

PAPER • OPEN ACCESS

Connection Role Subsystem Agribusiness in Profitability Farming Galangal in the District Banyuasin

To cite this article: H Malini *et al* 2025 *IOP Conf. Ser.: Earth Environ. Sci.* **1477** 012012

View the [article online](#) for updates and enhancements.

You may also like

- [Identification polycyclic aromatic hydrocarbons \(PAHs\) in the Banyuasin river estuary, South Sumatera](#)
W A E Putri, A I S Purwiyanto, Fauziyah et al.
- [Identification of types and important value of aquatic vegetation and their potential to improve water quality in irrigation canals of Mulyasari Village, Banyuasin District](#)
Windusari Yuanita and Wiwik Septiani
- [Diversity and abundance model according to habitat characteristics of filariasis vector, *Mansonia* spp. in Banyuasin, South Sumatera, Indonesia](#)
Rini Pratiwi, Chairil Anwar, Salni et al.



ECS The Electrochemical Society
Advancing solid state & electrochemical science & technology

247th ECS Meeting
Montréal, Canada
May 18-22, 2025
Palais des Congrès de Montréal

ECS UNITED

Unite with the ECS Community

**Register to
save \$\$
before
May 17**

Connection Role Subsystem Agribusiness in Profitability Farming Galangal in the District Banyuasin

H Malini*, M. Huanza , F Syaiful

Agribusiness Department, University Sriwijaya , Jalan Palembang- Prabumulih Km 32 Inderalaya , Ogan Ilir - South Sumatra, Indonesia

*Email: hennymalini@fp.unsri.ac.id

Abstract. Banyuasin Regency is ranked fourth as a producer of galangal in South Sumatra Province. One of the sub-districts in Banyuasin Regency which has very large galangal production potential is Banyuasin 1. This sub-district is the largest galangal producer in Banyuasin Regency with production of 144,054 kg in 2022. The aim of this research is to explain the role of the agribusiness subsystem in farming activities and relationship with the potential level of profit of farmers in the Galangal production center in Banyuasin 1 Regency. A total of 30 farmers in the production center were sampled simple random sampling. Descriptive statistical analysis and Chi-Square test were used to analyze the data. The research results show that a good agribusiness subsystem supports farming with high profitability, while farming with low profitability occurs because farmers cultivate galangal crops in a non-intensive way, which causes the role of the agribusiness subsystem to not function well. The agribusiness subsystem has several very important components

1.Introduction

Product horticulture can become superior product, that can be increase welfare Indonesian farmers because its potential is great as one of the commodity agriculture can developed in Indonesia. A total of 323 types plant horticulture can developed in Indonesia, including 60 types fruits, 80 types vegetables, 66 types biopharmaceuticals and 117 types plant ornamental [1]

Galangal (*Alpinia galanga*) and bangle (*Zingiber purpureum*) are member family Many Zingiberaceae utilized by the community. Galangal (A. galangal) is plant terna chronic, have stem pseudo colored green old. Stem true colored white, found inside stem false, covered by midrib leaf colored green. the height of the galangal stem can reach 1 m, strands leaf shaped lancet with length 25–35 cm. Galangal utilized as spice cooking by people, ingredients drinks, vegetables, and traditional medicine[2]

Production galangal in Subdistrict Banyuasin 1, occupied order First during period time 2021- 2022, amount production galangal on Subdistrict Banyuasin I from 31,374.00Kg/Year to 144,054.00 Kg/ Year, in matter This show that Subdistrict Banyuasin I is subdistrict with wide land most producer galangal and possible Subdistrict Banyuasin I became center producer galangal. Harvest area galangal in the District Banyuasin I occupied order First highest in Subdistrict Banyuasin during two year successively between order highest other like Subdistrict Betung , Selat Penuguan and Banyuasin III [3]

So far, agriculture considered as activity management farming (*on-farm*) such as planning plant cultivation technical, product processing, and input efficiency usage for produce high quality product in large quantities as usual carried out by producers (farmers). In addition, agriculture also includes off-farm business activities as a commercialization effort for processing agricultural products such as processing, installation and processing. However, it should be remembered that if agriculture is considered as a business, then the two components will be interrelated and form a single business activity unit, starting from chain link production, processing to product marketing. To understand that



agriculture as a business known as agribusiness, it is necessary to understand how agricultural activities are carried out to make a profit. [4]

Agribusiness is an agricultural business or agricultural business that focuses on profit. One way to increase farm income is to implement an integrated agribusiness system development plan. This plan means that the agribusiness system consisting of production facility subsystems, cultivation subsystems, processing subsystems and marketing subsystems is built in an integrated and harmonious manner. The implementation of agribusiness is a unity or collection of interrelated agribusiness elements to achieve certain goals.[5]

The synergy between the various agribusiness subsystems ensures that every stage from production to marketing is well managed, optimizing costs and yields, and increasing farm income and profitability. Good integration between these subsystems is essential to ensure that farming not only survives but also thrives economically. Profitability is the level of ability of a business process to generate profit. Production costs usually affect profitability, but it does not rule out the possibility of other factors that have a significant influence besides costs. This is due to the fact that income generation comes not only from capital but also from agricultural support resources; these resources include physical and non-physical resources. Farming support resources are interconnected subsystems in agribusiness. [6] The purpose of this study was to determine the relationship between the agribusiness subsystems involved in galangal farming and how these subsystems are related to the level of profit of galangal farming in Banyuasin Regency.

2. Materials and methods

2.1. Method Study

The research method used is the survey method. The survey method is an approach used to collect data from a number of samples using questions through questionnaires or interviews with the aim of describing various characteristics of the population and relying on questionnaires as the main means of collecting core data. [7]

2.2. Samples

The sampling method used in this study used a simple random sampling method on the population of galangal farmers in Merah Mata Village, Banyuasin District. The number of farmer respondents used in this study was 30 respondents, some of which were for other agribusiness subsystem respondents, namely respondents for the Input subsystem, 3 respondents were taken as suppliers of agricultural production facilities, suppliers of technology procurement for galangal farming and so on. For the Output subsystem, 2 samples of collecting traders and 3 samples of retail traders were taken.

2.3.Data collection

The data collected in this study consists of primary data and secondary data. Primary data is data obtained directly from the source by interview method to galangal farmers, suppliers of agricultural production facilities and respondents of collectors and retailers and other respondents, namely Agricultural Extension Workers (PPL) and other institutions involved in the Galangal Plant Agribusiness Sub-System. Secondary data is data obtained from related agencies, namely the Central Statistics Agency, research journals, literature, and literature books related to the agribusiness sub-system.

2.4.Data processing

In the data processing method, data obtained from the field will be processed and analyzed quantitatively and qualitatively. The data that has been obtained will be presented by tabulating and explained descriptively. To answer the purpose of this study is to identify the sub-system of galangal farming agribusiness, a qualitative descriptive analysis was carried out using tabulation and Chi-Square analysis which is used to determine the relationship or influence of

two variables and measure the strength of the relationship between variables. In this study, there is a relationship between the variable level of profitability of galangal farming and the components of the galangal farming agribusiness subsystem which include the fulfillment of farming capital, availability of production facilities, area of land owned, capital institutions, frequency of extension, marketing networks, government roles, facilities and infrastructure and farmer activities.

Hypothesis in this study is :

H0 : There is no connection between profitability farming galangal with variable x

H 1: There is a relationship between profitability farming galangal with variable x

Hypothesis can tested with Chi- square formula following :

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i} \quad (1)$$

Information :

χ^2 = Factors related to the level of profitability of galangal farming

O_i = amount frequency reality in variable x

E_i = amount frequency hope for something variable

k = amount line on the crosstab

df = k -1 (degrees freedom)

Based on hypothesis obtained α value = 0.05.

Criteria decision consists from : H0 is rejected If Asymp Sig < 0.05.

H1 is accepted If Sign Asymp > 0.05.

3. Results and discussion

Galangal Plant Agribusiness Subsystems are people who are directly involved and active in the distribution of galangal production results starting from suppliers of production inputs, producers to end consumers. Each agribusiness subsystem has different activities and roles according to their respective positions. In this study, galangal in Merah Mata Village has actors who play a direct role in galangal cultivation, namely the upstream agribusiness subsystem (input) consisting of suppliers of agricultural production facilities, providers of agricultural capital, providers of labor in this case farmers act as providers of labor input and producers, technology providers, the role of the on-farm subsystem includes: knowledge possessed by farmers for galangal farming, counseling and training on galangal cultivation and farmer skills in galangal farming, for the off-farm subsystem, this role is played by collectors, retailers, the role of processing and cooperation in marketing galangal, as well as the role of supporting institutions such as the role of PPL, and the role of the government through government programs for galangal cultivation. The following is a table of the roles of each subsystem of the galangal agricultural agribusiness.

Table 1. Roles each sub system agribusiness galangal

Sub System	Variable	Persons	Role
Inputs	- Availability of own capital	- Farmer	- supply your own capital
	- Provider production facilities	- agricultural production facilities	- supply means of production (like fertilizer , insecticide , pesticide ,)
	- Capital institutions	- Middlemen , banks (Bank Sumsel Babel and BRI), procurement	- supply financing For galangal farmers
	- Suppliers Technology input	- Shop Equipment	- supply equipment agriculture
On Farm	- Knowledge Farmer about galangal farming	- Agricultural media , mass media	- Give information about cultivation galangal plant
	- Counseling received farmer For cultivation	- PPL	- Give counseling about cultivation galangal plant
	- Training about cultivation of galangal	- External Institutions	- Give training about cultivation galangal plant
	- Skills farmer in galangal farming	- Farmer	- Skills farmer in manage galangal farming
Off Farm	- Marketing (middlemen , traders retailer)	- Middlemen , traders	- Buy galangal form farmers and sell galangal to the market
	- Processing	- Group of galangal women farmer	- Do processing galangal become shredded meat , and galangal sticks
	- Cooperation product marketing	- Agriculture services, medium business	- Promote processed product of galangal and unprocessed galangal
Sub system Supporter	- Counseling	- Counselor Agriculture Field (PPL)	- Give counseling regarding internal issues cultivation of galangal
	- Government	- agricultural extension worker, PT PLN	- PT PLN give means production through by the Social and Environmental Responsibility program

The results of the study illustrate that among farmers in Banyuasin Regency, 20% of farmers obtain high levels of profit from galangal farming using their own capital, 13% of farmers obtain moderate profits from galangal farming using their own capital, and 10% of farmers obtain low profits from galangal cultivation using their own capital. The remaining 57% are farmers who use capital from the PT PLN Social and Environmental Responsibility (TJSL) program assistance only. The amount of profit obtained by farmers is influenced by various things, one of which is the role of the galangal farming agribusiness subsystem. The results of the Chi-Square test between the role of the agribusiness subsystem and the level of profitability of galangal farming can be seen in Table 2. There are 4 variables from the role of the agribusiness subsystem that are closely related to the level of profitability of galangal farming in Banyuasin Regency. The four variables include the fulfillment of own capital, availability of production facilities, marketing networks, the role of government, and community participation.

Table 2. Chi-Square Test Results between Role Subsystem Agribusiness Regarding Profitability Levels Farming Galangal

Sub System	Variable	Profitability Level	
		R	Ps
Inputs	- Availability of own capital	9,602	0.008*
	- agricultural production facilities	15,892	0,000**
	- Capital institutions	2,798	0.247
	- Supplier Technology input	2,619	0.270
On Farm	- Knowledge Farmer about farming galangal	3,710	0.156
	- Counseling received farmer For cultivation	1,166	0.558
	- Training about galangal cultivation	2,932	0.231
	- Skills farmer in galanga farmingl	1,259	0.533
Off Farm	- Marketing (middlemen , traders retailer)	3,772	0.152
	- Processing	2,960	0.228
	- Marketing product Cooperation	15,212	0,000**
Sub system	- Counseling	3,239	0.198
Supporter	- Contribution Government	7,747	0.021*

Source : Primary Data (processed from 2023 data)

Information :

**Significant at 1% real level

•*Significant at 5% real level

ris mark *Pearson Chi-Square* and *p* is mark opportunity or level real (*Asymp . Sig. 2 tailed*) .

In farming activities, capital is one of the most important production factors. The availability of adequate capital can support the smooth running of the production process and maximize farming profits [8]. In the context of farming, capital can be obtained from cash, equipment, land, and other resources used to carry out agricultural production activities. The types of internal capital for farming can be divided into own capital and loan capital[9] .

The availability of adequate equity can play an important role in increasing the profitability of farming. Galangal farmers in Banyuasin Regency as much as 43.33% use their own capital, so that galangal farmers do not need to pay interest loans, so they can reduce production costs. This can increase the profit margin obtained by farmers. The variable of fulfilling equity in galangal farming has a close relationship, because farming will be carried out well if farmers have their own capital to fulfill their production activities, the use of equity can reduce the risk of farming, such as the risk of crop failure or price fluctuations. This is because farmers do not need to pay interest loans that burden the financial condition of farmers when there is a shock [9] .

The government has made various efforts to increase the availability of agricultural production facilities, including through fertilizer subsidy programs, seed industry development, and improvement of agricultural infrastructure. The results of the study indicate that the availability of agricultural production facilities, both from government subsidies and those obtained by farmers themselves by purchasing at the nearest production facility shop from the location of the galangal farmer's residence, is closely related to the profitability of galangal farming businesses.

The level of profit of galangal farming is closely related to the variable role of farmer marketing cooperatives. Farmers who have few galangal marketing cooperatives will not have many choices of market destinations, while those who have many marketing cooperatives will get very little market information, so farmers only rely on middlemen to buy galangal and do not have other market destination options. The absence of cooperatives in marketing agricultural products means that farmers

cannot choose market destinations and do not have bargaining power in determining prices. However, if there are many cooperatives in marketing, farmers will have various galangal market destinations with various levels of market information, so farmers can choose a market that suits the quality and quantity of galangal they produce at a commensurate price level. The marketing targets of galangal at the Banyuasin Regency research location vary, there are farmers who market their galangal to middlemen in the area where the galangal farmers live, there are middlemen who usually buy galangal from farmers. Galangal farmers also market galangal directly to traditional markets in Palembang, both markets that sell in large quantities and retail markets, such as Jakabaring Market, in addition. So, many also order from Bangka Island and from around the Banyuasin Regency Craftsmen area. Usually traders who buy farmers' galangal in the market are usually paid in cash, while middlemen usually pay in installments, and if farmers have capital loans from middlemen, usually the farmer's debt is deducted first and then the rest is paid to the farmer. Cash or due payments need to be made by farmers. The results of the study showed that 20% of farmers have cooperatives in marketing, the remaining 80% are farmers who do not have cooperatives/permanent ties with galangal marketing institutions. The level of profit of galangal farming is correlated with the variable of government role; This finding is also in accordance with the results of research showing that the role of government is the most important in agribusiness. This is because the government is responsible for ensuring the availability of production resources such as fertilizers, seeds, and agricultural machinery. To help increase farmers' income, the government has also made policies to improve infrastructure, regulate galangal trade policies, and provide financial credit schemes through banking, as well as provide farmers with support and extension programs to increase their income. As many as 56.66 percent of farmers stated that they received assistance from the local government and the BUMN Social Responsibility, namely PT PLN. In addition, as many as 43.34 percent of farmers stated that they received government assistance with infrequent frequency. Farmers receive government assistance such as fertilizer and seed subsidies, as well as facilities and infrastructure for post-harvest handling [10]. In addition, planting galangal plants is the result of 12 joint movements with the community designed by the Banyuasin Regency government. The Vegetable Planting Movement (Gertas) is one of 12 joint community movements that focus on the agricultural sector, such as the Vegetable Planting Movement (Gertas), Poultry Farming Movement (Gemar Tugas), Fruit Gardens (Pulauan Bueh), People's Fish Care Movement (Gerbang Perak), and the Spice and Medicine Planting Movement (Tobaru).

4. Conclusions

There are several other elements of the agribusiness subsystem that have a close relationship with the level of profit of galangal farming, including the fulfillment of own capital in farming, the fulfillment/availability of agricultural production facilities for cooperatives in marketing galangal and government contributions. As many as 23.33% of galangal farmers obtained high profits, as many as 20% of farmers obtained moderate profits and 56.67% of galangal farmers obtained low profits.

References

- [1] D. Pitaloka, 2020 "Horticulture: Potential, Development and Challenges," *J. Teknol. Apply. G-Tech* , **1** 1–4,
- [2] E. Rusdi, 2013. *Spice Plants and Phytopharmaceuticals* , Lampung University Research Institute, **112**
- [3] BPS, 2022 "Harvest Area and Production of Biopharmaceutical Crops According to Regency/Subdistrict and Plant Types in Banyuasin Regency. Banyuasin," 2 [Online].
- [4] S. Herliani, Z. Saidah, TI Noor, and E. Djuwendah, 2021. "Relationships Between Hybrid Corn Agribusiness Subsystems in Maja District," *Mimb. Agribusiness J. Thinker. Masy. Ilm. Agribusiness Insights* , **7** 550.
- [5] Supristiwendi and M. Azizah, 2015 "Permanent Lecturer of the Agribusiness Study Program,

- Faculty of Agriculture, Student of the Faculty of Agriculture, Agribusiness Study Program, Samudra University, Langsa-Aceh," *J. Peelit. agrisamudra* , **2** 21–29
- [6] F. Awaliyah, BR Saefudin, L. Sulistyowati, E. Rasmikayati, and R. Syakur, 2023 "The Role of the Agribusiness Subsystem in Mango Production in Two Production Centers in West Java," *Gunung Djati Conf. Ser.* , **33**, 10–18
- [7] M. Maidiana, 2021 "ALACRITY: Journal Of Education," *J. Educ.* , **1** 20–29.
- [8] R. Septiani, 2019 "Income of Muslim Farmers and Implementation of Zakat on Agricultural Products (Study of Rice Farmers in Rembun Village, Dampit District, Malang Regency)," *J. Ilm.* **7** 2–18.
- [9] Soekartawi, 2016 *Analysis of Farming* . University of Indonesia Press.
- [10] K. Agriculture, 2021 "Performance Report Performance Report,"