International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2015): 6.391

Performance of Rice Farmer Group in Flood Area Bengawan Solo Watershed Bojonegoro Regency

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Abstract: ***Farmer groups are effective local institutions in building regional agricultural potential. Serves as a platform for the farmers to access agricultural and solve problems together. Watershed (DAS) has great potential to troubled flood that impact on agricultural land. This study aims to analyze system of rice agribussiness and performance of farmers' groups in flood area Bengawan Solo Watershed Bojonegoro regency. The main data of the study is secondary data from the Centre for Disaster Studies Bogor Agricultural Institute with 50 respondents from three farmer groups Kedungprimpen village Kanor in Bojonegoro. Analyzed using descriptive analysis and Importance Performance Analysis (IPA). The results showed that in Kedungprimpen village has adapted rice agribusiness system that is upstream subsystem, farming and supporting institutions. But in downstream subsystems and marketing still controlled by wholesaler. Performance of farmer group shows there are some attributes result in a farmer groups get in on the high performance to low priority. Effective performance indicators visible on the organizational structure, administration, cash and membership fees, facility farming tools, organic fertilizers, chemicals, pesticides and credit.***

Keywords: Rice, Bengawan Solo Watershed, Farmer group, Performance

1. Introduction

Bengawan Solo watershed is a troubled floods area in every year both in the upstream to downstream. The biggest impact of flooding is Bojonegoro area which is an area downstream of the Bengawan Solo river. Downstream into the areas most affected by flooding due to shipment flooding from upstream areas such as Wonogiri and Ngawi.

Bojonegoro is the fourth as a producer of rice production in East Java felt the flooding threat that could disrupt production. In 2013 Bojonegoro have crop failure of 2115 hectares so rice production decreased by 802 528 tonnes and increased in 2014 amounted to 847 857 tonnes (Central Bureau of Statistic 2015). Farmers stay to keep farming rice despite the potential for crop failure.

Climate anomalies caused climate change, and shifting rainfall seasons. The impact on agriculture makes farmers' difficulties in determining the start planting, seeding and fertilizing. So the production will decline and erratic supply while demand continues to rise.

Unpredictable weather changes have a great impact for rice production. Similarly, the floods in Thailand in 2011 which caused significant damage to rice farming. Noted rice crop overlay on the map the areas hit by floods showed about 16.8 percent of the rice cultivation area compared with 2008 were only around 4.9 percent swept away by floods (Son et all 2013).

In the agribusiness rice in flooded areas should be a focus of innovation to anticipate the negative impact of the natural disaster. Farmers must be able to adapt to climate anomalies in which the changes are being made to keep producing rice. Effort by the expansion of production at the instigation of the adaptation of farmers to minimize the risk of a decline in production, examples of adaptations made such expansion, rice seed and changes in cropping patterns.

The impact of the floods on rice farming seen also from the quality and price of rice. It can be seen that the reduction in the Government Purchase Price and quality at harvest moon. In 2013 average room rates wet paddy occurs in April, each amounting to IDR3 669.04/kg for farmers and IDR3 738.83/kg in level grinding. While the average lowest price occurs in April, each for IDR4 232.08/kg at the farm gate and IDR4 309.64/kg at the mill level. This condition is due to the quality of grain is decreasing due to the attack of Plant Pest Organisms and a high moisture content as a result of high rainfall (Central Bureau of Statistic 2014).

Along with farming which are vulnerable to the effects of flooding, it is related to the revenue generated by the farmers. Farmers can not depend on the results of on-farm which is uncertain. Farmers in flood-prone areas to dominate the non-farm businesses as a source of revenue, such as by trade, became factory workers. Approximately 20 percent of revenue comes from on-farm, but it comes from off-farm and non-farm (Azzahra 2015).

Kusnandar et al. (2013) revealed the agribusiness system of organic rice consists of several actors involved, namely rice farmers organic, agro-organic rice, farmer groups, farmer group combined, cattle breeders, associations of organic rice, the Executive Agency of Agricultural Extension, Fisheries

and Forestry, as well as financial institutions and consumers,

Farmer groups as local institutions become the foundation in the development of rural agriculture. The role of farmer groups as the organization that manages the farmers in making rice agribusiness as well as make it easier for the government and stakeholders to facilitate and provide reinforcement for farmers. Institutional farmers contribute to the socio-economic aspects, information and adoption of innovation. As the accessibility of socio-economic development, capital, infrastructure and markets. Farmer groups formed to facilitate the farmers in accessing necessary. Solving the problems faced by farmers who can not be addressed by each individual. Performance farmer groups greatly influence the success of agricultural products.

Performance assessment of farmer groups as a process to look at the extent of its resources have been used to the maximum. Through a system of measurement can be seen how the farmer group runs. Progress and setbacks experienced and supportive aspects. Oriented to the future to further develop and advance. Performance farmer institutions less effective causing low cooperation in solving problems relating to rice production. The concept of farmers' groups have their respective duties in carrying out the functions. In conditions of disaster-prone areas, farmers' group was instrumental role. To manage that suitable with these extreme conditions. Not only focusing on rice production but the entire farm system from upstream to downstream and support

The government has launched several programs to support increased productivity of rice. Programs that deal directly with farmers and stakeholders such as Integrated Crop Management Field School-Integrated Pest Management (SLPTT-SLPTT). The program will be established in the work plan for dealing with problems that occur in the farmer groups.

Institutional role in reducing the impact of flooding is important. Institutional existence has become a necessity for farmers to improve their quality of life, dignity and status. Starting from the smallest agencies to the farmers that farmer groups. Institutions farmers as shade some farmers with the same commodity and has a mission for the welfare of the members. Institutional farmers should be placed as a means to realize the hopes, desires, and fulfilling the needs of farmers.

The existence of farmer groups very useful for members. Farmer groups formed to facilitate access to agricultural technologies that better (Gibson et al., 2008), improving access to productive market (Aliguma et al. 2007), to facilitate transporting produce to market (Mwaura et al. 2012), financial security and investment households (Mutoro 1997) and access to credit in which groups of members acting as security for one another (Loevinsohn et al. 1994).

Farmer group performance is largely determined by the solid cooperation between members and administrators. Akbar (2011) revealed that the group of farmers who are in the Karawang regency have level of performance and quality aspects Gapoktan by 34.78 percent and it is the optimal results. Widya (2012) revealed that aspects of the performance and quality needs to be done in the performance improvement is farmer group combined plans, organizing meetings, farmer group combined not have a legal entity, business development and the role of companion extension member. Aspects of financial cooperation with financial institutions, most farmers do not consider it important that indicates that farmers not awareness about capital development. Supprted by research Firdausi (2014), performance analysis farmer groups in 7 villages in East Rasanae showed that most of the farmers' group classified as good enough with percentage of 54 percent. There is a positive correlation or relationship between levels of performance with farmer groups with a level of food security farmer group member's home.

There is a structure in which there is a farmer group leaders and members who are divided into sub-sub-division of labor. The formation of the division of labor of the farmer groups will facilitate the course of the activities of the farmers. Control and supervision of farmer groups will be more intensive. The sustainability of farmer groups depend on the ability to manage members to continue to be active, positive and integrated in all information. The entire scope of management is directed to farmer groups formed frame will be the successor for the sake of the continuity of existence in the future. In accordance with the study in Tanzania shows a group of farmers who've grown up with a strong internal organization and better asset base will be easier to improve their market situation (Barham et al. 2009).

Specifically the purpose of this study is to describe the performance of rice agribusiness and farmers groups in the area flow particularly the Bengawan Solo river downstream in Bojonegoro.

2. Methodology

The study used quantitative and qualitative descriptive approach to explain the performance of farmer groups. Implementation of the research in March - April 2016 in the Kedungprimpen village Kanor Subdistrict Bojonegoro. Locations were selected purposively which is downstream Bengawan Solo. Kedungprimpen farmer groups in the village of three groups. Samples were taken deliberately by the number of respondents as many as 50 farmers. Farmer groups have homogeneous types of commodities namely rice farming. The analysis in the research using descriptive analysis in explaining the agribusiness rice by using the concept of agribusiness and Importance Performance Analysis (IPA) to identify performance farmer groups.

Agribusiness system according Pambudy (2005) there are five subsystems agribusiness system that subsystem upstream agribusiness, farming, processing, marketing and supporting services. Subsystem upstream (up-stream) is an activity that produces capital goods such as agricultural or farm seed industry. Farming subsystem (on-farm) is the activity using agricultural inputs into outputs or agricultural production. Processing subsystem (down-stream) is the primary activity to process agricultural commodities into semi-finished

products or end. Marketing subsystems that implement activities and facilitate marketing of agricultural commodities both fresh and processed such as trade policy, distribution, promotion, market intelligence and market structure. Supporting service subsystem is supporting activities facilitate the development of other subsystems such as financial institutions, insurance, research and development, education and training, warehousing and transportation.

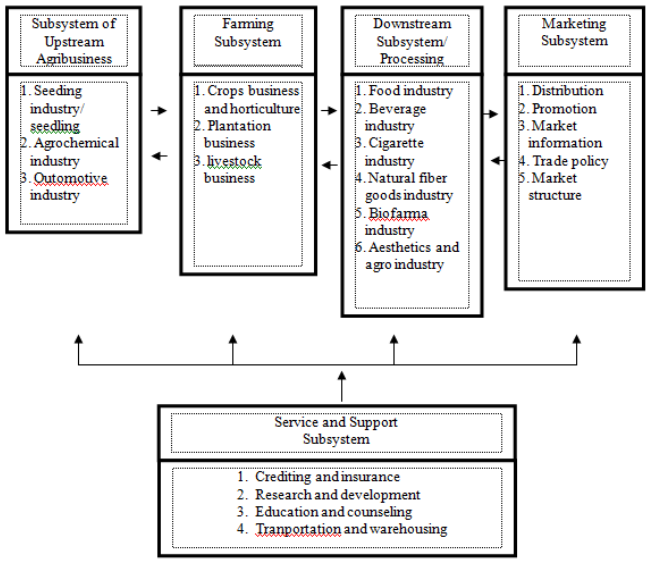

Figure 1: The scope of agribusiness system
Source : Saragih 2010

Kitcharoen (2004) revealed that the analysis Importance-Performance is based on the model of multi-attribute. IPA analysis identifies strengths and weaknesses of the market offers in terms of two criteria that consumers use in making consumers. It starts with identifying the relevant attributes that can be developed through interviews and using managerial assessment. After determining the attributes will be given a choice, one with respect to the importance and performance of the company itself.

IPA matrix is used to describe the priority of the attributes that are useful for the future of the organization. To see the level of interest and satisfaction using a Likert scale of 1 to 5.

3. Result and Discussion

3.1 Rice Agribusiness

Agribusiness activities based on the superiority of natural resources with the application of technology and human resources for the acquisition of value-added. The growth of agribusiness to smallholders is weak in terms of capital, ability, knowledge and tenure can be reached by the application of the system of agribusiness development. Based on the development of agribusiness system is a form (forms, systems, patterns) that can provide benefits for the perpetrators of agribusiness (farmers / farmers / gardeners / fishermen small and medium businesses / cooperatives), in the form of penignkatan revenue, increase value-added and the expansion of employment opportunities (Antara 2000)

a. Upstream Subsystem

Upstream subsystems in rice agribusiness in the Kedungprimpen village include the provision of seeds, fertilizers and drugs. The success of rice production can be determined the type of high quality seed. Provision of organic and chemical fertilizers in the Kedungprimpen village facilitated in part by the groups with a system of subsidized loans from the government. The system of fertilizer subsidy reception is 5: 3: 2 with petroganik, urea and Phonska fertilizer with payment systems do in the harvest. There is an administration fee on the purchase of fertilizers in farmers' group which is 10 percent of the harvest season, farmers with details 5 percent for cash farmer groups and 5 percent for administrators farmer groups. Besides obtained in farmers' groups, farmers get seeds, fertilizers and medicines from farm stores available in the village.

From observations seed varieties that are widely used by farmers is ciherang. Based on interviews of farmers, seed ciherang more resistant to disease. It is also used varieties Cibogo, sridenok, Situbagendit and Inpari 30 are adapted to the soil conditions and pests had attacked in farmers' fields. Fertilizers were used: organic and chemical like petroganik, urea, Phonska, SP-36, ZA and KCL. Drugs are used according to the pests that attack. In accordance observations drugs are often used which Virtako, Regend, Prevathon, Score, Starban, Sumo, DMA 6, Fillia, Furadan, Gandasil, Larvin and Topsin. In addition to commercial drugs, the farmers also increase with homemade drugs are made from a variety of plants and manure.

Some of the problems faced in the upstream system of quality seed is still not developed. Few farmers who use seed breeding earlier. Most farmers buy at the farm shop. Fertilizer subsidies are experiencing delays so farmers experiencing supply difficulties at the beginning of the planting.

b. Farming Subsystem

Mechanical cultivation of paddy in the village of Kedungprimpen not differ by planting in general. Consisting of seed selection, land preparation, seeding, planting and maintenance. Rice production in the area is quite good, the average per hectare of paddy produce 8-9 tons of grain. This can be caused because of the fertile soil and climate are suitable for rice. The cropping pattern in a year is rice - rice - fallow (rest). Beginning in the first season of the month of May to Agutus then September to December. The next month is left not to grow as it anticipates a condition close to Solo that will be affected by flooding. Rice cultivation process takes 3-4 months until they are ready to be harvested.

The cultivation process begins with the selection of seeds by the farmers by soaking the seeds in a bucket of water. Quality seed will sink and empty seeds will float. The next process is the preparation of paddy fields. This process serves to improve the fertility of the soil as a medium for the growing of rice. Land preparation is performed three times the plow first, second and rakes. The length of time until the total of the first plow harrow ie 1-2 months. Followed by the rice seed nursery. It takes 25-30 kg of seeds per hectare with a range of time ready for planting at 10-14 HSS (Days After

Planting).

The process of land preparation is done by farmers in the Kedungprimpen use a contract system Farmers tilling farm workers employed in the process of planting seedlings. Need about 2-4 worker men to work the land. This system is called a land contract with that done by other parties providing labor and tractors. The process of planting rice seedlings carried by 20 cm cropping system with 10-15 performed by women workers to work planting process. Takes about 2-3 days to complete with a range of half-day or 6 hours.

Rice plant maintenance activities consist of replanting, watering and spraying pesticides. Stitching is done when there is a seed that is depleted by snail pests. Irrigation system has been managed by BUMDES to ensure the availability of water for paddy fields. Compensation for this irrigation system by paying one-seventh of the production to BUMDES as maintenance costs. Spraying is done with fertilizer and drugs for pest control. Fertilization is done two times and adapted to the soil conditions. Fertilization is done by adding an organic fertilizer that is petroganik, urea, and other Phonska.

Constraints faced by farmers that their pest and uncertain seasons. Pests most attacking the neck piece. The season is erratic, especially when wet seasons which will drown the farm. Farmers prefer to take a stand "gambling" for rice production in the second growing season. In the month of December to January the average village will experience the impact of the floods overflow Bengawan Solo.

Problems faced at the farm in the village of Kedungprimpen include farmers do not use a planting system called “jajar legowo”. Based on the results of discussions and research Legowo row planting system further improve production results. The use of renewable agricultural tools have not been fully carried out by farmers. This is due to incompatibility with agricultural implements soil texture.

c. Downstream Subsystem

Downstream processing subsystem is an activity of raw product into refined products (so). Based on research, the downstream system for rice in the village Kedungprimpen not running. The harvest is sold in the form of wet rice on middlemen. Post-harvest is done by middlemen who have purchased the harvest.

d. Marketing Subsystem

Marketing rice yields by farmers to sell to the middleman and slash system. Slash an activity or traders who came to the land of farmers make predictions to determine the yield and prepaid (such payment is net income for farmers). Sales to wholesaler price range IDR3 500 to IDR5 000. Relatively high grain prices due to the harvest time which is different from other regions. Price is determined by market depending on weather conditions and crop yields. The distribution of grain marketed to several neighborhoods adjacent to Bojonegoro like Lamongan, Tuban and Jombang.

e. Institutions Supporting Subsystem

Subsystems supporting institutions are providing services for agribusiness. Provider agency is made up of financial institutions, research and development, transportation, education and government institutions. Include government policies regarding rice commodity-related support in the cultivation.

Institutions that are available in the study area that village governance institutions, BUMDES (Business entity owned village), HIPPA (Association of Water Users), BPD (Village Consultative Business), LPMD (Institute of Rural Community Empowerment), KSP (Credit Unions) and youth organization. As an overview of the agency is

a. Village government

Government agencies in managing the village with an organizational structure consisting of village head, village secretariat and head of affairs in their respective fields. The village has a village development activities covering the fields of infrastructure, health, education, economic, social and cultural, cooperatives and community businesses, governance, environment, agriculture, livestock, mining and irrigation.

b. Enterprises of owned village (BUMDES)

Institutions of rural enterprises managed by the community and village government with the aim of strengthening the rural economy which is based on the needs and potential of the village. BUMDES destination itself to enhance the local economy, raising rural incomes and become the backbone of economic growth and distribution of the village.

c. Water Users Association (HIPPA)

Water user organizations aimed at the convergence of farmers exchanging mind in making water management decisions.

d. Village Community Empowerment Institution (LPMD)

Village institutions that manage public facilities and infrastructure.

e. Credit Unions (KSP)

Office Unit Desa (KUD) "Bungur" a place Savings and Loan Services (TPSP) in the village of Kedungprimpen. Savings and loan cooperatives that serve to villagers who focused on the farmer's capital. The cooperative is under the auspices of the Village Administration and managed by the village board.

The problems experienced by the supporting institutions to miscommunication between institutions in the villages on the role and functions of the organization. The lack of capital that houses the village institutions and human resources that have not been competent in managing village institutions.

3.2 Performance of Farmer Group

The performance evaluation of farmer groups using Importance-Performance Analysis (IPA). Table 1 presents data comparison between importance and performance of farmer groups in the Kedungprimpen village. Analysis of performance measurement IPA unites with the level of

interest was later described in a two-dimensional Cartesian diagram. The data used to diagram cartesius the average value of each attribute. IPA chart is divided into four quadrants, based on measurements IPA as shown in Fig 2.

Table 1: Importance and Performance Data of Respondents

No	Variable	Indicator	Level of interest	Level of satisfaction
1	Organiza-tion	1. Article of association	4	2.2
		2. Vision and mission	4.05	2.17
		3. Organizational structure	4.32	3.14
		4. Written plan work	4.14	2.26
		5. Administration	4.17	2.5
		6. Cash and dues of group member	4.32 3.7	2.55 2.55
		7. Financial records		
		8. Right and obligation of management	3.79	2.23
		9. Right and obligation of member	3.82	2.11
2	Human Resources	10. Quality, competence, and liveliness of management	4.44	2.2
		11. Commitment of management	4.14	2.17
		12. Management motivation	3.55	2.08
		13. Liveliness of member	4.02	2.11
3	Mana-gement	14. Supervision	4.14	2.23
		15. Consultation meeting	4.05	2.5
		16. Development	3.88	1.97
		17. Training	4	1.97
		18. Infrastructure facilities of agriculture equipment	4.61	2.67
		19. Superior seed facility	4	2.32
		20. Seed replicates	3.9	2.08
		21. Organic fertilizer facilities	4.61	3.08
		22. Inorganic fertilizer facilities	4.61	3.14
		23. Pesticide fasilities	4.5	2.97
		24. Agricultural marketing fasilities	3.7	2.58
		25. Pest and disease control	3.6	2.5
4	Agribusi-ness	26. Credit	4.11	2.79
5	Information technology	27. Planting in unison	3.76	2.58
		28. Planting time	3.76	2.85
		29. New infromation	4.41	2.32
Average value			4.07	2.44

Based on Figure 1, the indicator related to the level of importance and satisfaction of respondents members of farmers grouped in each quadrant, which is as follows:

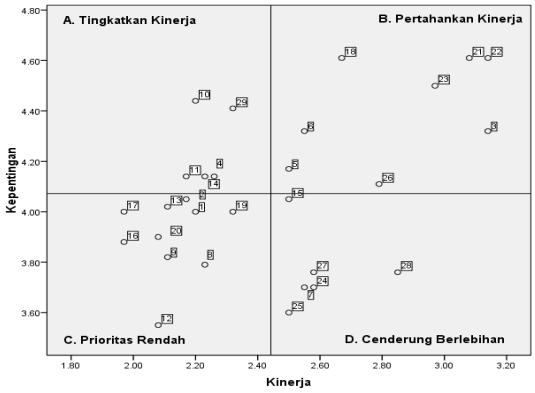

Figure 2: IPA Quadrant

Quadrant A: Increase Performance
In quadrant A is an indicator that is considered important, but in reality is not as expected. In this area farmer groups should improve performance to the maximum in order to get the results masksimal. There are five indicators included in the quadrant A written plan of work, quality, competence and activity of the board, the board's commitment, the monitoring committee and the latest information.

At the organizational aspects of indicators of a written work plan is in quadrant A. The results of the interviews with the management and members of farmer groups mentioned have a work plan but has not been fully applied by the board. The work plan is implemented to adjust to the program of the Department of Agriculture and the government. Indicators of quality, competence and activeness and commitment administrators manage groups of farmers have not been optimally absorbed by the members. Judging from the work plan is not realized and the role of the board is not optimal. Similarly, the monitoring should be done routinely by the board not yet implemented optimally. Based on the interview, the monitoring by the board only when no activities or guests of the official concerned.

Quadrant B: Maintain Performance
In quadrant B shows that these attributes considered important by respondents and are in accordance with perceived by members of farmer groups. Seen from the analysis of a relatively high level of satisfaction. Indicators included in the B quadrant consists of the organizational structure, administration, treasury and group membership dues, the infrastructure facilities of agricultural equipment, organic fertilizer, chemical fertilizers, pesticides and credit.

Attributes are included in this aspect of the organization is the organizational structure, administration and cash and contributions of group members. The organizational structure has been formed by the board of farmer groups. Manage the administration and financial reporting farmer groups as well as take care of fertilizer aid. cash and contributions members of the group obtained the loan interest fertilizer member. Loan interest of 10 percent, divided by 5 percent for administrators and 5 percent for cash farmer groups.

The management aspects of infrastructure facilities to attribute their farm tools, organic fertilizers, chemicals and pesticides included in the criteria in accordance with the

expectations of farmers. Farmer groups manage the agricultural machinery obtained from government assistance and related agencies. The use agricultural machinery by members in rotation because their numbers are still limited. Aspects of credit is also considered good by members who have performed optimally by the board of farmer groups.

Quadrant C: a Priority Low
Quadrant C contains attributes that are considered less important by respondents and less than optimal performance. Attributes included in quadrant C consists of statutes and households, vision and mission of farmer groups, rights and duties of the board, the board of motivation, active members, coaching, training, facilities, superior seeds and seed.

There are four indicators in organizational aspects that are considered less than optimal in performance and is considered important that statutes and households, vision and mission of farmer groups, the rights and obligations of the officials and members. Members do not understand and care about the functionality of article of assocoation and the vision and mission of the organization. Farmers who are members focus on agriculture in order to produce great results. Despite the existence of article of assocoation is of fundamental importance to an organization.

Farmers who are members do not often interfere in the activities of farmer groups only receive subsidies from the government-run fertilizer farmer groups. This could lead to two aspects of resource attributes that motivation and activeness board members are considered to be low. Then four attributes included in the management aspect.

Aspects of management including training and coaching are considered less important and the performance is low. Farmers respondents are less able to accept new things in agricultural technology. Farmers rely on their experience for farming.

Quadrant D: Tend Overrated
Attributes are located in quadrant D is considered to have good performance but is not considered important by respondents farmers. In other words, in quadrant D several variables implemented redundantly. These attributes are financial records, consultation meetings, marketing of agricultural products, integrated pest and disease control, planting in unison and time of planting.

Farmers are less concerned with the existence of the farmer in the village and just focus on tending their fields. Group members receive financial reports annually farmer groups. Consultation meetings held their board only attended by some members. In the process of product marketing, the farmers directly sell on middlemen before harvest. Middleman estimate how about production and paying cash to farmers.

In the dry season, farmers to plant rice simultaneously. But in the rainy season there are some farmers who plant gambling despite a big risk for flooding.

4. Conclusions

Based on the research that has been done on a farmer's group in the Kedungprimpen village Kanor Subdistrict Bojonegoro, obtained some conclusions that:

1) Farmers in the Kedungprimpen village has adapted the system of rice agribusiness subsystem upstream, farming and supporting institutions. Although the downstream subsystems and marketing is still controlled by middlemen.
2) Performance of farmer group institution is quite effective. Factors to be included in a good performance include the organizational structure, administration, treasury and group membership dues, the infrastructure facilities of agricultural equipment, organic and inorganic fertilizers, pesticides and credit.

5. Recommendations

1) All members of farmers in the village of Bojonegoro apply Kedungprimpen Kanor rice agribusiness as a whole from upstream to downstream.
2) Officials and members of farmers together to build productive farming village.

References

[1] Akbar, Sustainability Strategy Rural Agribusiness Development Program (PUAP) Case Karawang., Bogor Agriculture Institute, Bogor, 2011.
[2] Aliguma L, D Magala, Lwasa S, Uganda: Connecting Small-Scale Producers to Markets: The Case of the Nyabyumba United Farmers Group in Kabale district, Regoverning Markets Innovative Practice series. London, 2007.
[3] Azzahra F, Effect of Livelihood Asset Livelihoods Resilience Against Farmer Households At The Flood in the village Sukabakti Tambelang District of Bekasi Regency, Bogor Agriculture Institute, 2015.
[4] J Barham, Chitemi C, Collective Action Initiatives to Improve Marketing Performance: Lessons from Farmer Groups in Tanzania, Department of Agriculture, Washington DC, 2009.
[5] Central Bureau of Statistics, Evaluation Statistics Producer Price of Paddy, Jakarta, 2014
[6] Central Bureau of Statistics, Bojonegoro in 2015, Bojonegoro, 2015.
[7] Firdausi A, Analysis of Farmers Group Performance Levels And Relation to Food Security Level of Farmer Households, 2015.
[8] RW Gibson, Byamukama E, Mpembe I, Kayongo J, Mwanga RO, Working with farmer groups in Uganda to develop new sweet potato cultivars: Decentralisation and building on traditional approaches, Euphytica. 2008.
[9] Kitcharoen K "The Importance-Performance Analysis of Service Quality in the Administrative Departments of Private Universities in Thailand", ABAC Journal, 24 (3), 20-46, 2004.
[10] Kusnandar, Padmaningrum D, Rahayu W, Wibowo A, "Design of Organic Rice Agribusiness Institutional Model in Support of Food Security", Journal of

Development Economics. Volume 14, Number 1, June 2013, p. 92-101, 2013.
[11] Loevinsohn ME., Mugaruraand J, Nkusi J, Cooperation and innovation by farmers groups: scale in the development of the Rwandan Valley farming systems. Agricultural Systems", Rwanda, 1994.
[12] Mutoro BA, Women Working Wonders: Small-Scale Farming and the Role of Women in Vihiga District, Kenya: A Case Study of North Maragoli, Theila. Publishers Amsterdam, 1997.
[13] Mwaura F, Tungani J, Sikuku D, Woomer P, acceptability of Cereal Banks as a Marketing Intervention Among Small Holder Farmers in Western Kenya, Kenya, 2012.
[14] Pambudy R. 2005 "Grow Your ideas and thoughts that Berkerakyatan Agribusiness Systems, Competitive and Sustainable. In Growing Ideas and Thoughts Agribusiness Development System. 60 Years Bungaran Saragih", Bogor, ISBN 979-8637-19-4, 2005.
[15] Saragih B, Agribusiness: New Paradigm of Economic Development Agriculture Based. Bogor, 2010.
[16] Son NT, Chen CF, Chen CR, Chang LY, "Satelitte-based Investigation of Flood-Affected Areas of Rice Cultivation in Thailand's Chao Phraya River Delta", Volume 86, December 2013, Pages 77-88. ISPRS Journal of photogrammetry and Remote Sensing. Taiwan, 2013.
[17] Widya T, Impact Analysis Implementation of Rural Agribusiness Development Program, University of Indonesia, Jakarta, 2012.