Food is a commodity which is very strategic in fulfilling food need. The problem is farmers who are the main agents have not gained welfare as it is expected. Lamongan Regency as the first awardee of Anugerah Pangan Nusantara in 2013, got the from food barn. It plays important roles such as being able to overcome the availability of food for society especially in time of scarcity before harvest, being able to overcome economic problem for farmers called “system ijon” which can be decreased because of the role of micro finance from food barn.

Food barn, besides main functioning as the place for food distributor for society, it also functions as financial institution for villages. It proves that it can prevent farmers from renters, guarantees the exact time planting and techniques for cultivation, and even empowers the economy of farmer household.

Based on rice management and other foods it is still possible for vertical and horizontal integration to make farmer welfare through building cluster in backward linkage and forward linkage, such as industrial processing and distributions. The critical success factors of food security and the welfare of economy farmer household are the availability of seeds, the use of organic fertilizer and pesticides, the output price, and the commitment of local leaders on food barn.

The model of guidance in food barn starts from backward linkage, farmer as primasy producers, processing, and fair market in the supporting system which are based on business values and principles of agribusiness complex, whole farm approach, zero waste principles, and empowerment of institutions (social engineering).

Keywords: food barn, micro-finance, agribusiness complex, social-engineering
Introduction

The development of agriculture at sector and agribusiness has an important or business based on agriculture especially in subsystem on farm is not interesting for most of investors. In Indonesia agribusiness and agriculture is skill perceived as traditional, left – behind, and there are many crucial problems on it.

The role of agriculture sector shows that the growth is relatively slow, even tend to shift from market and economy at is known that agribusiness which are spread out and varied in business scale is very sensitive toward the changes of government policy and external factors (Abidin, 2005). At indicates that it is urgent to consider opportunity cost principles, economies of scale, and economies of scope.

Some actual problems such as “sistem ijon” traditionalism in farm management and farmer institution, powerless farmers in market economy system happen repeatedly. Government policies often market distortion. It costs them ineffective create.

In increasing the welfare of agribusiness doers, especially in subsystem on–farm production. It is believed that basic change of policies are needed for intangible benefit for farmers whose welfare tend to decrease.

Social engineering through subsystem agribusiness are expected to increase bargaining position of farmers, create added values and competitiveness of food management, creates fair market increases agribusiness performance which in turn, will increase food security and economy security in the level of households, villages, and regencies.

Review of Literature

The development of agriculture sector and agribusiness has an important role for economy. Doing business in food crops is not interesting for most of investors. These sectors are perceived as traditional, left–behind, and close to poverty and villages. In addition, the role oven tends to altered from market and economy it is known that agribusiness is widely spread and varied, sensitive to government policy changes and external factors (Abidin, 2000). It shows that it is urgent to consider opportunity cost principles, economies of scale and economies of scope.

Some actual problems such as “ijon”, traditionalism in farm management and farmer institution, farmer powerlessness in market economy system is repeated annually. The government policies often make market distortion which cause government policies ineffective especially in increasing for policies changes which can give intangible benefit for farmers whose welfare tends to decrease. Social engineering through agribusiness sub-system approach is expected to increase farmers bargaining position, create added value and competitiveness, create fair market, increase agribusiness performance which will increase food security and economy at the level of household, village, and regencies. Abidin (2000), states that government polices which support production autonomy are need needed. It is done by increasing production access to capitals technology in culture, processing, and institution. In Abidin, et. al (2007), agribusiness model turns out to give
positive integrated impacts which is significant for farmer management performance from upstream to downstream namely increasing benefits of farmer business, creating microeconomy in agent level and macroeconomy in region level. The development of agriculture in the future lies on the present development to realize strong and progressive agriculture.

The effort of developing agribusiness various policies has been done, the effectiveness for farmers welfare, especially in primarily sector has not successful in increasing farmer welfare explicitly and implicitly. Explicitly, the success can be seen from the increase of agribusiness sector contribution to Gross Domestic Product and national export index. Implicitly, it can be observed when the development can increase agribusiness doers especially farmers (Said, 1996).

Patterns and relations of the whole agribusiness chains in Indonesia generally is not optimum, because of some factors such as:

a. Agriculture production pattern mostly does not group them in one integrated area so that it is difficult to reach efficiency
b. Economy facilities in certain regions for example in production center area
c. Agroindustry pattern tends to center in towns not in villages on production center area
d. Geographycal condition of Indonesia which consist of archipelagoes and transportation condition especially out of Java–Bali which is not ideal so that the cost of transportation is high
e. International system in villages such as financial institution, market institution, market information institution are not adequate

To complete agribusiness development the problems efforts are needed:

a. Good coordination and corporation amongst departments through agribusiness approach
b. Management and synchronization of agribusiness activities through coordination institution and management institution
c. Giving capital priority in accordance with the programs especially crop investment and management unit
d. Giving priority on village industries as the contributor for industry raw materials
e. Market and technology break through and also agribusiness product marketing
f. Projection and reflection of agribusiness concepts throughout Indonesian areal by considering the potential and natural resources

In the development of agribusiness prime commodity (Siswono, 2000) it is stated than recent regional development has proven that the need for natural recourse increases together with the appearance of various problems in villages. With in this condition it is badly needed to decide priority for the use of prime natural resource and area resource by involving all the potential of natural resource and developing areal which are left behind. It is also necessary to design mechanism of planning, executing, monitoring, and evaluating regional projects precisely and accurally.

In developing agribusiness system based in agroecosystem and supporting the effort of increasing farmer it is necessary to design integrated agribusiness development model in
East Java which refer to concept approach and applied business management system in village. Some priority programs which can be developed are a) One area one commodity with supporting products, b) applied technology for village areas, c) Investment for village areas, d) Village market which support the flow of product marketing and transaction among villagers and other parties trough fair and friendly partnership.

In relation to the role of supporting system, Abidin (2006) concludes that agribusiness competitiveness is determined by the policy for overcoming high cost economy through the creation of conducive situation for agribusiness and fair market.

Objectives and Significance of Research

Objectives of Research

This research is intended to indentify problems in the performance of rise management (on farm, farm production) the availability and adequateness of food, security of farmer’s household economy (economic resilience) through the reinforcement of farmer food barn in relation to food security in Lamongan village and regency.

Significance of Research

This research is expected to be the model for developing policies for acceleration of agriculture development, especially village development with the basis of farmer food barn.

Research Method

Location Decision

Lamongan regency is one of rice production center in East Java. It is chosen based on some consider ation namely (a) food security is compulsory, (b) food security development is priority agenda which focuses on the increase of food availability and decrease of poverty, (c) as the awardee of The Best Award I “Adikarya Pangan Nusantara 2013, East Java”

Sample Decision

The locus of this research is Lamongan regency as one the food centers in East Java. Three sub district samples are determined by purposive sampling considering that those sub districts are production centers areas. There are farmer groups which have food barn. They have shown their role in the welfare of farmer economy. The sub district samples are Kembangbahu, Maduran and Mantup with the respective village samples Pilang, Ngayung, ad Kedukbembem. They are chosen based on the locus of food barn and the role of farmer group in production center for rice commodity which concern Kelompok Tani Sumber Hikmah, Kelompok Tani Mekarsari, Kelompok Tani Harapan. The chairman of those farmer group is determined as the key person meaning that they know more about the food barn. By using the technique of random sampling, 25 farmers as the member of each farmer group, so that totally the are 75 farmers, and rice traders which are choosen as respondents. In the level of regency interview is done with the government official from Food Security
Department (2 persons), Logistic Department (2 persons), Cooperation Department (2 persons), Agriculture Guide (2 persons). From the three districts and three chosen village, there are three farmer group groups, 75 farmers, as the member of farmer groups who are also the agent of after harvest industry. Generally, the activity of after harvest is limited on drying, falling off and breaking rice.

Data Collection

Research on food is very broad and various. That is the reason why the focus is on rice. Kind of data which is need in this research are primary and secondary. Primary data covers the characteristics and performance of food based business (potential opportunity and challenges) which are obtained by using research instrument in the form of questionnaires through direct interview with sample farmer. To obtain the data for the execution of food barn. Focused Group Discussion (FGD) is carried out in village, sub district, and regency level. FGD is done together with the committee the members of farmer food barn, and society leaders as key persons.

Meanwhile, the secondary data which covers the geographical condition, social economy of the areas, distribution and food consumption; the performance of food barn, institution, and market.

Method of Data Analysis

Descriptive analysis is done by applying SWOT analysis to identify a) internal factors of Food Barn which consists of strengths and weaknesses b) external factors cover opportunity and which in measuring and developing the role of Food Barn. The decision of critical success factor is done by descriptive analysis which is presented in description in the form of table graphs, or histogram.

Quantitative method covers a) cost analysis and farm management income with and without “you” system b) quantitative multiple linear regression analysis in relation with input and output of rice farm management c) tangible and in tangible (multiplier effect) of applying added value agribusiness principles from low materials of rice based business and waste (straw, dedak, and katul) institutional analysis of Food Barn covers food distribution management, and after harness industries. Those data are used to build the farmer model of “LPPEP” (Lumbung Pangan Penyejahtera Ekonomi Petani) which is called “Lumbung Pangan (food barn)”. Multiple linear regression analysis mathematically is formulated as follows (Gujarati, 1988):

\[ Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \]

Where

- \( Y \) = rice production
- \( X_1 \) = seed value (Rp)
- \( X_2 \) = fertilizer value (Rp)
- \( X_3 \) = pesticide value (Rp)
- \( X_4 \) = worker fee value (Rp)
- \( e \) = distractor value
From SWOT analysis of farmer Food Barn and the result of qualitative analysis the model of farmer Food Burn is built to create food security and household economy in villages of society in general.

Research Finding and Discussion

Rice Management Performance

Farm management as the provider of food product becomes the basic key for developing food security. It influences and also society. Farm management as the basis of economy especially in villages.

In Ngayung village, sub district Maduran seed production factor (+,ns), pesticide (+,ns), labor (+,ns) and other costs (+,ns) has positive influence but not significance, except fertilizer which has positive and significance (+,s), influence on 0.01. It means that fertilizer still becomes important policy instrument in increasing production and productivity of rice.

In Pelang Village, sub district Kembang Batu, seed production factor (+,ns) and other costs (+,ns) has a positive influence but not significant; pesticide (-,ns), labor (-,ns) has a negative influence but not significant, except fertilizer has a positive influence which is significant. It means that fertilizer still becomes important policy instrument in increasing the production and productivity of rice. The use of pesticide and labor is excessive so that is needs to decrease it.

In Kedukbembem village, sub district Mantup seed production factor (+,ns), labor (+,ns), and other costs (+,ns) has a positive influence but not significant, except pesticide has a positive influence but very significant (+,s) an = 0.00. it means that pesticides is still become policy instrument which is very important for the increase of rice production and productivity.

5.2. Business Activities of Food Barn in Lamongan Regency

As one of strategic variables in developing national economy, food security and poverty surpassing are the priority for national development to increase the quality of man power and social welfare (Badan Ketahanan Pangan, 2010). It is realized that small scale business is beneficial but it is difficult to access financial institutions or banks. It often happens that they are faced with money rents with hight interest. It is money rental which get benefits.

To anticipate this problem, the government of Lamongan Regency has applied some business activities from Food Barn namely a) Business in rice buffer stock for scarcity season, b) Unit of Farm Management Credit, c) Business in Some Lend Money Unit d) Shopping Area Units, e) Service Business Unit, f) Buffer Stock Food Unit Village Government, g) Cooperation Unit for Fertilizer Marketing, h) BAZIS

There some problems such as:

1. The increase of production and productivity of main food (rice, corn, and sugarcane) face barrier in the availability and the price of fertilizer, especially in the beginning of planting season; the competition of using land, which is caused by the price fluctuation, especially in harvest season
2. Production diversification through the development of agroindustry has not shown to “zero waste principles”, horizontally or vertically
3. Consumption diversification has run well because of main consumption of rice.
4. Buffer stock rice business for scarcity season, and capital loan such as farm management credit and delay the sale of credit, these business have developed well and lifted the food barn which function as financial institution. Microfinance still has big chance to develop through the principles of economic of scale and economies of scope
5. Formation of business cluster has not grown evenly in all derivative lines or generative product of prime commodity
6. Rice buying business, money saving-borrowing, shopping center, and service business
7. For a wider coverage of activities and significance for farmer welfare and village society, it is still in need for increasing farmers knowledge and skills, and also the management of farmer Food Barn

The Development of Food Barn on Lamongan Regency

To accelerate agriculture society development in villages, commitment and moral responsibility of government aparature, society and private corporation are needed so that the development of agriculture can be done effectively, efficiency, and integratively. To face various challenges and threats, food barns need to have integrated program. Which does not only function as social institution but also commercial institution in line with recent development of economy management and microfinance supported with official rules for food barn. It is meant for food barn to be able to become decision makers for the success economy in the level of household, villages, and society welfare.

Focused group discussion states that farmer poverty happens in villages especially farmer food crops, simple life, dominant tradition, simple society vision enough cloth and food. It causes limited flow of money in villages. Agriculture commodity is consumed by town people. From this fact, it is kown that banking is very commercial. They exit in towns for rich people, it needs fixed law and track record of users. These cause, extreme of money spread in towns and villages.

Village society who possess narrow land, weak financial ability, traditional man power, simple tools, strong family found make the farmer to be far from banking access. Due strategy to decrease the village-town gap is the sinergy between two extrem condition of villages and towns.

Based on Lamongan Dalam Angka 2013, the average production of rice 2012 in Lamongan Regency decreased compared with the year of 2011 that is 6.40 ton per year with the total production of 911.854 ton and 142.559 hectare. Similar to rice, productivity to average of corn 2012 also decrease 5.83 ton per year. It is different from peanuts green bean, cassava, and sweet potato. The average productivity of the four commodities decrease in 2012 compared with 2011.

It is obvious that food remains as the source of life or basic need of human being symbiose-mutualism principles should be applied in the concept of farmer food barn which build household food security and economy security for farmer household and villages.
The Role of Farmer Food Barn

Based on development of food barn group in Lamongan Regency (2007), total amount of food barn is 233. The potential of the existing barns is varied in physical forms and types of business. The government of Lamongan Regency has empowered them intensively. Business activities which have been done by food barn group in Lamongan Regency among others are:

1. Saving-borrowing for preparing food stock in facing scarce season
2. "Tunda-jual" activity and pricing activity for agriculture product or food in time of great harvest
3. Preparing production facilities which overs rice seed, fish seed, fertilizer and pesticides
4. Saving-borrowing production facilities to support the success of intensification to increase production, qualities, and farmer income
5. Partnership activity with businessmen for distribution, food processing, and marketing the products

Based on the Evaluation of Otonomy Award 2014, the government of Lamongan Regency has facilitated capital for food barn groups as follows.

Table 1. Amount of Capital and Food Barn Group, 2004 - 2012

<table>
<thead>
<tr>
<th>Number</th>
<th>Year</th>
<th>Capital (Rp)</th>
<th>Amount of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2004</td>
<td>1,300,000,000</td>
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</tr>
<tr>
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<tr>
<td>4</td>
<td>2007</td>
<td>3,500,000,000</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>2008</td>
<td>3,500,000,000</td>
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</tr>
<tr>
<td>6</td>
<td>2009</td>
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</tr>
<tr>
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<td>2010</td>
<td>3,500,000,000</td>
<td>36</td>
</tr>
<tr>
<td>8</td>
<td>2011</td>
<td>3,500,000,000</td>
<td>36</td>
</tr>
<tr>
<td>9</td>
<td>2012</td>
<td>3,500,000,000</td>
<td>39</td>
</tr>
</tbody>
</table>

Source: Policies and Prime Programs of Lamongan Regency, 2013

Based on the above program, the capital for Food Barns are used for the following activities:

a. Buying rice or corn from farmers or society in great harvest which are manage using delay-sale system for food stock
b. Saving-borrowing agriculture production facilities (fertilizer, pesticides, seeds)
c. Productive business such as kiosks, processing and marketing business agriculture tools, service business for basic need and other business

The use of capital is based on the commitment of the member groups through the proces of participative planning by considering the potential of resources possessed by food
barn groups. Besides that, the government of Lamongan Regency also facilitates the
development of instrument of Food Barn for 105 groups. They also guide them in increasing
the institutional capacity for 92 self-source barn.

The total capital of Farmer Food Barn is Rp.1,041,321,400: (a) Self-capital movable
food barn Rp.263,898,750; (b) Loan capital Rp.393,900,000; (c) Unmovable capital
Rp.383,522,650.

Based on the interview with the 75 farmers in three areas of Ngayung village - sub
district Maduran, Pelang village - sub district Kembangbahu, and Kedukbembem village -
sub district of Mantup, barn as the storage for food stock has an important role for the
society, especially farmers in Lamongan Regency.

‘Ijon’ System

Ijon system is widely known by poor society who sell crops or agriculture product
before the harvest season. It is done because they need money urgently to fulfil their needs
based on the information form respondent, form there three village in the three sub districts
Ngayung – in Maduran district, Pelang in Kembangbahu district, Kedukbembem in Mantup
district, “Ijon” system for rice commodity is found only in Ngayung-Maduran sub district. It is
not found in the other two villages. This ijon system is not done anywhere except for the
emergence of workers or floods.

Ijon system in Ngayum-Maduran sub district is done for the reason for avoiding
complexities in preparing harvest such as preparing tools looking for workers and preparing
food for them. After harvesting, farmers are occupied with drying, falling off and starting rice.
The price of ijon system is only Rp.2,500 – 3,500 per land block (1428 cubic/m²). If they sell
normally the will get Rp.4,000 – 4,500. in Ngayum 1 hectare is divided in to 7 land block, one
block is 100 local unit similar to 1,428 m².

Storage for Products and Food Barn

Based on regulasion UU Number 7/1996 about food, and UU Number 68/2002 about
food security, food barn is the business of local government. It shows how important is the
role of food in a country, province, regency, even in household level.

The decision of Domestic Ministery Number 6/2001, about food barn is also food security
policy which integrate economical and social function of food institute. This program is
focused on the friction of availability, distributor, distributor, consumption and puce stability.
Village society Food Barn, Village Barn, and Village Government Spare Food are formed
with different background. Village Barn is formed traditionally whose social function is
stronger than economic function with small farmer members. LPMD is built based on
Decision of Domestic Ministry Number 6/2001, whose economic function supply the social
function without farmer members.

Farmer Food Barn

As one local wisdom, Farmer Food Barns becomes the place for storing rice, corn,
and other foods in their house for daily need. It is only spared for 5 – 10 months or 5 – 10
kwintal dry rice. It is not like Rice Mailing Unit (RMU) which provide storage for incidental
urgent need.
The physical appearance of Farmer Food Barn is in low quality: bamboo wall, soil floor, leakage roof. With that condition, Food Barn is one of local wisdom with learning evolution functioning as: (a) place for storing food product for the harvest, scarcity, or dry season, (c) anticipative risk for the increase of food price, (d) overcoming food problem.

Farmer hesitation to stone their rice in the barn in to because a some reason namely (a) it needs space,(b) it needs additional man power or cost for maintenance (claying floor, man power claying rice, (c) many financial instituting which after credits so that farmers sell their product commodity through those money rental institution with high interest.

Village Food Barn

Based on Regulation of Domestic Ministry Number 30/2008, about CPPD, and Number 6/2001, there are a) society Food Barn which is in this resource is called farmer food barn functioning as spare food for farmer household and b) Villages are expected to be able to generate security of food scarcity risk, especially for household. The surplus from village Food Barn is expected to be able to fulfill Food Barn in Regency, Province, and National level.

In Lamongan Regency the form of business from village food barn are a) non formal b) semi formal c) formal or low firm. From the owner slip there are a) private ownership b) group ownership in low firm or non low firm. Thus, the management of village Food Barn stats from the simplest to the more revoluted institution food based or transformation from Bank enter villages.

Farmer Household Generate Security

The two groups of village Food Barn possessed by individual or society and the are possessed by village have benefit. From farmer perception the role of village Food Barn can overcome financial need or capital need for farm management and other business including consumption need the significant benefits are (a) no more “ijon” system, (b) no more money rental, (c) planting pattern is more stable because of enough capital, (d) the increase of farm bargaining position, (e) the possibility of creating added value from prime product to waste from upstreams to downstream, (f) the possibility of opening branches of new business, (g) opportunity to open were job fields, (h) increasing farmer welfare, (i) creating acceleration for village development based on agriculture. Thus, if farmer Food Barn is completed it will be meaningful as an instrument for fighting poverty

Food Barn Security Model

From the application of Farmer Food Barn Lamongan Regency, the success is determined by the role of local leaders and apparatus commitment. FFB in Lamongan regency grow and develop from traditional local wisdom. The initial capital and limited facilities even makes them grow and develop from spare food security to society financial institution with Food and society basis. It can be said that the speed of the development and growth is caused by some operational principles as follows.

1. Participative institution for learning together which involve farmers and society as decision makers, reinforcing family togetherness cooperation and partnership which are rooted and productive through networking and group lending which
support farmer bargaining position and increase economies of scale and economies scope by applying mutual responsibility in groups for security instrument in costing.

2. Open and dynamic to create chances for developing businesses based as potential and need.

3. Simple in (a) prerequisite, process, procedures, and rules, (b) flexible in scheme and cost platform, schedule for paying in instalments is in accordance with planting and season condition and the member ability to pay.

4. Gradual and sustainable steps to professionalism in overcoming farmer problems and need

5. Growing entrepreneurship which creates the possibility to become BUMP whose benefit can be enjoyed by the members; increasing saving habit to process their own assets.

Revitalization of functional and role of Farmer Food Barn will support economy root of village society to become a global movement in microfinance based on food. The design for reinforcing FFB is done step by step covering the following activities: (a) Farmer Food Barn as an institution which stores and takes care of food quality and return rice when needed, (b) to store the rice stock surplus possessed by farmers increases farmer’s consciousness for saving, (c) to handle food need, production facilities such as seeds fertilizer, pesticides, and money, (d) to give capital loan for business clusters by farmer group, and joined farmer groups, (e) to give insurance for health and farmer management.

Government support through its policies as the supporting system supports among other are (a) arrangement regency rules which support the acceleration of money rotation in villages through the integration of village – towns (agropolitan) integration of upstream – downstream in the agribusiness system, integration of horizontal – vertical in the production principles, management of role through coordination to case farmer access to financial source, information source, and market, (c) developing capacities through advocation and training of the applied and business management.

**Conclusion and Suggestion**

**Conclusion**

1. Ijon system is not found anymore because of the difficult financial condition can be overcome by Food Barn which is widened its function into microfinance institution. Ijon system has shifted to become microfinance institution. Ijon system has shifted into bulk buyer which is done in emergency condition because of flood difficulty of harvest labors.

2. Food security in terms of availability, distribution, and adequateness is good because rice stock can become guarantee for urgent need.

3. Economic resilience of farmer household viewed from household economy is good enough and will grow well if business clusters are developed from upstream to downstream through the application of business principles and values in agribusiness complex, wholefarm approach, zero waste principle, and empowerment of institution or institutionalization and social engineering.
Suggestion

1. To reinforce food security, farmer household economy security, and development of villages, Farmer Food Barn should be directed to (a) formation and empowerment of cluster industry in up stream (seeding, fertilizing) to down stream (strans, sekam,katul); (b) development of money saving-borrow (capital and natura) with the model of bagi-hasil Food Barn Based.

2. To increase food security and farmer household economy security in villages and society of Lamongan Regency it is necessary to guide them not only institutional aspect but also techniques and activity coverages of food barn based on agribusiness complex which covers farm supply industries, retailing industries, and the role of supporting system.

3. In the future, government needs to review policies which have been carried out in order construct new policies whih are focused on basic service for agribusiness agents, especially farmers as the weakest chain.

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REFERENCES


