



# Information Need in Supporting Development of Oyster Mushrooms Agribusiness in Indonesia

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## **Abstract :**

*Agriculture is considered to be a strategic sector in Indonesia. One of the most important agriculture subsector is oyster mushrooms or pleurotus ostreatus which produces edible mushrooms for consumption. Oyster mushrooms agribusiness provides a potential opportunity due to its existing and potential high domestic and overseas demand. Nevertheless, there are several significant problems have been identified that hindered the development of this agribusiness. These include unreliability of supply of raw material, lack of infrastructure, inadequate managerial skills, but the most important problem is inadequate access to information. Actually, this research is a part of the research entitled Pleurotus ostreatus agribusiness strengthening supported by information system. The main purpose of this research are: 1) Identification of oyster mushrooms agribusiness. 2)Description of information needed by stakeholder in supporting success of oyster mushrooms agribusiness. Focus Group Discussion is used in collecting data and information needed by stakeholder includes analysis of information required by each practitioner in the agribusiness system.*

**Key words:** *agribusiness system. Oyster mushrooms, information.*

## **INTRODUCTION**

Agriculture sector in Indonesia is very important , it has a role in a) providing job opportunity for the majority of labor force , b ) producing food for nations , c)raw material producer for industrial sector and d) strengthening food security and rural development. Agricultural development in Indonesia is also related to the effort to reduce poverty . More than 40 percent of about 230 million of population engage in agriculture. In the first quarter of 2013, GDP of the food crops sub-sector increased by 68.60 percent against the previous quarter, while GDP plantations and farms fell respectively by 12.76 percent and 3.38 percent (PDB Produk Pertanian, Juni 2013). One of factors that hinder agriculture development is situation that most of farmers own small piece of farmer land ,the average of land ownership is below 0,35 hectare.

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Sub sector horticulture which produce fruits and vegetables is one of the important sub sector in Indonesian agriculture .This sub sector contribute about 11.73 percent of Gross Domestic Product of Agriculture sector. Oyster mushrooms is one of vegetables commodity which has high nutrition as food consumption. Vegetables consumption which is needed as health standard is about 65 kg per capita per year ( FAO ) ,whilst vegetables consumption by Indonesian population only about 30.8 kg per year. This evidence shows that there is a potential opportunity due to its existing and potential high domestic and overseas demand for oyster mushrooms Nevertheless, there are several significant problems have been identified that hindered the development of oyster mushrooms agribusiness. These include unreliability of supply of raw material, lack of infrastructure, inadequate managerial skills, but the most important problem is inadequate access to information.

Production process of planting oyster mushrooms is relatively easy , need not large land for planting, and only need short time for cultivating.

One of the important thing that influence the vegetable farmers empowerment are the intensity and the level of Information and Communication Technology (ICT) utilization. Therefore, the main purpose of this research are : 1) Identification of oyster mushrooms agribusiness. 2) Description of information needed by stakeholder in supporting success of oyster mushrooms agribusiness. Focus Group Discussion is used in collecting data and information needed by stakeholder .

This research is the first step for further research in providing information system for agribusiness practitioners utilizing the current information technology, allowing practitioners to access the required information.

## **AGRIBUSINESS AND INFORMATION TECHNOLOGY**

John Davis and Ray Goldberg in Natawidjaya 2002, defined agribusiness as follow:

*“Agribusiness is the sum total of all operations involved in the manufacture and distributions of farm supplies; production operations on the farm; and the storage, processing and distribution of farm commodities and items made from them”*

According to this definition , agribusiness can not be viewed as on farm activities only, but also as a whole chain of activities including providing input production, production process, marketing. Furthermore , Agribusiness system is generally divided into five subsystems, i.e subsystem production facilities providers, farm or on-farm activities (primary production), initial processing (secondary production), and late processing services (tertiary production), and the demand side of the market or consumers, neither foreign nor domestic. (Saragih,2001)

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In more detailed Natawidjaja explained that : Agribusiness is an agriculture based business or other fields that support it, that has comprehensive series of activities ranging from procurement and production to the industrial processing and marketing activities. Since agribusiness is a system, then there is a lot of factors and related parties which are contribute to the success of its development (Natawidjaja, 2002).

As a system there are many factors and stakeholders that involved in agribusiness development. Therefore, information has important role in communicating among each sub system or stakeholder in order to create communication and coordination effectively.

The issue of Information and Communication Technology (ICT) adoption recently has become a priority to support Indonesian Agribusiness development facing the globalization era . Information flow has a positive effect on agriculture and agribusiness. ICT offers the ability to increase the amount of information provided to all participants and to decrease the cost of disseminating the information. Therefore effort to continuously promoting the adoption of ICT in agriculture and agribusiness is of necessity.

The benefits of Information and Communication Technology adoption in agriculture and agribusiness is to open opportunities for farmers to market information and agricultural technology, credit facilities , training facilities to increase knowledge and skills , and accelerate the process of communication and information access, increasing the net work of communication and bargaining position of farmers.

## **METHODS**

To meet the objectives of the research , data collection and observation was conducted to identified characteristics and detailed of oyster mushrooms agribusiness included agribusiness subsystems and stakeholders in each subsystem and interrelated among subsystems as a whole. When oyster mushrooms agribusiness have already been identified, area sampling and stratified random sampling was used to select sample. Focus Group Discussion is used in collecting data and information needed by stakeholders in supporting success of oyster mushrooms agribusiness. Providing of information has very important role in supporting communication and coordination between subsystems accurately and smoothly, whilst vertical coordination will provide more opportunities for agribusiness stakeholders to remain in a role of the overall systems of agribusiness.

## **RESULTS AND DISCUSSION**

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Research result indicate that oyster mushrooms agribusiness consist of five subsystems namely , production supplier, farming production, post processing agroindustry, marketing, supporting agency. There are sixteen stakeholders include in all subsystems .Information interrelationship between stakeholders also describe in figure 1. Information required by each stakeholder can be identified.



Figure 1  
Oyster mushrooms agribusiness and information sharing between stakeholders

Each stakeholder in agribusiness subsystem requires high quality information and knowledge, which is accurate, complete and up to date, to increase production more efficiently and improve the ability of human resources in the subsystem.

Each stakeholder operate its business in its market structure. Market structure faced by each stakeholder is not the same. Some of them close to perfect competition market and the others close to imperfect competition. The important thing for stakeholder in certain market structure is making decision to determine sale price and quantity of output in order to run business efficiently and gain maximum profit.

Therefore almost all stakeholders need information on price and quantity of production. Information needed by each stakeholder describe in table 1 below.

Actually dominant factors which affect stakeholder's accessibility to information and communication technology are knowledge on ICT, skills in using ICT, ownership of ICT, education, age, income level, social status. Therefore it is necessary to conduct preliminary research related on these factors before implementation of information system in oyster mushrooms agribusiness.



Tabel 1  
List of Information flow needed by stakeholders

No	Stakeholder	Information needed by stakeholder
1	Sawmill Business Unit	I-1: Profile, Production Capacity, Price,
2	Ricemill Business Unit	I-2: Profile, Production Capacity, Price,
3	FarmShop	I-3: Product Profile, Price , Stock status, Order status Credit Oppor-tunity
4	Seedling Business Unit	I-4: Profile, Production Capacity, Price, Stock position, Spec of Seed
5	Breeding (Baglog) Business Unit	I-5: Profile, Production Capacity, Price, Stock position, Spec of baglog
6	Mushroom Production (Main) Busi-ness Unit	I-6: Profile, Production Capacity, Price, Stock position, Spec of product
7	Cullinary Agroindus-try Unit Busi-ness	I-7: Profile, Production Capacity, Price, Stock position, Spec of product
8	Pharmaceu-tical Agro-industry	I-8: Profile, Production Capacity, Price, Stock position, Spec of product
9	Seed Marke-ting	I-9: Product Profile, Seed Price
10	Baglog Marketing	I-10: Product Profile, Baglog Price
11	Fresh Product Marketing	I-11: Product Profile, Fresh Product Price
12	Processed Product Marketing	I-12: Product Profile, Processed Price
13	BMKG	I-13: Weather report
14	Agriculture Agency	I-14: KnowHows, Standards, Regulations
15	Asosiasi	I-15: Standard price info, association regulations
16	Industry & Trade Agency	I-16: Industry & Trade regulation, production target, export quota, standard

## CONCLUSION

Oyster mushrooms agribusiness have 5 subsystems namely production facilities providers, farm production, agro-industry processing, marketing and supporting institutions including 16 stakeholders . . Market structure faced by each stakeholder is not the same, some of them close to perfect competition market and the others close to imperfect competition. The important thing for stakeholder in certain market structure is making decision to determine sale's price and quantity of output in order to run business efficiently and gain maximum profit, therefore almost all stakeholders need information on price and quantity of output. It is necessary to conduct preliminary research related on factors which affect stakeholder's accessibility to information and communication technology such as factor of demography, social status, and education



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