurnal Agribisnis Dan Agrowisata Issn*, *2685*, 3809.

Harlan, J. (2018). Analisis Regresi Logistik. Penerbit Gunadarma. Depok.

Jamaluddin Lagga, Abdul Aziz Ambar Dan Abdullah. (2021) 'Strategy For The Development Of Seed Captures Through Desa Mandiri Benih Program', Ascarya, 1(2).

Provinsi Bengkulu Dalam Angka. (2022). Badan Pusat Statistik Provinsi Bengkulu.

Santi, V.M. (2018) 'Pengembangan Model Regeresi Logistik Multinomial Untuk Klasifikasi Politik Pada Pemilihan Umum', Statistika Dan Aplikasinya, I (1), 37-43

Oktia,Sela., Iwan Setiawan Dan Fournita Agustina. (2020) 'Analisis Pola Penjualan Hasil Komoditi Padi Sawah Di Desa Rias Kecamatan Toboali Kebaupaten Bangka Selatan', Journal Of Integrated Agibusiness, 2.

Ishak, A., Firison, J., & Rokhani, R. (2019). Keragaman Perilaku Petani Padi Dalam Penjualan Gabah (Kasus Di Kecamatan Air Manjunto, Kabupaten Mukomuko, Provinsi Bengkulu). *Unej E-Proceeding*.

Oktariani, L., & Wanna, A. (2022). Pola Saluran Pemasaran Padi Sawah Semi Organik (Oryza Sativa L) Di Kelurahan Sei Selincah Kecamatan Kalidoni Kota Palembang. *Societa: Jurnal Ilmu-Ilmu Agribisnis*, *10*(2), 1-8.

Setyono, Budi. (2012) 'Faktor-Faktor Yang Mempengaruhi Adopsi Teknologi Perbenihan Padi Bersertifikat Di Kecamatan Bambanglipuro Kabupaten Bantul', Inovasi Pertanian, Ejurnal.Unisri.Ac.Id.

Ruslan, R., Wartapa, A., & Sukadi, S. (2022). Tingkat Adopsi Petani Dalam Penangkaran Benih Padi (Oryza Sativa L) Bersertifikat Program Desa Mandiri Benih Di Kalurahan Timbulharjo Kapanewon Sewon Bantul. *Jurnal Ilmu-Ilmu Pertanian*, *28*(2), 48-57.

Sarki, Y., Novianti, T., Nugraheni, S. R. W., & Hardjanto, A. (2022). Analisis Pendapatan, Willingness To Pay, Dan Faktor Penentu Adopsi Benih Bersertifikat Petani Cabai Merah (Studi Kasus Kecamatan X-Koto, Kabupaten Tanah Datar). *Jurnal Agribisnis Indonesia (Journal Of Indonesian Agribusiness)*, *10*(2), 375-388.

Solok, K. S. K. Analisis Faktor-Faktor Yang Mempengaruhi Keputusan Petani Dalam Menggunakan Benih Padi Bersertifikat Di Nagari Sumani Kecamatan X. In *Seminar Nasional Sosial Ekonomi 2019* (P. 56).

Basu, Swastha Dan Irawan. (1990). Manajemen Pemasaran Modern, Liberty Yogyakarta.

Dewi, M., Hubeis, M., & Riani, E. (2020). Strategi Pemasaran Umkm Dalam Meningkatkan Daya Saing Di Pasar Ritel Modern Carrefour (Kasus Pt Madanifood, Jakarta). *Manajemen Ikm: Jurnal Manajemen Pengembangan Industri Kecil Menengah*, *15*(1), 77-83.

Widianti, H., Alfian, M., & Utami, E. U. S. (2021). Manajemen Pemasaran Modern Bagi Usaha Kecil Menengah Di Kelurahan Slerok Kota Tegal. *Jurnal Abdimas Phb: Jurnal Pengabdian Masyarakat Progresif Humanis Brainstorming*, *4*(2), 277-280.

Tinaprilla N, N Kusnadi, B Sanim, Dan Db Hakim. (2013) 'Analisis Efisiensi Teknis Usahatani Padi Di Jawa Barat Indonesia', Agribisnis, 7(1), 15-34

Panjaitan, P. H., Harahap, G., & Lubis, M. M. (2020). Analisis Perbandingan Usaha Tani Benih Padi Bersertifikat Dan Non Bersertifikat Di Desa Pematang Johar (Studi Kasus Kabupaten Labuhan Deli Kecamatan Deli Serdang). *Jurnal Agriuma*, *2*(2), 97-117.

Ahmad, M. Y., & Rahmah, S. (2019). Pengaruh Pengetahuan Kualitas Benih, Harga Dan Lokasi Terhadap Pemilihan Sumber Benih Padi Varietas Unggul Baru Di Kecamatan Warungkondang. *Jurnal Agrita Vol*, *1*(1).

Novia, R. A., & Satriani, R. (2020). Analisis Efisiensi Teknis Usahatani Padi Sawah Tadah Hujan Di Kabupaten Banyumas. *Mediagro*, *16*(1).

Wulandari, N. S., & Sudrajat, S. (2017). Preferensi Petani Dalam Penentuan Varietas Benih Padi Di Desa Pablengan Kecamatan Matesih Kabupaten Karanganyar. *Jurnal Bumi Indonesia*, *6*(4).