

Intervention Model on Agribusiness Development of Organic Agriculture System

(Case Study of Organic Rice Farmers Groups in Kediri District)

W Artini

Agriculture Faculty
Kadiri Unversity

JalanSelomangleng No.1Kediri
widiartini01@gmail.com

P Vitasgoro

Agriculture Faculty
Kadiri Unversity

JalanSelomangleng No.1Kediri
pamadyavitasmoro@unik-kedir.ac.id

D Rahardjo

Agriculture Faculty
Kadiri Unversity

JalanSelomangleng No.1Kediri
djokorahardo@unik-kediri.ac.id²

J Jatmiko

Agriculture Faculty
Kadiri Unversity

JalanSelomangleng No.1Kediri
jatmiko@unik-kedir.ac.id

Abstract—The study builds on purpose identifying and analyzing the constraints of farmers in implementing organic farming systems, and find intervention models to popularize organic farming systems. The basic concepts used are the concept of Tinbergen's policy and Parson's social system theory. The design research used is quantitative descriptive method. Research location in Kediri Regency. In general, therefore, the results showed that the transition from conventional systems to organic systems faced constraints, namely: 1) farmer adaptation that was still weak: 2) farmers did not have organic technology skills: 2) difficult to get organic production facilities locally: 3) relatively small organic rice production, 2) waiting period for longer harvest: 4) lack of capital to do post harvest 5) there is no organic grain price standard 6) difficulty obtaining organic certification. The intervention model for increasing the use of organic systems in rice is by increasing farmers' skills in organic technology, providing short-lived rice seeds and locally. An implication of the finding is that organic farming systems can be developed and implemented by all farmers, both small land farmers and large land farmers, through increasing knowledge and skills in cultivation technology and opening up opportunities for organic products.

Keywords—Farmers, Intervention model, Organic farming system, Technology.

I. Introduction

Organic farming system is an important solution to overcome environmental damage caused by inorganic materials, besides that it is also a need for people who are increasingly aware of the importance of healthy food free of pesticides. The function of organic farming systems on soil quality maintenance functions tends to be better than the an-

organic system [1]. And is an alternative form of environmentally friendly agriculture that guarantees sustainability. [2]. However, to apply many organic systems, there are many problems, so there are still a small number of farmers who actually implement organic farming systems because socioeconomic factors are less supportive.

Conceptually the development of Organic Agriculture Systems (SPO) must have ecological, economic and social stability and concepts to get support from policy makers, especially those related to production facilities, technology, price incentives and market opportunities for the products produced[3]. In his research it was stated that to develop organic farming systems a basic step strategy such as: 1) the existence of common (conceptual) perceptions between academics, practitioners, bureaucracy, businessmen and society, 2) building an image of organic agriculture is a healthy food producer, 3) assembling agricultural technology sustainably by involving farmers, 4) developing participatory research techniques and farmer testing, 5) encouraging private and government partners, 6) creating SPO pilot programs.

Intervention against an activity is a policy aimed at achieving the goal by choosing the best instrument to be used as a strategy in achieving the goal. The policy task is to choose the best instrument to be used as a strategy in achieving the chosen target by considering constraints: certain factors in which the policy may not have control and adverse side effects must be minimized [4]. Based on this concept, to make an intervention model for the development of organic farming systems Agribusiness must be known

constraints, namely social and economic factors and factors beyond human control (factor beyond control)[5].

The problem formulations of this research is 1) farmers do not have organic technology skills: 2) it is difficult to get organic production facilities locally: 3) organic rice production is relatively small, 2) waiting for longer harvest time: 4) lack of capital to do post-harvest 5) there is no standard price for organic grain 6) difficulty getting organic certification [6]

This study builds on identifying and analyzing the constraints of farmers in implementing organic farming systems, and find intervention models to popularize organic farming systems. The basic concepts used are the concept of Tinbergen's policy and Parson's social system theory [7] explains that in order to achieve a welfare goal a target can be determined that sets out an achievement effort. The policy task is to choose the best instrument to be used as a strategy in achieving the chosen target by considering constraints, certain factors where the policy may not have control, and adverse side effects must be minimized. The Tinbergen analysis framework model explains systematically and sequentially how a policy is planned. Within the framework of the Tinbergen model it is clear that the main components are used as a basis for taking a policy strategy. The main components include objectives, constraints, policy instruments[8]

II. Research Methods

This research is a case study of organic rice farmer groups that are being developed in Kediri Regency, East Java Province, Indonesia. The design of the questionnaire was informed by the evaluation where researchers develop in-depth analysis of a case, process activity or one individual or more, cases are limited by time and activity in this case the researcher collects complete information using various procedures for collecting data based on time determined [9]. The observations on the object of this study were conducted from August 2016 to August 2018

This study uses quantitative and qualitative methods. So, the research used mix method for doing this research during two years for getting the result. The initial sample consisted of four rice farmers groups that were being developed towards organic. The four groups are located throughout the rice farming area of Kediri Regency. For the selection of groups used the one stage cluster method with the cluster basis is the condition of the region. From the four groups determined 3 (three) groups with consideration to the condition of the development area. From the three farmer groups the total number of active farmers is sixty people. The active farmers in question were farmers who joined as members in organic farmer groups and who were willing to take part in group discussions (FGD).

To identify the adaptation phenomena used descriptive quantitative method approach. The quantitative method is used to determine the variables that need to be examined related to the need for the application of organic system agriculture. Furthermore, to identify the needs, problems and obstacles to the application of organic farming systems to rice, using a qualitative approach, through surveys, Focus Groups Discussion and non-participatory observation of all members of organic active rice farmer groups. The data collection is done by direct interview method with structured questions and recording of respondents and informants' information. Based on the respondent's information the data are arranged in a table and then compiled to determine the level of need (ranking). The data analysis was carried out by analytic descriptive based on frequency tables arranged based on rankings from groupings of observed variables supported by informants' statements in the form of qualitative data then based on the data that has been recorded, it is reduced, then the dominant variables are determined that determine the application of organic farming to determine the model of intervention is needed.

III. Result and Discussion

The development of organic farming agribusiness systems is an effort to develop agriculture back to nature or sustainable agriculture through institutional development. According to Mosher, agricultural development can run smoothly and sustainably, it requires absolute conditions and conditions for smoothness [10]. It was explained that the absolute requirement is a condition that must be needed for the success of agricultural development, namely: 1) the existence of a market; 2) developing technology ; 3) availability of production facilities locally; 4) incentives for farmers; 5) adequate transportation facilities. While the facilitating conditions that support agricultural development are one of them is group action where the existence of mutual cooperation is an agribusiness institution such as a farmer group that has specific objectives in its business.

Institutional farming or agribusiness generally consists of farmer households, farmer groups, or agricultural companies. There are two aspects in the institution, namely: cultural aspects and structural aspects [11] cultural aspects consist of abstract things, including the needs, desires, norms that determine the soul of an institution. To develop institutions, knowledge of the needs and desires of institutions is needed.

Table 1: Farmers Needs to Implement Organic Systems

Number	Type Needs%	Number of farmers who stated their need (%)	Number of Farmers who do not declare a need (%)
1	Organic technology skills	85	15
2	Locally produced facilities	100	0
3	High prouction	100	0
4	Ready-to-use fertilizers	100	0
5	Capital for post-harvest	85	15
6	The price of organic grain that is high	100	0
7	Certification	15	85

Source: Primary data, 2018

From table 1 above can be explained as follows; the problem in implementing organic is :

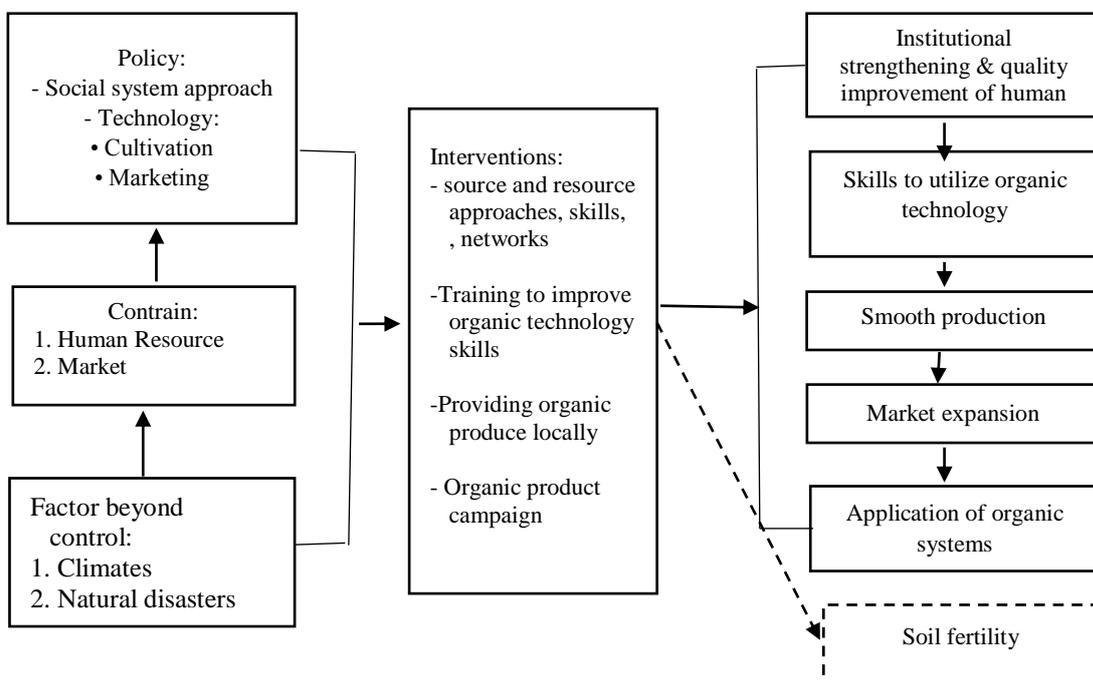
- 1) farmers do not have organic technology skills
- 2) difficult to get organic production facilities locally:
- 3) the yield of organic rice is relatively small
- 4) longer harvest waiting period
- 5) lack of capital to do post-harvest
- 6) there is no standard organic grain price

Interventions needed to expand the application of organic production include increasing the ability of farmers to utilize technology both organic production technology and marketing technology. Production technology includes the use of local materials for fertilizers and pesticides, organic herbicides and minimizing pesticide contamination of irrigated rice fields.

Schematically a model of intervention can be made for farmer groups or a form of policy
 Figure 1. Intervention Model Framework

that can be recommended for the development of organic farming systems for rice farmers, especially in Kediri Regency. The intervention model that is built is the result of the selection of instruments keeping in mind the needs of farmers in implementing organic farming. The need will be an obstacle if it is not fulfilled. Constraints in the development of organic farming systems can be categorized into human resources (HR).

Based on the results of data analysis, the intervention on agribusiness institutions, namely the recommended organic farmers group, includes policies related to skill enhancement through increasing knowledge of organic technology and organic aquaculture technology as well as the technology of making production facilities such as fertilizers, organic pesticides. Marketing intervention is by purchasing products produced and building a wider marketing network. The framework of the intervention model or policy can be described as follows:



Based on the identification of several constraints in the application of organic rice farming systems, two categories of constraints were found, namely the first constraints related to human resources (farmers), the two external constraints which were related to market outcomes [12]. Both groups of constraints influence the running of the production process and the sustainability of agribusiness institutions, namely the application of organic system farming to rice plants. Human resources in this case are farmers, that is related to the skills of farmers in carrying out the production process, skills are determined by their ability to utilize technology. The ability to use technology is determined by the level of knowledge, therefore the right form of intervention is improving the skills of farmers through training and increasing knowledge [13]

External constraints faced in the effort to develop organic farming systems are market yields. Until now, the market for organic products is still limited to middle and upper economic circles, which are quantitatively relatively small compared to the lower economic community. The market is an absolute requirement for the sustainability of a production process, therefore the product market must exist, the wider the market the more smooth the production process [14]. Price interventions, and product campaigns in an effort to expand market networks are policies that are absolutely necessary in the effort to develop agribusiness institutions.

The impact of the expected policy is the creation of improved quality of human resources, strengthening of agribusiness institutions, smooth production and sustainability of organic farming systems with side effects of soil fertility[15]

IV. CONCLUSIONS

There are two important obstacles in developing organic farming systems, namely human resources and markets. For making strengthen the application of organic systems , time and stages are needed to be able to release the use of inorganic production facilities. In dealing with these stages, it is necessary to increase farmer's skills, namely skills in analyzing farming in order to be able to compare the advantages and disadvantages of organic and inorganic businesses that have been implemented.

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REFERENCES

- [1] I. Tinjung, Suhatmini, Hardyastuti, Slamet H, "Multifunction organic rice farming and an-organic agrifor," vol. XII No.01, 2013.
- [2] P. K. Vassalos, M, carl R, Dillon, davud Freswater, "Farm decision making in Multifunction contex,," 2010.
- [3] M. K. Kansime, P. van Asten, and K. Sneyers, "Farm diversity and resource use efficiency: Targeting agricultural policy interventions in East Africa farming systems," *NJAS - Wageningen J. Life Sci.*, vol. 85, no. April 2016, pp. 32–41, 2018.
- [4] Henny Mayrowani, "The development of Organic Agriculture in indonesia,," *Forum Penelit. Agroekonomi*, vol. 30 N0.2, pp. 91–108, 2012.
- [5] D. Córdoba, T. Selfa, J. B. Abrams, and D. Sombra, "Family farming, agribusiness and the state: Building consent around oil palm expansion in post-neoliberal Brazil," *J. Rural Stud.*, vol. 57, no. February 2017, pp. 147–156, 2018.
- [6] N. H. W. Musa Hubies, Mukhamad Najib, Hardiana W, "A Strategy of Organic vegetable Production with a farmer-based premium price," *JIFI*, 2013.
- [7] B. A. A. Binta and B. Barbier, "Economic and Environmental Performances of Organic Farming System Compared to Conventional Farming System: A Case Study of the Horticulture Sector in the Niayes Region of Senegal," *Procedia Environ. Sci.*, vol. 29, no. Agri, pp. 17–19, 2015.
- [8] Frank Ellis, "Agricultural policies in development countries," *Cambridge Univ. Press*, 1992.
- [9] W. J. A. Dick and W. Wang, "Government interventions in agricultural insurance," *Agric. Agric. Sci. Procedia*, vol. 1, pp. 4–12, 2010.
- [10] Mosher AT, "Getting agriculture moving," *F.A Prager Inc. New York*, 1966.
- [11] Walewangko, "Organic Vegetables farming Development Strategy," *J. Samratulangi Univ. Manad.*, 2015.
- [12] T. Y. Rusiyah, MR. Djarot Sadharto Widiatmoko, "Study of agricultural development of organic rice fields based on land suitable and potential or organic fertilizers," *MGI*, vol. 26 No.2, pp. 190–203, 2012.
- [13] E. A. Goewie, "Organic agriculture in the Netherlands; developments and challenges," *NJAS - Wageningen J. Life Sci.*, vol. 50, no. 2, pp. 153–169, 2009.
- [14] Hendri Al Alabani, "Government Policy in Marketing Agricultural Products," 2012.
- [15] D. Zylbersztajn, "Agribusiness systems analysis: origin, evolution and research perspectives," *Rev. Adm.*, vol. 52, no. 1, pp. 114–117, 2016.