

Public Perception on Implementation of Urban Farming Program and Potential of Urban Farming Program Development in Kertapati District Palembang City

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Abstract— The purposes of this research were to: (1) Describe the Public perception of the urban farming program implemented in Ogan Baru village and Keramasan village, sub district Kertapati, Palembang City, (2) Analyzing the correlation between public perception of Ogan Baru village and Keramasan village with the potential of urban farming development in Kertapati district, Palembang city. This research was conducted in Ogan Baru village and Keramasan village, sub district Kertapati, Palembang city. The data was collected on October 2016 – April 2017. This research use a survey method, and sampling method used simple random sampling. The data used primary and secondary data. The conclusions of this research is the public perception of the urban farming program in Ogan Baru Village and Keramasan Village has an average score of 47,80 or is in medium criteria, where people know the type and benefits of urban farming program. The potential of urban farming development in Kertapati district has an average score of 18,95 or is in medium criteria where land area and public interested are measured as indicators. There is no correlation between public perception and urban farming potency in Kertapati district, Palembang city, because public perception is a response of something happened from a group of individuals in an area which haven't ensure the participation of the public in implementing the urban farming program.

Keywords— Public Perception, The Potential of Urban Farming Program Development, Urban Farming

I. INTRODUCTION

A. Background

Urban farming is planting and growing plants in densely populated areas (urban areas) are intended for personal consumption or to be distributed to people who were around the area. These activities involve the public in using abandoned urban land for planting crops productive (Lanarc, 2013).

early occurrence Urban farming triggered by poor economic circumstances of some countries are experiencing a world war. Urban farming emerged as a response to address the situation and the poor economic conditions. In the United States 5.5 million people participated in the victory garden movement. The results of the program makes the United States government is able to provide 40 percent of the food needs of its citizens. Victory garden is also a milestone in the early days of urban farming today (Tim Writer of Agriflo, 2014).

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In the concept of the macro economy, urban farming also been able to lower inflation of an area if the activity was successful. With the assumption that if a family is able to reduce costs while steady income then it has indirectly help curb inflation. That is, the families were able to suppress the routine expenses, since the yield on the home environment, will support local and national economy (Hasibuan, 2015).

Palembang inflation rate in the first quarter 2016 amounted to 4,89 percent. The cause of the high inflation that occurs because of the increase in the price index in five groups, namely foodstuff by 0,72 percent; clothing group by 0,56 percent; food, beverages, cigarettes and tobacco by 0,45 percent; health group at 0,13 percent; and education, recreation and sport 0,06 percent. For some commodities food group increased share price with the highest inflation in Palembang include red onions by 0,31 percent, 0,17 percent of red chili, garlic 0,04 percent, tekwan / model 0,03 percent and 0,02 percent orange (Central of Statistics South Sumatra Province, 2016).

The high inflation rate in Palembang making Bank Indonesia began to glance at the farmer group banquet in Palembang, to try to develop red chili, through Social Program of Bank Indonesia (PSBI) urban farming carried out in the Ogan Ilir Village and Keramasan Village Kertapati District, Palembang City.

Bank Indonesia also asked the Department of Agriculture Fisheries and Forestry (DP2K) of Palembang cooperation as the agency that will provide non-formal education (counseling) to the public related to the technical implementation of the program (Bank Indonesia, 2016).

Therefore, this study focuses on examining public perception problems, which aims to see the public perception and the potential development of urban farming in Sub Kertapati Palembang.

B. Research Purposes

The Purpose Of This Study Are As Follows:

1. Describe the public perception of the concept of urban farming were applied in Ogan Baru village and Keramasan Village Palembang.
2. Analyzing the correlation between public perception in the Ogan Baru Village and Keramasan Village with the potential development program of urban farming in Palembang.

3. The results of this study are expected to provide information and provide an overview the public perception of implementating urban farming program and urban farming development potential in Kertapati district, Palembang city, and also expected to be a reference for further research.

II. RESEARCH METHODELOGY

A. Place and Time Research

The research was conducted in Ogan Baru Village and Keramasan Village, Kertapati district, Palembang City, South Sumatra Province of Indonesia. The selection of this location is done purposively with the consideration that Ogan Baru Village and Keramasan Village is one of the areas implementing urban farming program "Kampung Cabai" through Bank Indonesia Social Program (PSBI) in collaboration with Agriculture, Fisheries and Forestry Agency Palembang City. The study was conducted from March to April 2017.

B. Data Collection Methods

The data was collected form primary data and secondary data. Primary data was obtained from direct observation in the field by interview method to responent through questionnaire. The interview was guided by a pre-prepared questionnaire (questionnaire). Secondary data are obtained from various sources, such as: books, institutions, previous research journals that related to this research.

C. Method of Sampling

This study aims to measure the public perception through the concept of urban farming. Sampling method to measure public perception in this study was conducted using a random sample (simple random sampling). Simple random sampling is a sampling such that each base unit has an equal chance to be sampled. Of the 300 households (families) who are members of the Group of Women Farmers in two villages (Ogan Baru Village and Keramasan Village) receiving chilli seeds. Then, researcher randomly selected 40 samples. In determining the size of the number of samples conducted in accordance to the Slovin opinion

D. Data Processing Methods

Data were collected from the field first and then processed tabulation and results are presented in table form, and then analyzed by descriptive is to describe the results obtained in the form of systematic description in the discussion.

To answer the first objective of this study, that the public perception of the program urban farming in New Ogan village and Village Keramasan Kertapati District of Palembang by using ascale. LikertThe public perception can be analyzed through three indicators, namely: (1) Knowledge; (2) Practice; (3) Benefits. The indicators are grouped into class intervals by giving a score of 5 for very high (ST), 4 to a high (H), 3 for medium (S), 2 for Low (R), and 1 for very low (SR). the formula that used in the class interval as follows:

$NR = NST - NSR$

$PI = NR : JIK$

Where:

$NR = \text{Value Range}$

$PI = \text{Length Interval}$

$NST = \text{Value Top Scores}$

$NSR = \text{Score Lowest}$

$JIK = \text{Number Interval Grade}$

Calculation of the class interval total for each indicator is as follows:

$NST = 90 \text{ (3 indicators x 6 Questions x Thickness Top 5)}$

$NSR = 18 \text{ (3 indicators x 6 Questions x Thickness lowest 1)}$

$JIK = 5$

$NR = NST - NSR$
 $= 90 - 18$
 $= 72$

$PI = NR : JIK$
 $= 72 : 5$
 $= 14,4$

Calculation of the class interval for each indicator is as follows:

$NST = 30 \text{ (6 x Thickness Top Question 5)}$

$NSR = 6 \text{ (6 Questions x Thickness lowest 1)}$

$JIK = 5$

$NR = NST - NSR$
 $= 30-6$
 $= 24$

$PI = NR : JIK$
 $= 24 : 5$
 $= 4,8$

Calculation of class intervals for each question are as follows:

$NST = 5 \text{ (1 x Thickness Top 5)}$

$NSR = 1 \text{ (1 x Thickness lowest 1)}$

$JIK = 5$

$NR = NST - NSR$
 $= 5-1$
 $= 4$

$PI = NR : JIK$
 $= 4 : 5$
 $= 0,8$

Based on the calculations above, in the class interval measure perceptions of farmers on the concept of urban farming in two village, which Ogan Baru Village and Keramasan Village Palembang City. Can be seen in Table 2.1. below:

TABLE 2.1.
 INTERVAL TABLE CLASS FOR MEASURING PUBLIC PERCEPTION OF URBAN FARMING PROGRAM IN KERTAPATI DISTRICT, PALEMBANG.

No	Interval Grade (total score)	Interval Grade (score per indicator)	Interval Grade (Score per individual)	Criteria
1	$18 \leq x \leq 32,4$	$6 \leq x \leq 10,8$	$1 \leq x \leq 1,8$	Very Low
2	$32,4 < x \leq 46,8$	$10,8 < x \leq 15,6$	$1,8 < x \leq 2,6$	Low
3	$46,8 < x \leq 61,2$	$15,6 < x \leq 20,4$	$2,6 < x \leq 3,4$	Medium
4	$61,2 < x \leq 61,2$	$20,4 < x \leq 25,2$	$3,4 < x \leq 4,5$	High
5	$75,6 < x \leq 90$	$25,2 < x \leq 30$	$4,5 < x \leq 5$	Very High

To determine the potential development of urban farming in New Ogan village and Village Keramasan also using scale Likert. The potential development of urban farming can be analyzed through two indicators, namely: (1) Land, and (2) Public Interest. The indicators are grouped into class intervals by giving a score of 5 for very high (ST), 4 to a high (H), 3

for medium (S), 2 for Low (R), and 1 for very low (SR). the formula that used in the class interval as follows:

$$NR = NST - NSR$$

$$PI = NR : JIK$$

Where:

$$NR = \text{Value Range}$$

$$PI = \text{Length Interval}$$

$$NST = \text{Value Top Scores}$$

$$NSR = \text{Score Lowest}$$

$$JIK = \text{Number Interval Grade}$$

Calculation of the class interval total for each indicator is as follows:

$$NST = 30 \text{ (2 indicator x 3 Questions x Thickness Top 5)}$$

$$NSR = 6 \text{ (2 indicator x 3 Questions x Thickness lowest 1)}$$

$$JIK = 5$$

$$NR = NST - NSR \qquad PI = NR : JIK$$

$$= 30 - 6 \qquad = 24 : 5$$

$$= 24 \qquad = 4,8$$

Calculation of the class interval for each indicator is as follows:

$$NST = 15 \text{ (3 Questions x Thickness Top 5)}$$

$$NSR = 1 \text{ (3 Questions x Thickness lowest 1)}$$

$$JIK = 5$$

$$NR = NST - NSR \qquad PI = NR : JIK$$

$$= 15 - 1 \qquad = 12 : 5$$

$$= 12 \qquad = 2,4$$

Calculation of class intervals for each question are as follows:

$$NST = 5 \text{ (1 x Thickness Top 5)}$$

$$NSR = 1 \text{ (1 x Thick lowest 1)}$$

$$JIK = 5$$

$$NR = NST - NSR \qquad PI = NR : JIK$$

$$= 5 - 1 \qquad = 4 : 5$$

$$= 4 \qquad = 0,8$$

Based on the above calculation, the class interval in the can for measuring the potential development of urban farming program in the two village New Village and Village Keramasan Ogan Kertapati District of Palembang city can be seen in Table 2.2. below:

TABLE 2.2.

INTERVAL TABLE CLASS FOR MEASURING THE POTENTIAL OF URBAN FARMING PROGRAM IN KERTAPATI DISTRICT PALEMBANG.

No	Interval Grade (total score)	Interval Grade (score per indicator)	Interval Grade (Score per individual)	Criteria
1	$6 \leq x \leq 10,8$	$3 \leq x \leq 5,4$	$1 \leq x \leq 1,8$	Very Low
2	$10,8 < x \leq 15,6$	$5,4 < x \leq 7,8$	$1,8 < x \leq 2,6$	Low
3	$15,6 < x \leq 20,4$	$7,8 < x \leq 10,2$	$2,6 < x \leq 3,4$	Medium
4	$20,4 < x \leq 25,2$	$10,2 < x \leq 13,6$	$3,4 < x \leq 4,5$	High
5	$25,2 < x \leq 30$	$13,6 < x \leq 15$	$4,5 < x \leq 5$	Very High

To find out the relationship between the public perception in Ogan Baru Village and Keramasan Village of urban farming program with the development potential of urban

farming in Palembang, South Sumatra used analysis correlation, Rank Spearman with the formula:

$$R_s = 1 - \frac{6 \sum di^2}{n^3 - 1}$$

If the ranking of the same number, it is recommended to use the formula:

$$R_s = \frac{\sum x^2 + \sum y^2 - \sum di^2}{2 \sqrt{\sum x^2 \sum y^2}}$$

$$\sum x^2 = \frac{n^3 - n}{12} - \sum Tx, \text{ with } \sum Tx = \frac{tx^3 - tx}{12}$$

$$\sum y^2 = \frac{n^3 - n}{12} - \sum Ty, \text{ with } \sum Ty = \frac{ty^3 - ty}{12}$$

Description:

R_s = Spearman's Rank Correlation

T_x = Number of variables x the same

N = Number of data

T_z = Total variable y thesame

D_i = The difference between x_i and z_i

Decision Rules:

$R_{scount} \leq r_s \alpha$ then, there is no relation between public perception of urban farming program with the development potential of urban farming in Kertapati District, Palembang City.

$R_{scount} \geq r_s \alpha$ then, there is a relation between public perception of urban farming program with the development potential of urban farming in Kertapati District, Palembang City.

III. CONCLUSIONS AND DISCUSSION

A. Public Perception of Urban Farming Program

Public perception of urban farming program in Ogan Baru Village and Keramasan Village is at a score of 47,80 or included in the Medium criteria. This shows that the community's perception of the program has been good enough. For more details can be seen in Table 3.1. below:

TABLE 3.1.

PUBLIC PERCEPTION OF URBAN FARMING PROGRAM IN OGAN BARU VILLAGE AND KERAMASAN VILLAGE.

No.	Public Perception	Average Score	Criteria
1	Knowledge	17,85	Medium
2	Practice	14,25	Low
3	Benefits	15,70	Medium
Total		47,80	Medium

Source: Primary Data

B. Knowledge

Public perception of knowledge indicator has an average score of 17,85 or included in the medium category. Where most of the respondents admitted a bit difficulty in understanding the material presented by the instructor. Material presented by the instructor include the puposes, concepts, benefits, types of urban farming plants related to as well as technical knowledge chili cultivation itself. besides it's

not many people who have previous experience of chili cultivation. To see how much the average score of each sub-indicators can be seen in Table 3.2. below:

TABLE 3.2.
PUBLIC KNOWLEDGE OF URBAN FARMING PROGRAM IN OGAN BARU VILLAGE AND KERAMASAN VILLAGE.

No.	Knowledge	Average Score	Criteria
1	Urban Farming Program Purposes	3,10	Medium
2	Urban Farming Program Concepts	2,80	Medium
3	Benefits of Urban Farming Program	3,13	Medium
4	Types of Urban Farming Plnts	3,63	High
5	Knowledge of Chili Price	3,05	Medium
6	Experience of Chili Cultivation	2,15	Low
Total		17,85	Medium

Source: Primary Data

C. Practice

Public perception of practice indicator having an average total score of 14,25 or included in the lower criteria. In practice, some conclusions can be drawn. Such as (1) public performance of instructor is not good, because the instructor is only to provide guidance and direction in the beginning of the program, 2) during the course of cultivation society fraught with difficulties, from the condition of the seedlings that are less good, the attack of various pests such as trips and goats, to the seed placement conditions that are considered less strategic because of circumstances that are in the riparian areas are the consequences if people put the seeds in a low area, it will be vulnerable to flooding. (3) lack of willingness of the community and the ability of people to pay more for treatment of pepper plants in order to achieve maximum production. For more details can be seen in Table 3.2. below:

TABLE 3.3.
PUBLIC PRACTICES OF URBAN FARMING PROGRAM IN OGAN BARU VILLAGE AND KERAMASAN VILLAGE.

No.	Practice	Average Score	Criteria
1	Instructor Performance	3,08	Medium
2	Cultivation Skills	2,80	Medium
3	Trouble	2,70	Medium
4	Sufficiency of Production Facilities	2,05	Low
5	Environmental Suitability	2,38	Low
6	Additional Cost	1,25	Very Low
Total		14,25	Low

Source: Primary Data

D. Benefits

Public perception of the benefits indicator has a number average score of 15.76 or are in the middle criteria. From the results of research in the field, there are several conclusions that can be drawn: (1) general community considers the

program of urban farming is quite helpful, (2) when seen from the average total production of pepper plants in the can during the running of the program, people can at least be chili harvest up to 0,17kg / month. While the average household chili needs community in New Ogan village and Village Keramasan about 1,68kg / month. This shows bahawasanya chili crop production through program urban farming only meet 10 percent of domestic needs chili. (3) because the yield is still low, people still have to buy chili in the market. To view each score per sub-indicators can be seen in Table 3.4. Below:

TABLE 3.4.
PUBLIC PRACTICE OF URBAN FARMING PROGRAM IN OGAN BARU VILLAGE AND KERAMASAN VILLAGE

No.	Benefits	Average Score	Criteria
1	General Comments	3,23	Medium
2	Fullfillment	1,70	Very Low
3	Land Use	3,28	Medium
4	Influence of Interest	3,40	High
5	Seeds Effect	2,23	Low
6	Influence on Chili Purchasing	1,93	Low
Total		15,76	Medium

Source: Primary Data

E. Potency of Urban Farming in Kertapati District

Potency is a strength that is not visible but are likely to be developed. As well as urban farming, in Indonesia there are some areas and cities in which to develop the concept of urban farming, such as Bandung. In Palembang urban farming has begun to be applied in some areas housing one in the village citizens of Ogan Baru Village and Keramasan Village. To see the extent to which the potential of urban farming in Ogan Baru village and Keramasan Village, then be measured through two indicators that look at the potential of land area and public interested. Overall the potential development of urban farming program in Ogan Baru Village and Keramasan Village has a number average score of 18,95 or included in medium category. For more details, the data can be seen in Table 3.5. below:

TABLE 3.5.
DEVELOPMENT POTENTIAL OF URBAN FARMING PROGRAM IN OGAN BARU VILLAGE AND KERAMASAN VILLAGE.

No	Potency	Average Score	Criteria
1	Land Area	9,35	Medium
2	Public Interested	9,60	Medium
Total		18,95	Medium

Source: Primary Data

F. Land Area Potency

Ogan Baru Village and Keramasan Village is 2 of 6 village in the Kertapati District who have dry land area of 225.00 hectares. The high dry land area located in the Ogan Baru Village and Keramasan Village is not directly proportional to

the yard of land owned by each individual in society who recieved urban farming program. it showed that the average score of the potential of the public yard area is at a score of 9,35 or included in medium criteria. This is because land area and land positions grounds considered not fully allow to implementating the urban farming program, except through special treatment before. For more details can be seen in Table 3.6. bellow:

TABLE 3.6.
LAND AREA POTENCY OF URBAN FARMING PROGRAM IN OGAN BARU VILLAGE AND KERAMASAN VILLAGE.

No	Potensial Land	Average Score	Criteria
1	Landscaped Ground	2,60	Medium
2	Common land	3,48	High
3	Building Area	3,28	Medium
Total		9,35	Medium

Source: Primary Data

G. Public Interested Potency

Public interested in the sustainability potential of urban farming porgram have an average score of 9,60 or inculeded in medium category. Although not high, most people in here have a plans to continue the urban farming program. But, some people in Ogan Baru Village and Keramasan Village still hopes that the government is more serious when running the program further. More details, the data can be seen in Table 3.7. below:

TABLE 3.7.
PUBLIC INTERESTED POTENCY OF URBAN FARMING PROGRAM IN OGAN BARU VILLAGE AND KERAMASAN VILLAGE.

No	Minat Masyarakat	Average Score	Criteria
1	Continuous Plan	3,58	High
2	Public Behavior	3,43	High
3	Public Abilities	2,70	Medium
Total		9,60	Medium

Source: Primary Data

H. The Correlation between Public Perception with Development Potential of Urban Farming

To see the correlation between public perception with development potential of urban farming in Kertapati District of Palembang this research used Rank Spearman correlation. The calculation of the perception and potential of used a Likert Scale. Based on the calculation results showed that the perception and the Potential are in a medium criteria. For more details can be seen in Table 3.8. below:

TABLE 3.8.
THE CORRELATION BETWEEN PUBLIC PERCEPTION WITH DEVELOPMENT POTENTIAL OF URBAN FARMING.

N o.	Indicator	Average Score	Criteria
1	Perception	47,80	Medium
2	Potency	19,05	Medium

Source: Primary Data

Data in Table 3.8. show that the public perception included indicators of knowledge, practices, and benefits associated withprogram urban farming has a number average score of 47,80 or are in a medium criteria. Potential covering land area and public interest in urban farming program has a number average score of 19,05 or are in a medium criteria, to determine whether or not the correlation between public perception and development potential analyzed using Rank Spearman correlation test.

The Calculation results of Rank Spearman correlation test between the public perception and development potential of urban farming in Ogan Baru village and Keramasan Village, Kertapati, Palembng with significance level $\alpha = 0,05$ and r_s table = 0,364, resulting r_s count = 0.174 and r found that the results, count $< r_s$ table is 0,174 $< 0,364$ then the decision rules obtained is accept H_0 , which means there is no correlation between the public perception with development potential of urban farming in Ogan Baru village and Keramasan Village Kertapati District of Palembang, with a correlation coefficient of 0,174. Based on the above, the public perception of urban farming program can not guarantee whether or not the program develops urban farming in Ogan Baru village t and Keramasan Village, Kertapati District, of Palembang. If the public perception is not necessarily being the potential potency of urban farming program is or is not and vice versa.

IV. CONCLUSION AND RECOMMENDATION

A. Conclusions

Based on the results of research conducted it can be concluded as follows:

1. Public perception of urban farming program were implemented in Ogan Baru Village and Keramasan Village included in a medium criteria.
2. Development Potential of urban farming in Ogan Baru Village and Keramasan Village included in a medium criteria being.
3. There was no correlation between public perception with development potential of urban farming in Ogan Baru Village Kertapati District of Palembang.

B. Recommendation

The Recommendation of this study are as follows:

1. In the implementation of urban farming the program in Ogan Baru Village and Keramasan Village , society as a party to run a program of urban farming should be more active and independent, so that the program which has been on the run can flourish and sustainable.
2. Researchers hopes the implementation of urban farming program were implemented in Ogan Baru Village and Keramasan Village, the government should be able to oversee / control more the urban farming program, so as to avoid failures that may occur during the program.
3. Researchers hopes their further studies on the agricultural potential of what is suitable and capable of being expanded to Ogan Baru Village and Keramasan Village, Kertapati District of Palembang.

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