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Submission date: 21-Nov-2019 10:01AM (UTC+0700)

Submission ID: 1218364486

File name: HE_MOTIVATION_OF_FARMERS_ON_GALANGAL_CULTIVATION.docx (75.04K)

Word count: 1367

Character count: 6933



ICA 2013 PROCEEDING

"Science and Technology, Economic and Social Welfare in Developing Countries"

ISBN : 978-602-9372-57-1

THE MOTIVATION OF FARMERS ON GALANGAL CULTIVATION IN SUMENEP REGENCY

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ABSTRACT

The objective of this research is to examine the motivation of farmers on galangal cultivation using factor analysis that involved 10 variables. The variables were measured by using Likert's scale in the form of a positive statement. The results showed that production and income factors were considered by farmers to decide on galangal cultivation. The production factor was formed by the variable of availability of land for cultivation, production input, and agro-climate, and the other one was formed by the variable of income and market opportunities. The dominant factor was production factor.

Keywords : farmer's motivation, galangal, cultivation

INTRODUCTION

Galangal (*Alpinia galanga*) including medicinal plants which become Indonesian biodiversity. The plant is cultivated for rhizome is taken as the raw material of traditional medicine industry. In addition, galangal rhizome consume by household as a spice of Indonesian traditional food. The potential of galangal well enough to be developed, because there is an increasing trend in using galangal as an alternative medicine. Pribadi (2009) states that the demand for medicinal plants is more than 1000 tons / year. The needed of galangal is also increase as a spice of traditional food with increasing population. In rural areas, kinds of traditional food need galangal as a spice. In general, kind of white galangal is used as a spice (Bermawie, et.al., 2012), while the red galangal is used as a medicine, because it contains anti-fungal compounds (Hezmela, 2006). In addition, galangal also contains essential oils that influenced by the magnitude of planting location (Bermawie, et. al., 2012).

In Sumenep, galangal is planted by farmer as plant to fill the garden, mix planting on the upland. Cultivation in monoculture quite often found in the village district Matanaer Rubaru that became centers of production of galangal in Sumenep. Sumenep Agriculture Department data showed, that the galangal crop area reaching 292.14 acres with an average productivity of 2.59 tonnes / ha. Although productivity is low, but many farmers still cultivate galangal. Based on its

*Agriculture Faculty - Postgraduate Program UPN "Veteran" East Java - Indonesia with
Consulate General of United State of America
Surabaya, Indonesia, Oct 10-11 2013*



land resources , some types of plants can be cultivated in these areas . The survey results of BPTP East Java in cooperation with the Department of Agricultural Sumenep Regency showed that plants suitable for development in these areas is food crop and horticultural plants such as onions , long beans , cucumber , watermelon , mustard and chili (Anonymous , 2005) . Galangal is also appropriate based on compatibility between requirement grow and the agro-climatic conditions , the growth proved good enough although the productivity remains low because it has not been cultivated intensively . This means that many choices of plants that can be cultivated . Why farmers choose to cultivate galangal ? It seems that there are several factors that affect the motivation of farmers cultivate these plants . To answer these questions this research was conducted with the aim of analyzing the factors that are considered by farmers to cultivate galangal crops.

METHODS

The research was conducted at Matanaer valage Sumenep from June 2013 to September 2013. This area was chosen with consideration of galangal production centers in Sumenep . Population in this research were all farmers who planted galangal . Therefore, population number only 36 people , so all members of the population used as sample. Data collected by interview to farmer directly. To know the factors were considered on galangal cultivation by farmers using factor analysis . Variables analyzed in this research were : education level (X1) , land area (X2) , farming experiences (X3) , custom (X4) , capital (X5) , production input (X6) , market opportunities (X7) , income (X8) , agro-climatic suitability (X9) . Taking the measurements on all variables using a Likert scale in the form of a statement which is positive , namely : Strongly agree = 5 , agree = 4 , quite agree = 3 , disagree = 2 , and strongly disagree = 1 The model of factor analysis as presented Suliyanto (2005) , namely:

$$F_i = W_{i1}X_1 + W_{i2} + \dots + W_{ik}X_k \quad k = 1, \dots, 9$$

Where :

F_i = factor estimated for each i

W_{ik} = value of coefficient factor for each i to variable for k

X_1 = education level



- X_2 = land area
 X_3 = farming experiences
 X_4 = custom
 X_5 = capital
 X_6 = production input
 X_7 = market opportunities
 X_8 = income
 X_9 = agro-climatic suitability

RESULTS AND DISCUSSION

To determine the existence of a set of important variables were considered by farmers on the galangal cultivation in Sumenep , so the nine variables were tested by using factor analysis. Variabel selected for analysis are: the availability of production input , agro-climate , , markets opportunities , and income . Other variables should be excluded from the selection because the variable has a MSA value less than 0.5 (Sulyanto , 2005) . KMO value showed 0.660 and Bartleit test of sphericity was 112 910 and significant. It means the five variables mentioned above can be further processed for factor analysis.

The next factor analysis showed that there were two factors that can be summarized by the value of eigenvalues . The first factor has eigenvalues 2,808 and the second factor has eigenvalues 1.446 . Contribution of each factor on all variance of 48 391 % and 38,670 % respectively. Thus , both of these factors can explain the variable variance of 85 061 % .

Based on Rotated component matrix were known that the first factor was formed by availability of land , agro-climatic , and production input, because it has a high loading factor on the first factor . It means that the three variables have strong correlation , so it was called production factors . The second factor were formed by income and market opportunities with loading factor , as presented in Table 1 . The second factor is called income factor.



Tabel 1. Selected Factors and Variable Loading Factor

Factor	Eigenvalues	Variable	Loading Factor
Factor 1 Production factor	2.808	Land area	0.894
		Agro-climate	0.845
		Production input	0.730
Factor 2 Income factor	1.445	Market	0.649
		Income	0.786

Farmers motivation on galangal cultivation was more consideredly dominant the factor that supporting the production, such as availability of land, agro-climatic suitability and availability of production input. Soil texture in this area shows sandy clay loam (Anonymous, 2005) and a bit wet, so that the land is suitable for planting of galangal . In general, farmers were cultivated galangal in monoculture system by reason to keep of the plant easily. The next consideration is the income and market factors. The interesting thing from interviews with farmers, market opportunities of galangal is good and market demand has not been balanced by the production of galangal. Market prices are relatively high and stable. Galangal cultivated continuously and can be harvested at any time to fulfil the family's needs, so the farmers stated that it is a saving that can be utilized when needed.

CONCLUSSIONS

There were two factors that farmers considered on galangal cultivation, namely: production factor and income factor. The production factor was formed by availability of land, agro-climatic, and production input, and the other one was formed by income variable and market opportunities. Based on eigenvalues, the dominant factor was production factor.

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ISBN : 978-602-9372-57-1

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