



Developing an Organic Liquid Fertilizer Booklet to Support The Sustainable Reserve Food Garden (SRFG) Program at Tunggak Cerme, Wonomerto, Probolinggo

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Article History	Abstract
Received : 14-10-2018	The aim of this study is to develop and test organic liquid fertilizer booklet to support SRFG program. This study used ADDIE model which consists of analyze, design, develop, implement, and evaluation. The product tests are validity test and practicality test. The validity test result by the material expert, media expert, and field practitioner are 95,5%, 98,5%, 97,9%, showed that the booklet is valid. The practicality test result is 91,1%, showed that the booklet is practical..
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1. INTRODUCTION

Increasing the amount of garbage going on in all parts of Indonesia, including Probolinggo. BLH (2016) states that the volume of waste in Probolinggo regency in 2016 is approximately 80158.40 m³ weighing 13.49333 million Kg per year that shows two-fold increase compared to 2015. The solution offered by the government to overcome the problems of garbage that is empowering the community (family) in processing waste listed in SRFG program. SRFG the programs that use intensively yard by utilizing a variety of local resources to ensure the continuity of the provision of household food ingredients (Ministry of Agriculture, 2012). SRFG program implementation can be seen through the indicator SRFG program.

SRFG program indicators that have been implemented in the village Stumps Cerme are animal husbandry, agriculture, fisheries, and processing waste into compost. Based on the analysis of needs, approximately 80% of the respondents do not undertake sewage treatment and 20% of respondents to process waste into compost. Garbage not only can be processed into compost, but can also be processed into liquid organic fertilizer.

Liquid organic fertilizer has many advantages, they contain nutrients more quickly available and easily absorbed by the plant roots, can be applied with a sprayed on the roots or applied directly by spraying on the leaves or stems of plants (Oviyanti et al., 2016). The use of liquid organic fertilizer in the village Stumps Cerme still relatively rare although a liquid organic fertilizer has many advantages. This is because the lack of public knowledge about organic liquid fertilizer and weave. Lack of knowledge is caused by the lack of media information or sources readings inform about organic liquid fertilizer. Things can be done to overcome these problems is to do media development.

Many types of media that can be used in the delivery of information to the public one of which is the booklet. Booklet is a medium for conveying information set forth in the form of a book contains writings and drawings (Agustin et al., 2014). Booklet has many advantages one of them, namely to increase public knowledge (Astuti and Satmoko, 2006). Based on this required the development of a booklet informing about the program SRFG particularly liquid organic fertilizer. The purpose of research and development is to

produce a liquid organic fertilizer booklet feasible and practical to support SRFG program.

2. RESEARCH METHODS

This study uses a research and development design with ADDIE development model consisting of phase analysis (analyze), design (design), development (develop), implementation (implementation), and evaluation (evaluation). The research data in the form of quantitative and qualitative data. The quantitative data in the form of score results of validation and the questionnaire results of public response while qualitative data in the form of comments / advice given by subject matter experts, media, field practitioners, and the respondents and the results of observation. The data collection was done by questionnaire and observation. The instrument used was a questionnaire validation, questionnaire response of the people, and the observation sheet. Activity data analysis done at the sub develop formative stage revision. The data will be analyzed using percentage calculation techniques that show in Eq. (1)

$$P = \frac{\sum x}{\sum xi} \times 100\% \quad (1)$$

3. RESULTS AND DISCUSSION

a. Results of Validation Expert

The tests used to obtain expert advice and value to know that the developed liquid organic fertilizer booklet are appropriate. Validation of experts conducted by the three validators are material experts, media expert, and field practitioners. Expert validation results are presented in Table 1, Table 2 and Table 3.

Table 1 Results of Validation Booklet by Material Expert

No.	Rated aspect	Appropriateness (%)	Category
1	feasibility of Contents	100.0	very Valid
2	Language feasibility	90.6	very Valid
3	Presentation feasibility	95.8	very Valid
Average Total		95.5	very Valid

Based on Table 1 booklets validation results by material experts are 100.0% feasibility content, 90.6% feasibility languages, and to 95.8% feasibility of presenting which showed that every aspect of a booklet developed have very valid. Overall booklet had a mean percentage of 95.5% and had a very valid category.

Table 2 Results of Validation Booklet by Media Experts

No.	Rated aspect	Appropriateness (%)	Category
1	Booklet Cover design	96.9	very Valid
2	booklet content design	100.0	very Valid
Average Total		98.5	very Valid

Based on the validation results Table 2 booklets by media expert feasibility obtain a percentage value (validity) of 96.9% for the cover design and 100.0% for content design that shows that the developed booklet have very valid level of validity. Overall booklet had a mean percentage of 98.5% and is said to be very valid.

Table 3 Results of Validation Booklet by Practitioner Courses

No.	Rated aspect	Appropriateness (%)	Information
1	feasibility of Contents	100.0	very Valid
2	Language feasibility	100.0	very Valid
3	Presentation feasibility	93.8	very Valid
Average Total		97,9	very Valid

Based on Table 3 validation results booklet by field practitioners are 100.0% content feasibility , 100% language feasibility and 93.8% presentation feasibility the by which showed that every aspect of the developed booklet has a very valid level of validity. Overall booklet had a mean percentage of 97.9% and had a very valid category.

b. Practicality Test Results

Practicality test conducted to obtain comments and suggestions from the public that will be used for the revision of the booklet so obtained the final product liquid organic fertilizer booklet. Booklet that has a good practical value indicates that the booklet can be used by both individuals and groups of society, in daily activities or extension activities. Booklets practicality test results are shown in Table 4.

Table 4 Practicality Test Results Booklet

No.	Indicator	Practicality (%)	Information
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1	material practicality	89.2	Practical
2	constructs practicality	93.0	Practical
Average Total		91.1	Practical

Based on Table 4 the value are 89.2% material practicality and 93.0% construct practicality. The percentage value indicates that the developed booklet are practical. Overall the average value of the percentage of practicality booklet that is 91.1% which indicates that the booklet developed included in the practical category.

Booklet is a media to convey the information in the form of books that contain text and images (Agustin et al., 2014). The development of liquid organic fertilizer booklet selected as the solution of the waste problem that occurred in Tunggak Cerme village and lack of society knowledge about waste management. Lack of society knowledge due to a lack of reading materials / media information and counseling about SRFG program (processing waste into liquid organic fertilizer) in the village, therefore it is developing booklet liquid organic fertilizer.

Liquid organic fertilizer Booklet which was developed tested the feasibility and practicality prior to use by the society. Based on the results of expert validation booklet material has a liquid organic fertilizer validity percentage of 95.5% and included the category of very valid. The results of validation by media experts the booklet is of 98.4% with very valid category. The results of field practitioners is of 97.9% with very valid category. The results of questionnaire by society, liquid organic fertilizer booklet is 91.1% with practical category. Based on the results of feasibility and practicality can be concluded that the liquid organic fertilizer booklet to support SRFG program are feasible and practical.

The Booklet are feasible and practical because the booklet appropriate with booklet developing rules and layout design rules. Liquid organic fertilizer booklet has an attractive design, but do not rule out the part of the contents. The information in the booklet is presented briefly and clearly. This is appropriate with the opinion of Samara (2013) which states that the booklet does not have value if only favor the look without presenting clear information. The information is presented in a booklet packed with simple sentences, concise, and written in 13 pt font size. This is appropriate with the opinion of Suleman (1998) which states that the information contained in the booklet have several criteria, among others, using short sentences, simple, short, concise, font size not less than 10 pt, and packed interesting. Liquid organic fertilizer booklet are presented with

many pictures, colors and a little description to provide an attractive appearance. Booklet has attractive appearance and short word because readers tend to like reading e is written with alignment left, design adjusted to the target, using the font and font size that is consistent, do not use too many font type, font size tailored to the proportion of the size of the page and use normal spaces. This is appropriate with the rules of layout design presented by Stribley (2015) that the design rules include using matches space, alignment, design, using consistent font, font size that match with page size, not using too many effects, and using correct rules writing.

Fulfillment all the rules for developing booklet that described above supports the booklet feasibility and practicality so booklet can be used by the society. Liquid organic fertilizer Booklet to support SRFG program used to provide information for the society. The booklet has been used by some Tunggak Cerme society, so the communities acquire knowledge about the SRFG program especially liquid organic fertilizer.

4. CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the study showed that the development of liquid organic fertilizer booklet was developed as feasible and practical. The advice given is a liquid organic fertilizer necessary booklet published and widely disseminated to the society

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