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Bioscience Research

Print ISSN: 1811-9506 Online ISSN: 2218-3973

Journal by Innovative Scientific Information & Services Network



RESEARCH ARTICLE

BIOSCIENCE RESEARCH, 2019 16(2): 1028-1034.

OPEN ACCESS

Evaluation model of development organic farming dragon fruit based logical framework approach

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The main goal of this study was to evaluate the development models of the dragon fruit organic farming. Evaluation method model used in this study is Focus Group Discussion (FGD). FGD is conducted with some stakeholders of agriculture department, department of agriculture and forestry information, organic farmers, semi organic farmers, conventional farmers, community leaders and researchers. FGD results will then be summarized in the form of a Logical Framework Matrix (LFM). The analysis result of the logical framework matrix by using effective logical framework matrix will give an overview of changes in the application process of the organic dragon fruit farming, particularly in terms of behavioral change. The evaluation result of the development model is the dragon fruit produced is free of pesticides and safe for consumption. The output of evaluation of agriculture development model of the organic dragon fruit have an impact on ecological, economic, social and political, health of farmers and consumers, and the most dominant impact of this study is the interests, participation of organic dragon fruit farmers grow higher followed by behavioral changes towards a better farmer.

Keywords: Sustainable Agriculture, Organic Farming, Logical Framework Matrix

INTRODUCTION

This study is developed using three stages: the first is getting the model of development of organic farming, based on a model developed earlier then obtained a grand strategy that optimizes the quality control of products and existing markets (STAS = 5.607) ; The second is evaluating the model gained in the first year, through a comprehensive marketing research, the results of the second study showed that the dominant factor influencing the consumer decision in buying organic dragon fruit is product, social and price factors; The third is evaluating the development models of organic dragon fruit farming, the methods used in the third year is the Logical Framework Approach which is then applied

in the Logical Framework Matrix.

Logical Framework Approach (LFA) is a tool for planning, monitoring and evaluation of the project. Furthermore, LFA is an instrument of analysis, presentation and management that help planners to analyze the existing situation, build the logic hierarchy of objectives to be achieved, identify potential risks encountered in achieving goals, building a way to monitor and evaluate the objectives and results, present a summary of the activities as well as help monitoring efforts during execution of the project implementation.

MATERIALS AND METHODS

Location and Instruments of the Study

This study will be conducted in the village of Blumbungan, District of Larangan, Pamekasan with altitude of 50 m above the sea level and the area of ± 6.4 ha.

The population in this study is the parties associated with the evaluation model of development of organic farming. The number of samples is not only limited to a certain area but further also seeing the development of the information obtained through well planned questionnaires, interviews and observations. The samples include in the interview session are:

1. Farmers who implement dragon fruit cultivation in semi-organic and still tolerate the use of fertilizers/synthetic pesticides.
2. Conventional farmers in the cultivation process still relies on high quality seeds, fertilizers and synthetic pesticides.
3. Initiators/pioneers of organic farming.
4. Government officials from the Department of Agriculture, Information Office of Agricultural and Forestry, and the Districts.
5. Consumer / organic dragon fruit market participants of Blumbungan.

Logical Framework Approach (LFA)

Logical Framework Approach/LFA is one of good analysis tool in the assessment, the supporting action and evaluation of a project using logical approach. According to Milica (2011) in his book "Guide To The Logical Framework Approach" explained that the LFA was designed to address three fundamental basic problems in the 1-implementation of a project:

- 1-implementation of a project:
- 2-Planning the project is too vague,
- 3-Unclear responsibility of project management Disagreements all relevant stakeholders in the process of evaluating a project.

Logical approach is referred to as this LFA is building goal-oriented project. LFA is a special kind of logic model or logical approach to help researchers clarifying the purpose of the project, identifying the causative relationship between input, process, output, outcome and impact.

Method Analysis Techniques LFA

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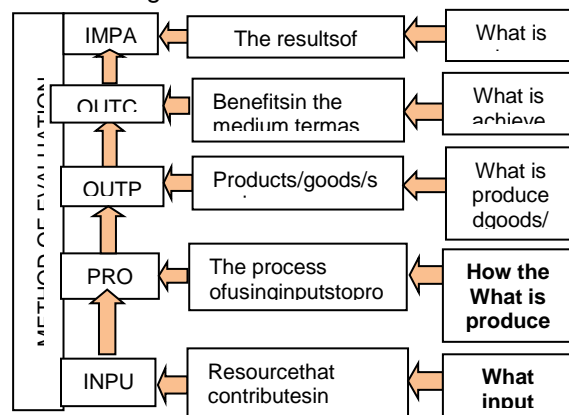


Figure 1. Logic Model Theory

In evaluating a project by using analytical tools Logical Framework Approach/LFA, the method consists of several stages focusing on the application of the Logical Framework Matrix:

To understand the relationship between Goals, Purpose, Outputs and Activities arranged in a matrix or so-called logframe matrix.

Goals

The logical framework (logframe) is a level with the ultimate goal, is the end result but outside the control program.

Purpose or objectives of the program

The details or part of the Goal, but it is always out of control of the program. It does not directly affect the activities but can be achieved by a combination of several of the programs.

Outputs

The specific results to be obtained after the program ends.

Activities

The activities or process have to be structured to obtain outputs for project.Understand the logic of vertical and horizontal logic.

Vertical logic is the sequence of how the process of project implementation to produce the

desired output in accordance with the objectives of the project was previously set so as to achieve the goals of the project.

1. Criteria indicator.

Objectively Verifiable Indicators (OVI) is an indicator of target verification purposes, how do we know that the program was successful, helping us to clarification, assist the monitoring, evaluation and use or indicators created with the approach of SMART (Specific, Measurable, Attainable, Realibility and Timely).

2. Method of verification.

Means of Verification or abbreviated (MOV) or in Indonesian called by way of verifying that the data -data that could support.

3. Assumptions and risks

Risk and Assumptions (risks and assumptions). Written variety of possibilities that may occur can affect the success or failure of a project.

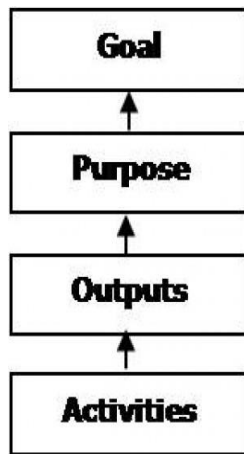


Figure 2. Logical Vertikal on Logical Framework Matrix

RESULTS AND DISCUSSION

To determine the overall picture of research results, the evaluation is constructed using a logical framework analysis consisted of indicators of inputs, outputs, outcomes, benefits and impact, and finally the results will obtain the overall picture like Figure 3.

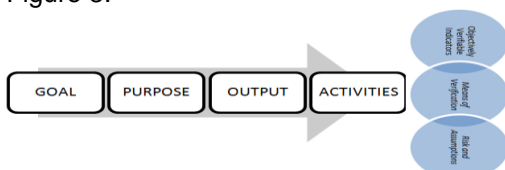


Figure 3. Matriks Logframe Structure

Based on Figure 3 Logical Framework Matrix tables will be organized later in which is a derivation of strategic analysis, the analysis is organized on the basis of the relationship between goals, strategy and external factors that are set by the assumptions that have been tested its validity.

Based on the table 1. There are several indicators of an assessment of the activities in the evaluation: input, output, outcome, benefits and impact of all these activities chain.

a-Input indicators

Input evaluation results of this study consisted of: (1) Socialization of development model of organic farming and dragon fruit (2) Human resources of organic dragon fruit farmers.

b-Output Indicators

Output evaluation results of this study consisted of: (1) Interests and participation of organic dragon fruit farmers and (2) Changes in the behavior of organic dragon fruit farmers.

Indicators Results

Outcome evaluation results of this study consisted of: (1) Results of laboratory tests of organic dragon fruit, (2) Assessment of the farmers and (3) Reaction of the farmers.

Indicators Benefits

Benefits evaluation results of this study consisted of: (1) Benefits of organic dragon fruit agricultural application development model and (2) the farmers ability to adopt new technologies.

Impact Indicators

Effect evaluation result of this study consisted of: (1) Ecological impact, (2) Economic impact, (3) health impacts and (4) Social and political impact.

From several LFA matrix indicators and evaluation of LFA test results as shown in Table 2, then researchers convert the data into quantitative research by analyzing interviews obtained directly in the field by giving weight to each indicator.

Table 2 shows the input description of this research. The process has two input variables: Socialization of the models (30%) and human resources (70%), it means that the condition of the human resources of farmers have a very large degree of influence on the success or failure of the program.

Table 3 shows the output description of this research. The process has two variable outputs: the interest and participation of farmers (40%) and the changes in the behavior of farmers (60%), it means that the interest and participation of farmers will have an impact both on the behavior of farmers in cultivation of the organic dragon fruit.

Table 1. Logframe Matrix

Hierarchy	Indicators	Verification Tools	Assumptions & Risks
Goal	Indicators that show the condition of the achievement of the purpose of the program.	Qualitative and quantitative evidence is used.	Assumptions made by considering external factors.
Purpose	The indicator shows the condition of the achievement of the purpose of the program.	Qualitative and quantitative evidence is used.	Assumptions made by considering external factors.
Output	indicator showing output produced externally.	Qualitative and quantitative evidence is used.	Assumptions made by considering external factors.
Activities	indicators achieved from the activities carried out (costs, human resources, etc.).	Qualitative and quantitative evidence is used.	Assumptions made by considering external factors.

Table 2. Indicators Input Portrait Assessment Evaluation Activities Organic Farming of Dragon Fruit

Number	Input	Percentage
1	Socialization of Models	30%
2	Human Resources	70%
Total		100%

Table 3. Indicators Output Portrait Assessment Evaluation Activities Organic Farming of Dragon Fruit

Number	Output	Percentage
1	The Interest and Participation of Farmers	40%
2	The Changes in The Behavior of Farmers	60%
Total		100%

Table 4. Indicators Outcome Portrait Assessment Evaluation Activities Organic Farming of Dragon Fruit

Number	Output	Percentage
1	Laboratory Test Results	60%
2	Assessment of Farmers	15%
3	The Reaction of Farmers	25%
Total		100%

Table 5. Indicators Benefit Portrait Assessment Evaluation Activities Organic Farming of Dragon Fruit

Number	Output	Percentage
1	The Advantages of Application Model	60%
2	Farmers Ability to Captivate the New Technologies	40%
Total		100%

Table 4 shows the outcome description of this research. The process has three output variables: laboratory test results (60%), assessment of farmers (15%) and the reaction of farmers (25%). It means that the results of laboratory tests of

organic dragon fruit is very dominant influence farmers' assessment process which tend to be positive, causing the reaction of farmers to replicate and implement organic farming is very good. interest and participation of farmers would be good.

Table 5 shows the benefits description. The advantage of this research process has two variable benefits: the advantages of application model (60%) and farmers ability to captivate the new technologies (40%). It also shows that the results of the benefits application test of dragon fruit farming model influenced greatly towards the farmers ability to adopt new technologies.

Table 6 shows the impact description or the influence of community service program consists of the impact of ecological, economic, social and

political and health. Economic impact is still dominant (40%) the highest amongst other.

Based on the evaluation results shown in Figure 1 , the input in the study is socialization of development model of organic dragon fruit farming and HR (human resources) organic dragon fruit farmers. The next variable is also highly affects the LFA assessment is the laboratory test results and the benefits of organic agriculture development model.

Table 6. Indicators Impact Portrait Assessment Evaluation Activities Organic Farming of Dragon Fruit

Number	Output	Percentage
1	Impact of Ecological	25%
2	Impact of Economic	45%
3	Impact of Social Political	10%
4	Impact of Health	20%
Total		100%

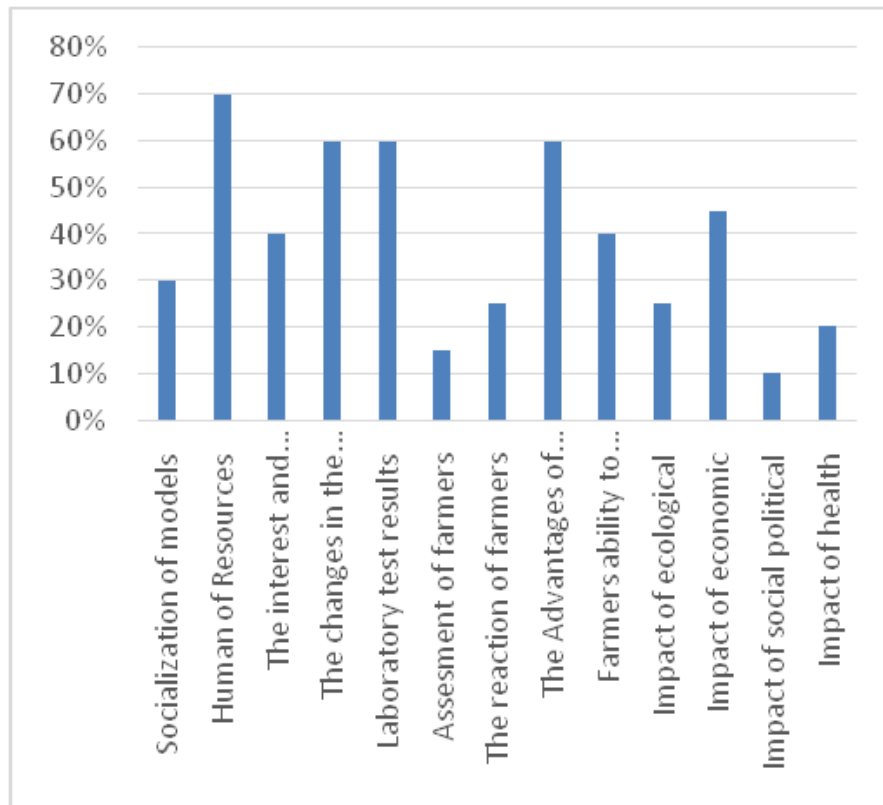


Figure 4. Percentage of Indicators LFA Matrix

CONCLUSION

In general, the use of LFA is not only used for the preparation of a project alone but it can be used for evaluation of the project as well. Analysis logical framework matrix can be concluded that evaluation using the logical framework matrix effectively illustrate the process of change in the application of organic farming dragon fruit, particularly in terms of behavioral change. The impact of test evaluation (application) model of development of organic farming is a dragon fruit ecological impact (25%), the economic impact (45%), the impact of social/political (10%), and health effects (20%). The results of the evaluation test (application) model of organic farming pengembangan dragon fruit is the result of laboratory tests showed that the organic dragon fruit produced free of pesticides and safe for consumption, assessment of farmers and farmers' reactions were very positive.

Output of test evaluation (application) development model of organic farming is a dragon fruit farmers' interest and participation organic dragon fruit is very high and the change in behavior of organic dragon fruit growers. As well as the activity (activities) of the test evaluation (application) model of organic farming pengembangan dragon fruit is socialization and coordination of the development of organic farming models dragon fruit, test (application) model of development of organic farming and dragon fruit evaluation to the application of organic agriculture development model dragon fruit.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

ACKNOWLEDGEMENT

The author acknowledgement this research has been successfully done with supported the Ministry of Higher Education Technology Research (Kemerinstekdikti) as a Collaborative University Research Program (PKPT), all participants and all author's parents

AUTHOR CONTRIBUTIONS

All authors have reviewed this article and made equal contributions in this study.

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REFERENCES

- Delevic, M. (2011). *Guide to the Logical Framework Approach : A Key Tool for Project Cycle Management* . Serbia: Government European Integration Office.
- Departemen, P. (2004). <http://agribisnis.deptan.go.id>. Retrieved Mei 19, 2009, from <http://agribisnis.deptan.go.id>.
- Departemen, P. (2004). <http://www.litbang.deptan.go.id>. Retrieved Mei 05, 2010, from <http://www.litbang.deptan.go.id>.
- Fedriansyah, A. (2008). *Evaluasi Kinerja Program Pemberdayaan Ekonomi Masyarakat Pesisir (PEMP) di Kecamatan Tugu Semarang* . Semarang: Fakultas Ilmu Sosial dan Ilmu Politik Universitas Diponegoro.
- Hikmat, H. (2004). *Strategi Pemberdayaan Masyarakat*. Bandung: Humaniora Utama.
- Husnain, d. (2005). Mungkinkah Pertanian Organik di Indonesia? Peluang dan Tantangan. *Jurnal Inovasi*, 4.
- Lehman. (1997). Pertanian Organik Punya Prospek Cerah. *Jagad Majalah Ilmiah*, 1(1).
- Moleong, L. (2000). *Metodologi Penelitian Kualitatif*. Bandung: PT. Remaja Rosda Karya.
- Nazir, M. (1989). *Metode Penelitian*. Jakarta: Ghalia Indonesia.
- Ningsih, K. (2013, January). Model of Development from Organic Farming Dragon Fruit: an Implementation of. *Academic Research International*, 4(1).
- Ningsih, K., Sakdiyah, H., & Felani, H. (2014, September). Testing Model Of Development Organic Farming Dragon Fruit. *International Journal of Modern Engineering Research (IJMER)*, 4(9), 1-9.
- Peraturan Menteri Pertanian Nomor 02/Pert/HK.060/2/2006 tentang Pupuk Organik dan Pembenih Tanah. (n.d.).
- Pidato Pengantar Menteri Pertanian pada Rapat Kerja dengan Komisi IV DPR RI . (2007, November 14). www.deptan.go.id.
- Rangkuti, F. (2001). *Analisis SWOT Teknik*

Membedah Kasus Bisnis. Jakarta: PT Gramedia.

Rogers, E. (2003). *Diffusion of innovations 5th Edition*. New York: A Division of Macmillan Publishing Co Inc.

Rosalinda, L. (2009). *Analisis Strategi Pengembangan Usaha Sayuran Organik pada Kelompok Tani Sugih Tani pada Kawasan Agropolitan Di Desa Kahrekel Kecamatan Leuwi Liang Kabupaten Bogor*. Bogor: Departemen Manajemen. Fakultas Ekonomi dan Manajemen. Institut Pertanian Bogor.

www.jakerpo.org. (2005). (jakerpo) Retrieved Juni 2015, from www.jakerpo.org