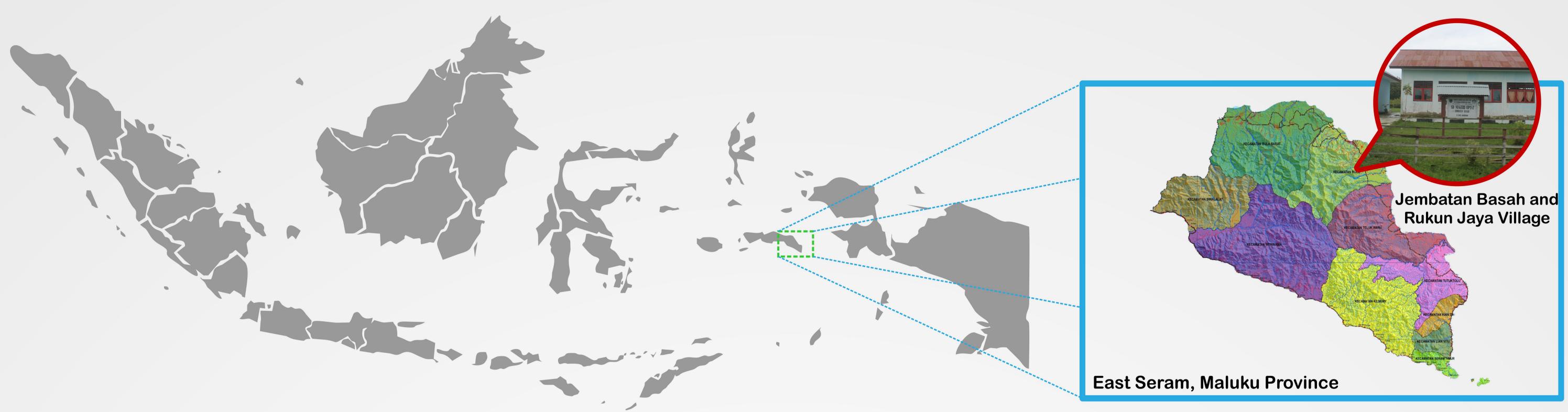


MAPPING OF RESOURCES AND POTENTIAL DEVELOPMENT FOR FOOD-SECURE REGION IN EAST SERAM, MALUKU PROVINCE

Ambar Pertiwiningrum^{a)}, Agung Setianto^{b)}, Supriadi^{c)}, Ali Agus^{a)}, Yudistira Soeherman^{a)}, Ramdhan Dwi Nugroho^{a)}



ARCTRACT

Indonesia Food Sustainability and Vulnerability Assessment (FSVA) 2015 by the World Food Programme (WFP) classified East Seram, Maluku Province as the 2nd priority, a highly vulnerable region should be improved. The aim of this program was to develop Agro Sector Potential map of current condition, problems, threats, potentials, and strategic policies to develop food security in this area. The program was focused on Bula district, East Seram, Maluku Province, through:1) literature study; 2) identification and mapping of natural resources; 3) Focus Group Discussion; 4) field trip and data collection; 5) data analysis; 6) development of program; 7) workshop. The determining factors of vulnerability to food-insecurity were: (1) villages without connecting road, (2) high prevalence of stunting among children, and (3) ratio of normative consumption per capita to net cereal production. The livestock in Bula were still raised traditionally on natural pastures. Some of the programs needed to build resilience to enhance food-security in Bula were: (1) Improvement of land productivity, including infrastructure, facilities for intensive livestock systems, and optimization of dry land's potential; (2) Water management through the development of water reservoirs and the preservation of watershed and groundwater basins; (3) Capacity building for communities including farmers, the education on food consumption and processing, community empowerment by improving soft skills and hard skills. The analysis and estimation of WFP showed that after the intervention, the composite score of East Seram changed from priority 2 to priority 4. Therefore, the potential map was ideal as a reference in planning an effective and efficient program.







INTRODUCTION



MATERIAL AND METHODS



RESULTS AND DISCUSSION



CONCLUSION AND OUTLOOK



REFERENCES

a)Gadjah Mada University, Faculty of Animal Science, Yogyakarta, Indonesia.

b)Gadjah Mada University, Faculty of Engineering, Yogyakarta, Indonesia.

c)Ministry of Village, Development of Disadvantage Regions, and Transmigration. - The ideal strategy is to build a human-centered community based on a well-targeted and sustainable insight of local resource management.

- Every village potential is supposed to be explored and turned into one of the encouragement aids for every program designed by the government.
- The identification of potential should be the basis in planning the implementation policies that focus more on solving problems according to the problem identification.
- Based on analysis, it was able to decrease food insecurity level from priority 2 with composite score of 113,34 to priority 4 with composite score 72,98.

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Based on Law No. 18/2012 on Food, "food is anything that comes from biological sources of agricultural products, plantations, forestry, fisheries, livestock, and water, whether it is processed or not as food or beverage for human consumption, including food additives, raw materials of food, and other materials used in the process of preparing, processing, and/or making food or drink" (Food Security Agency, 2013).

The mapping conducted in 2015 identified 398 areas into 6 priority levels food vulnerability. Based on the same Map, East Seram District was vulnerable to food insecurity (priority 2). The effort needed to be done was to develop an integrated and sustainable collaborative planning involving many parties to cover many sectors, in order to consistent in solving the problems of food insecurity.

The collaborative, integrative and sustainable planning must accommodate food insecurity indicators and touch food supply sectors such as agriculture and livestock (agro-sectoral) to avoid partial planning. The concept of ideas included in the planning should be technical and in accordance with the criteria.

Characteristics of Food Insecurity

East Seram is one of the districts in Maluku Province. The total area of East Seram district is approximately 5.779.123 km2. FSVA 2015 divides indicators in food insecurity map into two groups. The first group includes indicator of food insecurity and chronic nutrition, namely the ration of food consumption to cereal production, infrastructure and electricity, access to drinking water and health facilities, life expectancy, female illiteracy, and stunting rate among children. The second group includes indicators of food and nutrition insecuirty related to climatic factors, including data on natural disaster events that have impacts on food security, estimation of the loss of rice production caused by floods and drought, deforestation rate, and the impact of el nino/ Southern Oscillation (ENSO) resulting in rainfall variability. East Seram District was categorized as priority 2 (food insecure area) after priority 1 in 2009. The data of food insecurity in East Seram district was based on the individual indicators and food security priority groups according to Map of Food Security 2015 (as presented in Table 1).

Analysis of the Intervention to Food Insecurity Indicator

Based on the Nordic-Dutch Trade Union Centers Guidelines (2003), the Logical Framework Analysis (LFA) is a tool for project planning, monitoring and evaluation. An analysis framework for food insecurity indicators is shown in Figure 1.

Dumasari (2008) stated that the potential alternative program to overcome food insecurity in poor peasant households is through the reinforcement and development of food-shed institutions that must be provided by the village independently. The institution of food-shed is almost invisible tiday in the farming community. Therefore, the empowerment of farmers to explore, manage, and reuse local social potentials to increase the security of nutritional food should be strengthened. Potential resources, human resources, social resources, and various types of information resources need to be developed.

The calculation shows that the projected achievement of the implementation of food security program for 5 years was able to reduce food insecurity priority of East Seram District from priority 2 (prone) with composite score of 113, 34 to priority 4 with composite score 72,98.

Data collection

This study used a qualitative approach based on Moleong (2011). The study was conducted in the situation experienced. They were analyzed as an integrated whole to develop an indepth knowledge of an object. This study used descriptive analytical methods Cooper and Pamela (2014). The results provided an overview, description, or circumstances as clearly as possible, with no special treatment to the object to be studied. It also used the type of case study called "Explanatory".

Data analysis

This research used matrix effect to conduct a data reduction.

Population potentials in increasing food security

Food security of consists of three main sub-systems namely food availability, food access, and food utilization. Nutritional status is the impact of food scurity (Hanani, 2009). Jembatan Basah has 154 households with members of productive age are 352 people (57,42%) while the group of non-productive age (the members who cannot work yet and who cannot work anymore) are 261 people (442,57%). The number of residents in Rukun Jaya Village until today reaches 117 heads of families with a population of 407 inhabitants. In both villages, the job opportunities available are mostly in agriculture, including livestock and trading.

The average income per month per family in Jembatan Basah and Rukun Jaya Village is still uncertain, depending on the type of work. Average income per month of working families in agriculture can reach 2-3 milion if the harvest is good. However, the harvest is often distrupted because of the drought. When they have bad harvest, farmers usually only get 1 million rupiah per month. To meet their daily needs, the farmers usually borrow money from the bank of business capital. The life expenses per month of the families include the cost for food, transportation, and electricity. The cost of meals can reach 500-700 thousand rupiah per month, 100 thousand rupiah for electricity, and 200 thousand rupiah for transportation.

Program of Food Security Improvement

The Village-Owned Enterprise is a business enterprise managed by the village government and community with the aim of improving the village economy. It is built based on the needs and potentials of the village. Until today, the two target villages, Jembatan Basah and Rukun Jaya, have not yet developed a Village-Owned Enterprise. The main problem is due to the limited human resources capable of managing it.

The revenue of Rukun Jaya Village in 2015 came from two sources: the Village Funds and the Allocation of Village Funds. The largest expendicture of the budges was for the physical development of the village, which was spent to improve the village entrance and the roads inside the village. The smallest expenditure of the budget was for the community development. This program is important to increase the capacity of human resources, so it needs to be improved and optimized related to the realization of the program. The income of Jembatan Basah Village in 2015 came from sources: Village Fund and the Allocation of Village Fund. In their study on food security policy in developing countries, Boratynska and Huseynov (2016) mentioned two approaches to analyze innovative concepts related to food security policy, directly, and indirectly. In developing countries, governments use short and long term policies to promote food security by using simple microeconomics approaches that address operational issues in food security strategies (Boratynska and Huseynov, 2016).