

Urban Agroindustry Model Based on Utilization of Justices as an Efforts to Increase Food Security

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Abstract: *In increasing food security in urban areas, the problem is the limited land for agriculture, so that the use of the yard is the best solution for strengthening the economy in urban communities. The purpose of this study is to produce a model of urban agroindustry development based on the use of the yard. The method used is descriptive method and AHP Analysis Method (Process Hierarchy Analysis). The results of the study indicate that the Yard-based Agro-Industry Development Model includes criteria: Objectives, Constraints, Needs and Alternative Solutions. From each type of plant have different priorities: (a). Fruit plants, the highest priority for goals is increasing income, priority constraints are the motivation of the community in the use of the yard, while the needs needed are market information, while the alternative solution is the need for socialization of increased use of the yard. (b) Vegetable crops, the highest priority of objectives is the use of the yard, the highest priority constraints on vegetable crops are agro-climate problems and community motivation to utilize the yard, while the highest priority needs are knowledge of processed products, while the highest priority alternative solution is the creation of one village one product. (c) Medicinal plants, the highest priority of goals is the use of yards, the priority of constraints on medicinal plants is the highest motivaasi community to use the yard, while the highest priority needs is knowledge of processed products and market information, while alternative solutions the highest priority is the creation of one village one product and the promotion of increased use of the yard.*

Keywords: Value Added, Yard, Food Security

1. Introduction

Food security in terms of food affordability is closely related to efforts to improve the quality of human resources, without the support of adequate and quality food, it is difficult to produce quality human resources, therefore a robust food security system is an absolute requirement for successful development (Abdul Rauf, 2013) In urban areas the problem is that there is increasingly limited land for agriculture, so the use of yards is the best solution for strengthening the economy of urban communities in increasing food security. Without much awareness that the yard if managed optimally and planned can provide enormous benefits in supporting the family's nutritional needs as well as for beauty (aesthetics) and increasing family income. Yard can be developed by planting various types of plants such as fruit plants, vegetables and as living dispensaries by planting family medicinal plants which can be used as raw material for agro-industries that can increase family income by entrepreneurship in processed products by utilizing local resources produced from the yard. Utilization of the Yard which is managed through an integrated approach of various types of plants, livestock and fish, so that it will guarantee the availability of diverse food products continuously, in order to fulfill family nutrition (Nurwati, 2015). Business in the yard if managed intensively in accordance with the potential of the yard, besides being able to meet household consumption needs, can also contribute to income for the family. From the results of research in Yogyakarta (in general the yard can contribute income between 7% to 45%. (Peny, DH and Benneth Ginting, 1984).

The use of the yard will create a comfortable, healthy and aesthetic environment because the garden will create all activities optimally for the family. The home garden has a multipurpose function, because with a land area with less extensive land it can produce food such as fruit trees, vegetables, and medicines. Utilization of the yard by planting

various types of food crops makes household access to food needs closer (Astuti et al, 2013). Lawns can be optimized by making intercropping of different types of plants that are needed by the family because in Indonesia in general very supportive climate for various types of plants but the ability of peasant households, or individual to do a farmer hasn't been so good since it is influenced by a variety of things, among others, the narrowness of the land venture, cultivation techniques, capital and skills of farmers (Dalania SD et al, 2014). The presence of industrial agriculture at this point increasingly to expect its role to boost the economy of the family, as well as driving force of industrialization in Many expectations placed on agro-industries, but its success more determined by the potential that exists. (Novitasari, 2011). With the utilization of the grounds is expected to be a provider of raw materials industrial agriculture so with empowerment land yard in addition to improving entrepreneurial soul society also increase family income by commodity supporting agro-industries as processed products. (T. Bantacut, 2013).

With optimal utilization of yard can support the development of agro-industries through the availability of raw materials industrial agriculture continuously so with raw materials that are available in the appropriate amount of time and is a requirement for adequacy production in a sustainable way. (Suhartini, 2007). The types of plants that can be developed in the courtyard include; fruits, herbs and plant drugs. Added value the greater the top agricultural products can certainly have contributed to increased economic growth. (Wardhani 1999). Economic growth is great of course affects the increase of people's income and the business field the estuary the end is increasing the welfare of society. (Sri Murtiani, 2009). One of the functions of the courts as a source of income and nutrition improvements because yards can provide extra income if set up properly. (Junaidah, 2015). By planting a variety of plants can reap the benefits of the two at once, i.e. for the family

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and take advantage of the benefits can be in selling, especially when used raw material sebagai agro-industries so that the value of crops added by being processed products (Hasanah, 2015). Business in the yard if it is managed intensively in accordance with lawns, along with potential can meet the needs of household consumption, it can also contribute to the family income (Peny, DH and Benneth Ginting, 1984). As for the purpose of this research was: generating agro-industries development model of urban-based utilization of yard.

2. Method

Place

Research conducted in 4 areas namely Ngawi, Madiun, Madiun and Magetan City, East Java Indonesia. As for the Respondents of the research was the community that empowers the grounds with a variety of fruits, medicines, drugs that are used as raw material for industrial agriculture. Regional elections purposefully research (purposive) with the consideration that the area was the capital of each Kabupaten/Kota, namely Mejayan Madiun Regency to Sub-district, sub-district and the paths to the paths Kabupetan, Magetan for Magetan and Sub garden, Kartoharjo and Manguharjo for the town of Madiun. The method used is descriptive method applied in some areas that empowers fruits, vegetables and medicines as a provider of raw materials industrial agriculture, useful for analyzing data qualitative in nature i.e. describe, summarize a variety of conditions, the various situations the State place of research in accordance with the conditions of the airy.

As for the mngetahui Model of the development of agro-industries use AHP analysis method (Hierarchy Process Analysis) is a method for getting the decision resulting in a rational and accurate decisions. The rational decision is the best decision of the various objectives to be achieved by the decision maker. On the rational decision that includes alternative and-alternative criteria that lead to the desired objective and based on the sources that exist. In this study the selected expert opinion is relevant experts who come from practitioners, relevant government agencies, academics or researchers and actors/pengusaha agro-industries.

3. Result and Discussion

Model development of agro-industries are made of plants grown in yards

In General on the grounds planted with multi komoditas good fruits, vegetable plants, medicinal plants or Ornamentals. In optimizing the plant's fruit, vegetable crops and medicinal plants are planted in the farm grounds to support the development of agro-industries as raw material, it needs to be done the selection of the type of crop and the potential of the fruit. Therefore, in drafting the model development of agro-industries used the method of AHP (Analytical Hierarchy Process) in a pngambilan decision that is is one of the tools (the process) in decision making, developed by Thomas L. Saaty in the 1970s. Basically the AHP help solve complex problems with drawing up a hierarchy of criteria, it is assessed subjectively by the parties concerned and then attract a variety of considerations in order to develop weights or priorities (conclusion). AHP is

often used as a method of problem solving than with the other methods because of the following reasons:

- 1) The structure of hierarchical structure, as a consequence of the chosen criteria, until the most criteria in sub.
- 2) Take into account validity up to the limit tolenransi inconsistencies of various criteria and alternative chosen by decision makers.
- 3) Take into account durability output sensitivity analysis decision making. (Syaifullah,2010).

By the method of AHP will be a rational decision and obtained accurate, rational decision is the best decision of the various objectives to be achieved by the decision maker. On the rational decision that includes a goal achieved, the obstacles faced when taking a decision, the needs that are required in the development and alternative solutions that could embody the development model. The following criteria-the criteria used in determining the priority of the development model of industrial agriculture based yard by using AHP (Analytical Hierarchy Process):

Table 1: Criteria for Agro-Industry Development Model Yard based..

No	Criteria	Indikator
1	Objective	1) Utilization of the Yard. 2) Increased Income. 3) Development of Plant Cultivation. 4) Potential Plants in the Yard. 5) Plant potential as raw material agro industry.
2	Obstacles	1) Motivation of the Community in utilizing the yard. 2) Agro-climate problems 3) Skills about processed products. 4) Plant type as raw material agro industry.
3	Needs	1) Knowledge of processed products 2) Knowledge of the types of plants which can be used as ingredients raw agro-industry. 3) Agro-climate suitable plants. 4) Support from the government. 5) Market Information
4	Alternative Solutions	1) Socializing Increased UtilizationYard. 2) Understanding to the public about the benefits of the yard in adding family economy. 3) Socialize to the community so plant crops as ingredients raw agro-industry. 4) Provision of superior seeds 5) Created One Village One Product

Source: Primary Data Processed

From the above criteria after being analyzed using AHP, it can be seen the development model of each plant planted in the yard so that policy can be determined based on priority. The following priorities are obtained through AHP analysis.

A. Priority for the development of Fruit Plants in the Yard

Table 2: Priority of Fruit Plant development on Yard

No	Criteria	Indikator	Skor
1	Objective	1) Increased Income (PP)	0,329
		2) Yard Use (PmP)	0,190
		3) Added Value (NT)	0,169
		4) Cultivation Development	
		5) Fruit Plant (PBTb)	0,112
		6) Potential Fruit Plants in Potential Fruit Plants as	0,100
		7) Agroindustry Raw Materials (PTbBBA)	0,100
2	Obstacles	1) Motivating the Society in utilization of the yard. (MM)	0,310
		2) Cultivation Knowledge Plant (PBT)	0,171
		3) Types of Fruit Plants as Agroindustry raw material (JTB)	0,171
		4) Marketing of Processed Products (PPO)	0,171
		5) Agro-climate Problems (MA)	0,089
		6) Product skills Processed (KPO)	0,089
3	Needs	1) Market Information. (IP)	0,349
		2) Knowledge of the product processed (PPO)	0,185
		3) Knowledge of types plants that can be used as raw material agroindustry (PBBA)	0,185
		4) Support from government (DP)	0,185
		5) Types of Fruit Plants nsuitable for climatic (JTBA)	0,098
4	Alternative Solutions	1) Dissemination of Yard Use Improvement (PPP)	0,349
		2) Understanding of the community about the benefits of the yard in increasing the family economy (PMP)	0,185
		3) Provision of Superior Seeds (PBU)	0,185
		4) Created One Village One Product. (OVOP)	0,185
		5) Socialize to the community to plant plants fruit as raw material agroindustry. (SBBA)	0,098

Source: Primary Data Processed

From the AHP results, it can be seen that the priority starts from the highest score to the lowest, so that the score can be used as an invitation to determine policies that can be taken in determining the model of agro-industry development based on fruit trees planted in the yard
 Agroindustry Development Model of Fruit Plant Raw Materials

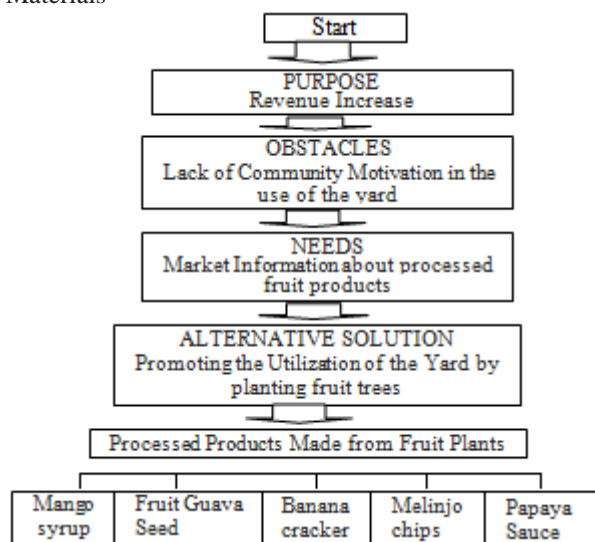


Figure 1: Model of the development of Agroindustry for Fruit Plants in the yard

B. Priority for the development of Vegetable Plants in the Yard

From the criteria that have been determined and have been chosen by several experts, after the AHP analysis of each expert's opinion, the results of the average priority of the garden development model based on vegetable crops are as follows:

Table 2: Priority of Vegetable Plant Development inYard

No	Criteria	Indikator	Skor
1	Objective	1. Yard Use (PmP)	0,333
		2. Increased Income (PP)	0,196
		3. Added Value (NT)	0,196
		4. Development of Plant Cultivation	0,108
		5. Potential of Vegetable Plants in Yard	0,096
		6. Potential Vegetable Plants as Agroindustry Raw Materials (PTsBBA)	0,071
2	Obstacles	1. Motivating the Society in yard use (MM)	0,259
		2. Agro-climate Problems (MA)	0,259
		3. Knowledge of Plant Cultivation (PBT)	0,136
		4. Types of Vegetable Plants as Agroindustry raw material (JTS)	0,136
		5. Processed Product Marketing (PPO)	0,136
		6. Skills about processed products (KPO)	0,075
3	Needs	1. Knowledge of processed products (PPO)	0,298
		2. Market Information (IP)	0,298
		3. Suitable types of vegetable plants in agro-climate. (JTSA)	0,158
		4. Support from the government (DP)	0,158
		5. Knowledge of the types of plants which can be used as ingredients raw agroindustry (PBBA)	0,088
4	Alternative Solutions	1. Created One Village One Product. (OVOP)	0,368
		2. Utilization Improvement Dissemination Yard. (PPP)	0,207
		3. Understanding of the community about the benefits of the inner yard add to the family economy (PMP)	0,207
		4. Socialization to the community so that plant vegetables as raw material for agro-industry.(SBBA)	0,109
		5. Provision of Superior Seeds (PBU)	0,109

Source: Primary Data Processed

From the AHP results, it can be seen that the priority starts from the highest score to the lowest, so that the score can be used as an invitation in determining policies that can be taken in determining the model of plant-based agroindustry development Vegetables grown in the yard.

Agro-industry Development Model of Vegetable Raw Materials

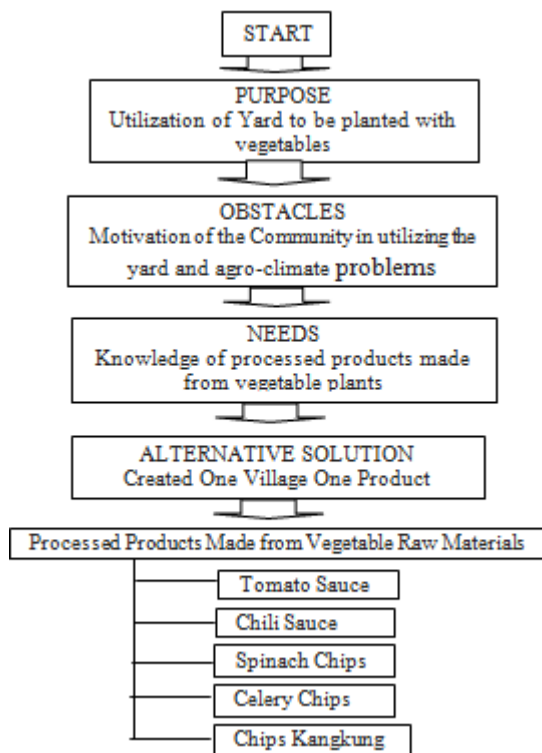


Figure 2: Model of Plant Agroindustry development Vegetables in the yard

C. Priority for the development of medicinal plants medicine in the yard

From the criteria that have been determined and have been chosen by several experts, after the AHP analysis of each expert's opinion, the results of the average priority of the garden development model based on medicinal plants are as follows:

Table 3: Priority for developing Medicinal Plants on Yard

No	Criteria	Indikator	Skor
1	Objective	1. Yard Use (PmP)	0,315
		2. Increased Income (PP)	0,177
		3. Cultivation Development Medicinal Plants (PBTo)	0,177
		4. Added Value (NT)	0,177
		5. Potential Medicinal Plants in Yard (PTO)	0,087
		6. Potential Medicinal Plants as Agroindustry Raw Material (PToBBA)	0,067
2	Obstacles	1. Motivating the Society in yard use (MM)	0,219
		2. Product skills processed (KPO)	0,195
		3. Types of Medicinal Plants as Agroindustry raw material (JTO)	0,195
		4. Processed Product Marketing (PPO)	0,195
		5. Agro-climate Problems (MA)	0,098
		6. Knowledge of Plant Cultivation (PBT)	0,098
3	Needs	1. Knowledge of the product processed (PPO)	0,314
		2. Market Information (IP)	0,314
		3. Support from government (DP)	0,176
		4. Knowledge of types plants that can be used as raw material for agro-industry (PBBA)	0,098
		5. Types of suitable medicinal	0,098

		plants in agro-climate. (JTOA)	
4	Alternative Solutions	1. Increased socialization Land Use (PPP)	0,314
		2. Created One Village One Product (OVOP)	0,314
		3. Socialization to the community to plant plants Medicine as raw material agro industry. (SBBA)	0,176
		4. Understanding of the community about the benefits of the yard in increasing the economy family. (PMP)	0,098

Source: Primary Data Processed

From the AHP results, it can be seen the priority from the highest to the lowest score, so that the score can be used as an invitation in determining policies that can be taken in determining the model of agro-industry development based on medicinal plants grown in the yard.

Agro-industry Development Model of Medicinal Raw Materials

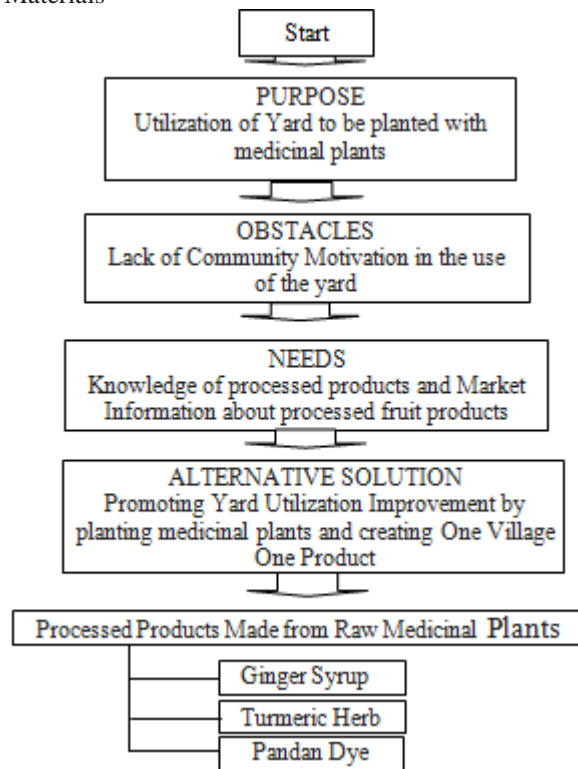


Figure 3: Model of Medicinal Plant Agro-industry development medicine in the yard

4. Conclusion

The research that has been done can be concluded as follows:

The Yard-based Agroindustry Development Model includes criteria: Objectives, Constraints, Needs and Alternative Solutions. From each type of plant have different priorities:

- a) Fruit plants, the highest priority for goals is increasing income, priority constraints are the motivation of the community in the use of the yard, while the needs needed are market information, while the alternative solution is the need for socialization of increased use of the yard.
- b) Vegetable crops, the highest priority of the objectives are garden utilization, the highest priority constraints on

vegetable crops are agro-climate problems and community motivation to utilize the yard, while the highest priority needs are knowledge of processed products, while the highest priority alternative solution is the creation of one village one product.

- c) Medicinal plants, the highest priority of goals is the use of the yard, the highest priority for medicinal plants is the motivation of the community to utilize the yard, while the highest priority needs are knowledge about processed products and market information, while the highest priority alternative solution is the creation of one village one product and the promotion of increased use of the yard.

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