Examining the socio-economic aspects of farmers whether the Pdf

by Aida Taridala

Submission date: 23-Apr-2021 11:09AM (UTC+0700)
Submission ID: 1567316800
File name: Examining_the_socio-economic_aspects_of_farmers_whether_the.pdf (670.33K)
Word count: 5114
Character count: 26815

Examining the socio-economic aspects of farmers: whether the dryland rice would be maintained?

Examining the socio-economic aspects of farmers: whether the dryland rice would be maintained?

Taridala[1], S A Adha[1], Y W Ode[1], T Yani[2], B Hartina[2], Rosmawaty[2], Z Siti [3] and N M Viantika[4]

[1]Lecturer in the Department of Agribusiness of Agricultural Faculty, Halu Oleo University, Kampus Hijau Bumi Tridharma Anduonohu Kendari, Indonesia
[2]Lecturer in the Department of Agricultural Extension of Agricultural Faculty, Halu Oleo University, Kampus Hijau Bumi Tridharma Anduonohu Kendari, Indonesia
[3]Student of Agribusiness Master's Degree, Postgraduate Faculty, Halu Oleo University, Kampus Hijau Bumi Tridharma Anduonohu Kendari, Indonesia
[4]Agribusiness Study Program, Department of Social Economic of Agriculture, Faculty of Agriculture, Hasanuddin University

Email: yanitaufik@ymail.com

Abstract. Dryland rice in Southeast Sulawesi has not been managed optimally. Though this region has great potential, both in terms of supply aspects such as climate compatibility, land availability, biodiversity, community culture, and demand aspects such as organic products for the domestic and export markets.This study analyses the socio-economic factors that influence the decisions of farmers in cultivating upland rice. The study was conducted in the *Baito* District, which is one of the upland rice production centers in *South Konawe* District, Southeast Sulawesi Province, Indonesia. Research activities are funded by the Ministry of Research, Technology, and the Higher Education Republic of Indonesia in 2018. Data analyzed using quantitative methods, namely logistic model regression equations (*logit model*). Estimation methods for econometric models in which dependent variables are binary (*dichotomous*), where the cumulative distribution is not linear, using *Maximum Likelihood Estimation* (MLE). The results showed that three variables significantly influenced the decision of farmers to grow upland rice, namely the number of family members, the number of family members in productive age, and the presence of other agricultural commodities that were considered more profitable and or more comfortable to manage.

1. Introduction

Population growth that continues to increase from time to time has implications for increasing food needs [1]. Rice is a staple food requirement that is consumed by a large portion of Indonesia's population [2]. Data shows that in 2018 milled dry rice production in Indonesia was 56.54 million tons, and rice production was 32.42 million tons with a harvest area of 10.91 million ha [3]. Dryland rice production only contributes 4.2 million tons of rice, and this is due to the relatively small harvest area of only 1.27 million ha and low productivity [4].

It is necessary to consider the use of dry land, which is still quite extensive as an alternative to wetlands. Indonesia has a vast dryland resource, which reaches 52 million ha or 87 percent of the total

land area [5]. However, the government has not given sufficient attention to optimizing the use of dry land for the cultivation of food crops. Konawe Selatan Regency, Southeast Sulawesi Province, has considerable potential for the development of upland rice but received less attention from the government. This suitability can be seen from the aspects of land availability, land suitability and climate, biodiversity, community habits (supply-side), and domestic as well as export markets (demand side).

Potential areas for upland rice development in Konawe Selatan District are at least in 10 sub-districts of the 22 sub-districts in this area. Baito is one of the sub-districts in Konawe Selatan District (Konsel), whose people are trying to plant rice on dry land. Taridala's research results [4] show that striving to plant dryland rice (paddy field) is an activity carried out annually to meet family food needs (food security). Initially, the paddy fields were only cultivated by local people (Tolaki), but in recent years, Javanese transmigrant families have also used their dry land to plant rice. This fact shows that Baito District has the potential to become a dry land granary. However, based on data collected from 2016 - 2018, were initially [4], there were 104 farm households planted upland rice. In the planting season of 2018, only eight households defend to plant upland rice. Most of them who initially plan upland rice turn to plant patchouli. Some of the reasons put forward by farmers switch from planting upland rice to patchouli because to grow upland rice requires a higher workforce than planting patchouli, a more extended harvest period, and only one harvest a year, as well as many pests, attack upland rice. In contrast to patchouli, farmers consider that these plants are relatively easy to care for, relatively small costs, not many pests that threaten crops, and can be harvested up to 3-4 times for 1-time planting. The declining number of farmers who plant rice on their dryland will threaten the food security of their families, even food security at the regional level.

2. Methods

In general, econometrics models have quantitative dependent variables, but they can also be qualitative variables. Models of qualitative choice or qualitative response (QR) are models whose dependent variables involve two or more qualitative choices. Generally, these qualitative data are discrete or limited in number. Qualitative data with only two outcomes (outcomes/responses) are called binary or dichotomous or dummy variables. According to Gujarati [6], in models with quantitative dependent variables, the aim is to estimate the expected value or mean value with a particular regression value, while in the model with the qualitative dependent variable, the goal is to find out the probability of an event that will occur. Therefore, the QR model is also called the probability model [6].

This research applies quantitative analysis using econometric models and descriptive analysis (depiction of phenomena). Qualitative Dependent Variables (QDV) is used to analyze factors that significantly influence farmers' decisions. This approach was chosen because the dependent variable used to answer the purpose of this study is a dummy variable. Verbeek [7] called it 'binary choice' or 'univariate dichotomy,' which means that there are two discrete choices that are given a value of 1 and 0. Gujarati [6] except calling it a puppet variable; in other literature, this variable is referred to as an indicator variable, binary, dichotomous categories, or variables. Kennedy [8] explains that if the dependent variable is created in the value 0-1 and is regressed against the explanatory variable, it is expected that the predicted value of the dependent variable will be between 0 and 1.

Kennedy [8] suggested that the logit model is commonly used by researchers rather than the probit or Tobit model. The reason is that besides being easy in its estimation, it is also likely due to historical reasons, namely the low cost of calculation (before the invention of modern software).

The logit model is stated as follows:

$$\ln[p/(1-p)] = \alpha + \beta X + e \quad (1)$$

Where :
p = probability of occurrence of Y, p (Y = 1)
p / (1-p) = odds ratio
ln [p / (1-p)] = log odds ratio, also known as 'logit'

The logit model as having a cumulative distribution based on the logistical distribution in the form of the letter S, as illustrated in Figure 1 [9]. The sigmoid curve in Figure 1 shows the traced logistic function (logit). As a result of this form of distribution, the opportunity value of farmers to decide to plant rice on dry land or other commodities can be determined as follows:

$$\ln[pi/(1-pi)] = \alpha + \beta X + ei \quad (2)$$

Where Pi is the value of the dependent variable, whose value ranges from 0 to 1.

Estimation of the coefficient of the model in econometric equations whose cumulative distribution is nonlinear uses the Maximum Likelihood Estimation (MLE) method. The likelihood (L) function measures the possible values of a set of dependent variables that are observed (p1, p2, ..., pn) that occur in a sample:

$$L = \text{Prob}\,(p1 * p2 * \cdots * pn) \quad (3)$$

The highest value of L is the greatest opportunity of observation p in the sample. MLE requires a coefficient (α, β) that is the estimation result, which makes the log of the likelihood function (LL <0) as large as possible, or obtains the coefficient that keeps the log of the likelihood function (-2LL) as small as possible. The maximum likelihood estimation is completed with the following conditions:

$$\{Y - p(Y=1)\}Xi = 0, \text{ for all observation : } i = 1,\ldots, n$$

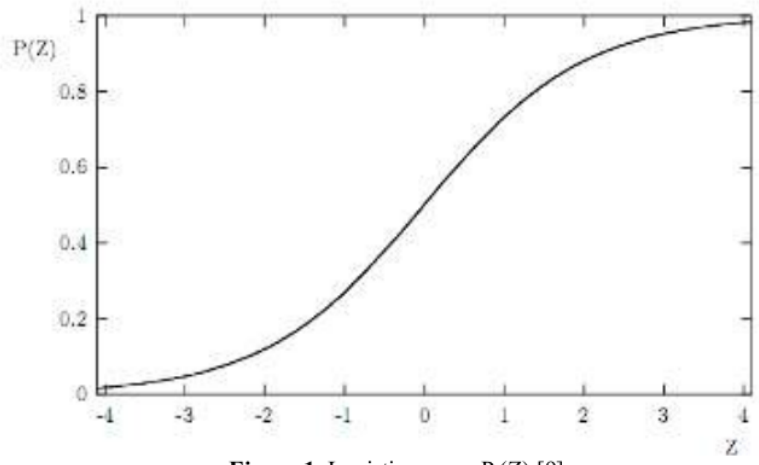

Figure 1. Logistics curve P (Z) [9].

From equation (1) ln [p / (1-p)] = α + βX + e, the coefficient of slope (β) is obtained which is interpreted as the rate of change in 'log-odds' due to changes in X variables.

Following the references that have been reviewed, modifications are made to equation (2). By the purpose of this study, namely to analyze the determinants of farmers' decision to plant rice on dry land or not (as an "independent variable", or "influenced variable"), the econometric model of the decision equation is presented in equation (4).

$$K = a0 + a1\ Un + a2\ LMSn + a3\ JAKUPn + a4\ JAKn + a5\ PUn + a6\ DAUn + u1 \quad (4)$$

Expected regression coefficients: $0<a1<1$; $a2, a3, a4, a5 > 0$; $a6 < 0$

Where:

K	= Dummy decision of farmers to plant dryland rice (planting dry rice = 1, others = 0)
Un	= age of respondents when the research is done;
LMSn	= education (year)
JAKUPn	= number of productive age in each household (person)
JAKn	= number of household members (person)
PUn	= experience in planting dry rice (year)
DAUn	= dummy whether or not there is alternative farming besides dryland rice
u1	= Error term

3. Results and discussion

3.1. The characteristics of respondents

Respondents characteristic are a description of the socio-economic conditions of farmers that also influence farmers' decisions in managing dryland rice farming. Internal and external characteristics faced by farmers described in the study consists of age, gender, level of formal education, the total number of family members, number of productive age family members (over 17 years), experience in dryland rice farming (or often also called 'upland rice'), and whether there are business alternatives that provide higher profits and are easily managed compare to dryland rice farming.

3.1.1. Age of respondents (Un). Age can affect a person's ability, both physical and way of thinking in managing farming activities. Young and healthy farmers have more ability, quick to support technology and information, more responsive, and dare to accept challenges in efforts to advance their farming. While older farmers are more mature in managing their farms, because they are experienced, and their physical abilities begin to decline.

The age group of farmers in this study is based on the classification from the Central Statistics Agency [10], productive age is between 10 and 64 years. More details about the age grouping of farmers are presented in Table 1.

Table 1. Distribution of respondents by age in Baito Sub-district, South Konawe Regency in 2018.

No.	Age (Years)	Number of Farmers (People)	Percentage (%)
1	22 – 64	97	96.4
2	65 – 75	4	3.6
	Total	101	100.0
Average	: 44		
Minimum	: 22		
Maximum	: 75		

Respondents who classified as working age are needed in carrying out dry land farming activities because the farming production process requires labor with strong physical abilities. According to [11], the working-age population group is very productive and has the potential to be active in the context of developing a business.

Based on the age condition of farmers (Table 1), there are indications or trend of the younger generation who are interested in developing agriculture, including upland rice farming. The results of in-depth interviews with several key informants showed that young children were still interested in

continuing the upland rice planting activities. The problem that becomes a challenge is the low yields obtained from upland rice farming, so it cannot be relied upon to meet the needs of their family.

3.1.2. Formal education level (LMSn). The level of formal education is one aspect that determines the ability and way of thinking of farmers in managing their farming. The higher formal education, the wider his knowledge and insight, and the more rational way of thinking. Thus it will accelerate the process of adopting innovations and information to develop the businesses they manage. In this study, the level of formal education is measured by the length of the school period. The results showed that farmers had formal education levels ranging from not going to school to completing college (bachelor). Information regarding the classification of the formal education level of respondents presented in table 2.

Table 2. Distribution of respondents based on its formal education level in Baito Subdistrict, Konawe Selatan Regency in 2018.

No	Formal Education levels	Number of respondents (people)	Percentage (%)
1	No school	5	5.0
2	Elementary = 6 (years)	36	35.5
3	Junior high school = 9 (years)	33	32.7
4	High School = 12 (years)	24	23.8
5	Undergraduate	3	3.0
	Total	104	100.0
	Average : 8		
	Minimum : 1		
	Maximum : 16		

According to [11], producer education at the junior and senior high school levels can be categorized as high. Therefore, with the formal education of such respondent farmers in Baito, they are expected to have broad knowledge and insight and an increasingly rational way of thinking. Thus it will accelerate the process of adopting innovations and information to develop upland rice farming.

3.1.3. The number of Productive Aged of Households (JAKUPn). In every dry land rice farming, the labor used is generally from the household member except during the process of planting and harvesting rice, the labor involved outside the household member. The involvement of workers outside the family is generally done based on a sense of togetherness, and work is done in cooperation. The rice planting process is usually done by 20 people in mutual assistance to help complete the work. For 1 hectare of land, planting activities can be completed in 1-2 days. In making planting holes (Menugal), using tapered wood is generally carried out by men. Whereas the activity of inserting rice seeds into the planting hole was carried out by women [12,13].

Another activity that involves workers outside the household members is in the process of harvesting rice. If the rice is ripe, the farm owner will deliver and call his families or other farmers to help. There are no restrictions on the number of people who can participate in the harvest. Payment for services outside the family labor, not given in cash, but based on the production sharing system.

In addition to the process of planting and harvesting, all other stages of activity in the cultivation of dry land rice are carried out by workers in the household, especially the farmer and his wife. If other family members can help carry out the work in farming is very important. Respondents in this study had an average number of productive family members of 2 people, and the most were six children, but some families did not have children of productive age. Thus, most of the work in farming is done only by the farmer and his wife.

3.1.4. The number of household members ($JAKT_n$). The number of family members is the number of people in one household who fulfill their daily needs in one management unit. Therefore, the large number of family members can be an incentive for farmers as the head of the family to work harder to be able to meet the needs of all family members under his responsibility. Even though a large number of family members is often a burden for farmers as head of the family, especially if they are at an unproductive age, however, if the family members are at productive age, it can be one of the human resources that can be developed to assist the head of the family in managing the farm.

The grouping of family members is based on the classification from the Central Statistics Agency [14]. A small family is a family with a family size of 1-3 people, a medium family with a family size of 4-6 people, and a large family with a family size of more than six people. The results showed that the number of farm family members ranged from 2-7 people with an average of 4 people; the smallest number of family members was one person, and the highest was six family members. The distribution of respondents based on the number of farm family members is presented in Table 3.

Table 3. Distribution of respondents based on the number of family members in 2018.

No	Number of family members (People)	Number of respondents (Households)	Percentage (%)
1	1 – 3	36	35.6
2	4 – 6	61	60.4
3	> 6	4	4.0
	Total	101	100.0
Average	: 3		
Minimum	: 1		
Maximum	: 6		

Based on the number of family members owned by the respondent, it is expected that the workforce needs to manage upland rice farming can be obtained from within the household. The number of family members in a household illustrates the availability of labor [15]. Therefore, with the availability of enough labor in a household, then in a business activity does not require the hire of workers from outside the family. The situation in the field shows the difficulty of finding wage labor because the activities of dry land rice planting are carried out simultaneously at relatively the same time.

3.1.5. Experience in planting dry rice (PU_n). The farm experience of someone is an educational process obtained outside of school that can bring change for that person in managing a farm. Someone with a lot of experience is expected to be able to choose and determine better alternatives for efforts to increase production and income.

Grouping experience in farming is based on the classification proposed by [15] that the category is less experienced when working in the field of work for less than five years, sufficiently experienced 5-10 years, and experienced if more than ten years. The results showed that the experience of respondent farmers ranged from 0 - 35 years, with an average of 11.8 years (experienced). More details regarding the grouping of respondents' farm experience are presented in table 4.

Table 4. Distribution of respondents based on dryland rice field experience, 2018.

No	Farm experience (years)	Number of respondents (People)	Percentage (%)
1	< 5	19	18.8
2	5 – 10	29	28.7
3	> 10	53	52.5
	Total	104	100.0
Average	: 11,8		

Minimum	: 0
Maximum	: 35

Table 4 shows that the majority of respondent farmers, 52.5% had more than ten years of upland rice farming experience. This situation illustrates that most of the respondent farmers had experience in managing upland rice farming. Farmers with a lot of experience are expected to be able to choose and determine better alternatives for efforts to increase production and farm income. Because the longer the experience of farmers in upland rice farming, the farmers are more mature in dealing with problems in their farming, so they can determine the right alternative as a solution to the various problems faced. This is following the opinion of [16] that with a lot of experience in business activity, the farmers already know the problems and obstacles that occur in their farming. With this experience, farmers will be able to organize various resources possessed to increase farming production to the maximum yield.

3.1.6. Dummy, alternative farming in addition to Dry Land Rice (DAUn). A wider scope of research on paddy in dryland began in 2016. The local government of South Konawe District provided funds to carry out socio-economic mapping of upland rice farming households. The study was conducted in 5 (five) districts, one of which is the Baito District. Compared to studies that have been conducted [5], in 2018, there has been a decline in the number of farmers who plant rice on dry land [17].

From initially 104 farmers planted upland rice in 2016 and 2018, there were only eight people left. The reason farmers do not plant dryland rice is that other alternative crops provide relatively more benefits, easier to manage, and less of pests attack.

3.2. Factors affecting farmer's decisions

Factors that suspected influence the chances of farmers' decision to plant dryland rice are very suitable to be analyzed using the *logit* model. As used [18] to analyze the decisions of farmers in the use of seeds in onion farming in Cirebon District, West Java. There are several variables that suspected influence the opportunity of households to plant dryland rice, namely the age of the respondent, length of schooling, number of productive household members, the gender of household head, the total number of household members, the experience of upland rice farming, and dummy whether or not there are alternatives for farmers to plant crops other than dryland rice. In the data processing, the variables gender of the head of the household is excluded from the equation model, because the results the performance of estimation result and variables are not suitable (signs that do not fit the theory).

From six variables included in the model, three variables significantly influence the opportunities for farmers to plant dryland rice. The three variables are (1) the number of household members of productive age, (2) the total number of household members, and (3) the dummy variable for whether or not there are alternatives for farmers to plant other than dryland rice. While variables: (1) the age of respondents, (2) length of schooling period, and (3) experience of planting upland rice, were not significant. The value of the significance of factors that influence farmers' decisions in planting upland rice is presented in table 5.

Table 5. Factors influencing farmers' decision to plant dryland rice, 2018.

No. of Variable	Symbol of Variable	Sign.
1	U_n	.337
2	LMS_n	.589
3	$JAKUP_n$	.032
4	JAK_n	.026
5	PU_n	.241
6	DAU_n	.000

Noted : * There is a significant difference with α of 0.05.

The variable of farmer age does not significantly influence the opportunity of farmers to plant dryland rice. Almost all respondent farmers are in the productive age category (97%), where the average age of a farmer is 44 years old. Young farmers are often unable to manage dryland rice farming, due to the severity of the natural conditions and the amount of energy that must be expended. This is in line with findings [19] in Kyrgyz which showed changes in land use by farmers due to difficulties in cultivation practices and the emergence of many diseases of livestock that are kept.

The variable of education level does not have a significant effect on the motivation of farmers to plant dryland rice. Although someone has a high education, if the knowledge obtained in the education process is not applied in daily life, then education is still something that stands alone without influencing one's motivation to grow dryland rice farming. Moreover, in this study, 69% of respondents only had primary and secondary education.

The educational situation of farmers in Baito is not much different from the education level of farmers who cultivate melons in Nganjuk District, where most of the farmers (41.6%) only graduate from elementary school [20] though these farmers reside in Java, in areas where the availability of educational facilities and infrastructure is far more adequate.

The variable that significantly influences the decision of farmers' to plant dryland rice is the number of family members in productive age. Farmers on average have two children in productive age (in addition to farmers himself and his wives). It appears that with four people in a household is enough to be able to cultivate upland rice. This makes sense, because the area of upland rice cultivated by farmers is also not so large, on average less than one hectare. A large outpouring of labor is needed when planting and transporting crops to the rice barn [17].

The information in Table 5 shows that the variable of the number of family members has a significant effect on the motivation of households to plant dryland rice. This can be understood because the main motive of farmers to grow rice is to meet the basic needs of all family members. So if there is an increasing number of household members without accompanied by an increase in upland rice production, it will cause households to face the risk of food shortages.

The experience of upland rice farming has an insignificant effect on farmers' decisions to plant. In theory, the longer a person's experience to plant particular commodity, the greater the motivation to plant the same commodity. But the result is the opposite, even though on the average, farmer has 11.8 years' experience in managing upland rice. There are even respondents who have been carrying out this activity for 35 years.

An interesting fact is the dummy variable, whether or not there are alternatives for farmers to plant crops other than dryland rice, turns out to have a negative influence on the opportunity to plant dryland rice. The existence of these opportunities encourages farmers to leave rice planting activities. Especially if the crops are considered more manageable, do not require large costs, and the less of pests that attack plants and livestock that are maintained. This phenomenon is also a reason for farmers to divert land use to other crops. The difference is that in this study, the dryland rice farmers switched to patchouli and livestock farming, while farmers in Kyrgyz farmers switched from livestock to other businesses [19].

4. Conclusion

Factors that significantly influence the decisions of farmers in planting dry rice consist of (1) the number of productive age of household members, (2) the total number of household members, and (3) the existence of alternatives crops. Unlike lowland rice, upland rice is generally carried out on the land with tilted topography, where farming activities are carried out manually, relying on human labor with minimum technological input. As a result, production obtained is generally low. This situation encourages farmers to work on other, more profitable crops. Technological breakthroughs to improve the competitiveness of upland rice are urgently needed, such as an effort to obtain early-aged upland rice varieties with high production and are more resistant to pests and diseases. This needs to be done considering the potential land for growing upland rice, which is quite extensive.

References

[1] Mardianto M F F, Tjahjono E and Rifada M 2019 Statistical modelling for prediction of rice production in Indonesia using semiparametric regression based on three forms of fourier series estimator *ARPN J. Eng. Appl. Sci.* **14** 2763–70
[2] Heriqbaldi U, Purwono R, Haryanto T and Primanthi M R 2017 An Analysis of Technical Efficiency of Rice Production in Indonesia *Asian Soc. Sci.* **11**
[3] Badan Pusat Statistik (BPS) 2019 *Luas Panen dan Produksi Beras di Indonesia 2018* (Jakarta: BPS)
[4] Muharsini S and Tiesnamurti B 2017 Regulation of the Minister of Agriculture of the Republic of Indonesia No. 36/Permentan/LB.070/8/2016 on Feed Safety Assessment of Genetic Engineering Products *Prosiding Seminar Nasional Teknologi Peternakan dan Veteriner* (Bogor: Pusant Penelitian dan Pengembangan Peternakan)
[5] Taridala S A A, Abdullah W G and Wianti N I 2016 Pemetaan Sosial Ekonomi Rumahtangga Petani Padi Gogo Sebagai Dasar Kebijakan Menuju Kedaulatan Pangan di Kabupaten Konawe Selatan
[6] Gujarati D . 2006 *Dasar-Dasar Ekonometrika* (Jakarta: Erlangga)
[7] Verbeek M 2000 *A Guide to Modern Econometrics* (West Sussex: John Wiley & Sons, Ltd)
[8] Kennedy P 1998 *A Guide to Econometrics* (Oxford: Blackwell Ltd)
[9] Cramer J S 2003 *Logit models from economics and other fields* (Cambridge: Cambridge University Press)
[10] Badan Pusat Statistik (BPS) 2017 *Penduduk Indonesia Menurut Kelompok Umur dan Jenis Kelamin* (Jakarta: BPS)
[11] Mukson T, Ekowati M, Handayani and Harjanti D W 2009 Faktor-Faktor yang Mempengaruhi Kinerja Usaha Ternak Sapi Perah Rakyat di Kecamatan Getasan Kabupaten Semarang *Prosiding Seminar Nasional Kebangkitan Peternakan* (Semarang: Fakultas Peternakan UNDIP Semarang) pp 339–45
[12] Sulistyono E and Ramdiani Y 2005 Defisit evapotranspirasi sebagai indikator kekurangan air pada padi gogo (Oryza sativa L.) *Indones. J. Agron.* **33**
[13] Badan Penelitian dan Pengembangan Pertanian 2009 *Pengelolaan tanaman terpadu padi gogo* (Jakarta: Badan Penelitian dan Pengembangan Pertanian)
[14] Toha H M 2007 Peningkatan produktivitas padi gogo melalui penerapan pengelolaan tanaman terpadu dengan introduksi varietas unggul *Penelit. Pertan. Tanam. Pangan* **26** 180–7
[15] Patong, Soehardjo A and Dahlan 1984 *Sendi-Sendi Pokok Ilmu Usahatani* (Makassar: Universitas Hasanuddin)
[16] Hernanto F 1999 *Ilmu Usahatani* (Jakarta: Swadaya)
[17] Taridala S A A, Wahyuni S and Suaib 2018 *Introduksi Teknologi Budidaya dan Pengembangan Agribisnis Padi Gogo Menuju Kawasan Perdesaan Organik Berkelanjutan untuk Meningkatkan Pendapatan dan Ketahanan Pangan Masyarakat.* (Kendari)
[18] Theresia V, Fariyanti A and Tinaprilla N 2016 Pengambilan Keputusan Petani Terhadap Penggunaan Benih Bawang Merah Lokal dan Impor di Kabupaten Cirebon, Jawa Barat *Agrar. J. Agribus. Rural Dev. Res.* **2** 50–60
[19] Zhumanova M, Wrage-Mönnig N and Darr D 2016 Farmers' Decision-making and Land Use Changes in Kyrgyz Agropastoral Systems *Res. Dev.* **36** 506–17
[20] Putri, C.F.A. dan Purnomo N H 2017 Faktor-Faktor Pengambilan Keputusan Petani untuk Budidaya Melon di Kecamatan Tanjungan Kabupaten Nganjuk *wara Bhumi* **4** 7–14

Examining the socio-economic aspects of farmers whether the Pdf

ORIGINALITY REPORT

16%	10%	13%	8%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

8%

★ Nurdayati, Rahayu Subektia, Susanto. "Development of android-based counseling media oriented problem solving in sheep livestock groups", IOP Conference Series: Earth and Environmental Science, 2021

Publication

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		