The Effect of Food Security and Employment Opportunity on Household Welfare of Farmers in Province of Aceh

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Abstract

Food security is an absolute requirement for the implementation of national development. Food security of the people in the Province of Aceh decreased rapidly because of share expenditure of the people on food. Food security still encounters many heavy obstacles, in the dimension of availability, accessibility, and utilization of food. Food security is not only associated with food, but more strategically it is associated with the fulfillment of quality of the nutrition and protein needed for human resource development, the determinant of future competitiveness of the Indonesian nation in order to improve employment and welfare. The finding of this research shows that food security and employment opportunity partially and simultaneously have significant effect on the household welfare of farmers in Province of Aceh.

Keywords: *Food Security, Employment Opportunity and Household Welfare of Farmers.*

Introduction

Food security is very important for a country, especially for a populous country like Indonesia. Malthus's theory states that people tend to rapidly grow exponentially, while food supply grows arithmetically. That is, if at some point the population exceeds, then people will compete for a little amount of food supply. This is, therefore, implies that the public welfare will decline. The increased population along with the rising of people's incomes will increase the demand for agricultural products, both in number and quality. The experience of the Indonesian development history shows that the problem of food security is closely linked with the economic stability (particularly the inflation), the cost of production of the aggregate economy (cost of living), and national political stability. Therefore, food security is an absolute requirement for the implementation of national development.

Referring to the Law No. 18 Year 2012 on Food, the concept of food security has three main subsystems, namely the food availability, food access, and food utilization, while the nutritional status is the outcome of food security.

Availability, access, and utilization of food are subsystems that must be met in unity because the incapability of meeting one of these subsystems indicates that a country does not have good food security. If the access of individuals to meet their food needs is not evenly distributed, a country is still said to have weak food security despite the availability of enough food at national and regional level.

The program of food security improvement is intended to operationalize development in terms of building food security both at national and community level. The food security that must be fought includes the food availability and the adequacy of calories and protein at the household level, particularly for the poor in rural and urban areas. This does not mean that the food security problem at the national macro level is not important, but the focus on the poverty eradication and the household income improvement will be able to strengthen national food security in the aggregate.

Meanwhile, the community accessability to food can be explained, for example, through the proportion of household expenditure on food which is one of the indicators of food

security at the household level. The greater the household expenditure on food is, the lower the household food security will be. A large amount of the income share used for food consumption also indicates a little amount of other forms of wealth that can be exchanged to acquire a unit of food.

Food utilization– utilizing food for healthy living needs including energy and nutrition, water, and environmental health – has also become one of the important subsystems in food security. The effectiveness of food utilization depends on the household or individual's knowledge of sanitation and water supply, health facilities and services, as well as nutritional counseling and child care.

The food security problems include such aspects as: (1) the inadequate supply of the foodstuffs to meet the growing demand due to either the population growth, the composition changes of the population, or the increase in population income; (2) the fulfillment of the demands of the quality and diversity of foodstuffs to anticipate changes in consumers' preferences which are increasingly concerned with health and fitness issues; (3) the problem of foodstuffs distribution in space (population spread over about 10,000 islands) and time (available every day of the year); (4) the problem of food accessibility, i.e. the availability of foodstuffs (quantity, quality, space and time) that must be accessible by the entire community. Theoretically, food supply could be fulfilled from domestic production, imported production and the combination of both. As an island nation with a large population, the provision of food as much as possible should come from domestic production (self-sufficiency) and should not be dependent on imported food. If we rely on imported food and international markets, in addition to be a huge drain on foreign exchange, this also has a great risk (Saragih, 2010: 38).

Along with local autonomy, it is very important for all provinces, particularly the Province of Aceh to achieve sustainable food security. The agricultural sector is the backbone of the economy of the people in the Province of Aceh. The agricultural sector is a key in strengthening food security. Food security is defined as the availability of food in sufficient quantity and quality, distributed at affordable prices and safe to be consumed by people enabling them to perform their daily activities all the time. With such definition, food security is not just enough to global, national and regional level but should reach household level, especially household of farmers.

The realization of food security through sufficiently fulfilling the quality and affordable food for the people can have a direct impact on improving the welfare of the people especially in the province of Aceh. The society welfare can be evaluated from the Human Development Index (HDI), a comparative measure of life expectancy, literacy, education and standard of living for all countries around the world. The HDI in the province of Aceh is in the medium category (medium human development) which indicates that the province of Aceh has started paying attention to human development.

Food security will continue to encounter a variety of obstacles that are not light, either in the dimensions of availability, accessibility or utilization of food. Food security is, of course, not only the problem associated with the rice or food, but more strategically associated with the fulfillment of quality of the nutrition and protein needed for human resource development, the determinant of the competitiveness of the Indonesian nation in the future.

Food security is closely related to the aspects of household welfare of farmers. Welfare has wide dimensions, the most important of which is the ability of the community to meet their basic needs of food for a decent life, so meeting the food needs is one of the strategic steps in improving the household welfare of farmers, particularly of the communityin the province of Aceh. Meanwhile, the limited availability, accessability, and utilization of the food cause the inability of the household of farmers to access the food despite its availability in the markets.

In order to improve the quality of human life and take advantage of the large population as the power of the nation development, several efforts need to be improved such as training, developing, and utilizing the potential of human resources by increasing development in various sectors: emphasizing on the development that enhances the expansion of employment opportunities, improving food procurement and nutrition quality, improving health care, expanding facilities, and improving the quality of education and vocational training. The efforts to improve the quality of human life require a major strategy to reorient the priorities of human development enablingpeople to have the opportunity to obtain appropriate employment. Thus, employment opportunities may affect the welfare of the community. The agricultural sector is still the sector that provides the largest portionof employment opportunities in the province of Aceh (local) as well as in Indonesia (national). The fact shows that the majority ofpeople of 15 years and over work in agriculture, plantation, forestry, hunting and fishing employment sectors. The agricultural sector has proven its role in the national economy through the creation of employment and business opportunities in other sectors, as well as the increaseof incomes. The agricultural sector has a large multiplier effect to the front and to the rear through its input-output linkages among industries, consumption, and investment. So far, the exports of agricultural products have largely been derived from the results of the primary plantations. In the long term, the development of agricultural exports is focused on processed agricultural products which provide greater added value to the national economy, especially the welfare of the society.

Research hypothesis

In this research, the writer proposesa hypothesis: "Food security and employment opportunities partially and simultaneously influence the household welfare of farmers in the province of Aceh".

Literatures Review

Economic Development

The definition of development according to Todaro (2012: 14) is:

> "Development has traditionally meant the capacity of a national economy, whose initial economic condition has been more or less static for a long time, to generate and sustain an annual increase in its Gross National Product (GNP) at rates of perhaps 5% to 7% or more".

Rostow in Sukirno (2012: 169) defines economic development as a process that causes important characteristics of a society; i.e. changes in the political system, social structure, social values, and structure of economic activities. Rostowmentionsseveral contributions of the agricultural sector leading to its important role in the transition period to reach the takeoff stage. The progress of agriculture is needed to ensure food supplies for a growing population; and that the rapid growth of city's population as a result of industrialization can obtain sufficient food. The ability of agricultural sector to provide sufficient food can avoid starvation.

Malthus in Todaro (2000: 265) proposed a theory about the relationship between economic development and population growth. In his book entitled Essay on the Principle of Population, Malthus formulated the concept of diminishing returns. Furthermore, Malthus described the universal tendency that the number of population in a country will increase very rapidly in geometrical progression or geometric level (multiplication: 1, 2, 4, 8, 16, 32 and so on) every 30-40 years, unless it is muted by famine disasters. At the same time, because of the process of diminishing returns of a fixed number of production factors, then, food supplies will only increase arithmetically or at arithmetic level (1, 2, 3, 4, 5 and so on). In addition, because the land owned by every member of society is becoming increasingly narrow, then the marginal contribution to total food production will decrease. Because the growth of food supply cannot adequately

compete or offset the population growth rate, then the per capita income (in the agrarian society, per capita income is defined as per capita food production) tends to continue to decline so low that the entire population must survive on the condition of a bit above the subsistence level, and applicable only up to a certain number of population. Exceeding this certain number means that some people do not obtain food at all.

Agricultural Development Economics

Agricultural economicsis included in the group of social sciences, the science that studies behaviour and effort, as well as inter-human relationships. The behaviourstudied is not only about human behaviour in a narrow scope (e.g. the behavior of farmers in their agricultural life), but also includes other economic issues, both directly and indirectly related to the production, marketing and consumption of farmers or groups of farmers. This means that the economic analysis of agricultural products processing enterprise, international trade of agricultural products, agricultural policy, land law, and land rights is included in the fields studied in agricultural economics (Hanafie, 2010: 3).

Agricultural economics includes economic analysis of the production process (technical), the social relations in agricultural production, the relationship between the factors of production, the relationship between factors and products, and the relationship between some products in the production process; all of which are included in the micro-economic field of study. In addition, the agricultural economics also studies the analysis, interpretation, and the relationship of macroeconomic issuessuch as the issue of national income, consumption, investment, employment, and economic development.

Food Development

The success of development in the agricultural sector in a country should be reflected through the ability of the country to gain self-sufficiency

or at least food security (Tambunan, 2009: 150). Food development is directed to develop a food security system based on the diversity of food resources, institutional and local culture in order to ensure the availability of food and nutrition in the required quantity and quality at an affordable price level by taking into account the increase in the farmers and fishermen's income and the increase in production (Hanafie 2010: 269).

Law No. 18 Year 2012 on food states that food development is implemented to fulfill basic human needs that benefit in terms of equitability, prevalence and sustainability based on self-reliancewhich is not contrary to public confidence. The main purposes of food development are:

a. To provide diverse food that meets the safety, quality and nutrition requirements for the interest of human health.
b. To create fair and responsible food trading.
c. To achieve food sufficiency level, especially staple food, with reasonable and affordableprices according to the necessity of the people.

The objective of food developmentis the realization of food security at the household level reflected in the availability and consumption of food in terms of sufficient (in quantity), quality and decent(in nutrition),safe, equitable and accessable by every individual. Food security is developed by relying on the diversity of food resources,food institutions, and local potentials(Hanafie, 2010: 286).

Food Security

The concept of food security adopted by Indonesia can be seen in the Act No. 18 Year 2012 on Food which states that food security is the fulfillment of food for the state up to the individual reflected in the availability of sufficient food, in terms of sufficient (both in quantity and quality), safe, diverse, nutritious, equitable, and affordable as well as not conflicting with religion, belief, and culture, for a healthy, active, and productive life in a

sustainable manner.

Suryana (2009: 33) argues that food security provides a fundamental role in achieving national prosperity, such as the fulfillment of the people's right to food, the achievement of the sovereignty of the nation, the determination of the quality of the next generation, and the reinforcement ofthe economic growth. Food security, defined as a condition when food supply is stable and everyone has an access to obtain enough food to maintain a healthy and productive life, can be achieved through the interrelated efforts of many parties of the government and the society.

The concept of food security typically encompasses five (5) main concepts:

1. Food availability, the availability of food in terms of sufficient (in quantity), safe, and nutritious for all people in a country coming from its own productions, imports, food reserves, and food donation.
2. Food access, the ability of all households and individuals with theirown resources to obtain sufficient food for their nutrition needs that can be obtained from their own food production, procurement, or food donation.
3. Food utilization, the use of food for healthy living needs that include energy and nutrition, water and environmental health.
4. Food stability, the time dimension of food security which is divided into chronic food insecurity and transitory food insecurity.
5. Nutritional status, the outcome of food security which is a reflection of the quality of people's life.

Employment Opportunity

Sumarsono (2008: 8) states that in the study of labour employment, employment opportunity is often triggered as the demand for labours. The demand for labours is called a derived demand. Public demand for goods and services is highly dependent on the consumer purchasing power and the export possibility. In contrast, domestic production can compete withimported and exported products; domestic production should be able to compete on the world market, both in terms of price and in quality.

Labour demand is related to the number of workers required by a particular company or agency. Usually the demand for labour is influenced by changes in wage rates and changes in other factors affecting demand results.

According Kuncoro (2013: 64), the labour force is the working age population who work, or have a job but temporarily is absent from work, and unemployed. While the work is defined as an economic activity carried out by people with the intent to obtain or help obtain revenue or profit for at least one hour continuously all the weeks. The rate of labour force absorption is a number indicating the total number of labour force claiming that they are working.

The efforts of national economic development, usually in several different sectors, experienceddifferent growth, some experienced rapid growth and others experienced slow growth; therefore, the ability of each sector is different in labour absorption. The growth rate differences lead to different labor productivity improvement rate in each sector and sectoral changes gradually take place, both in employment absorption and in its contribution to national development. Differences in the national incomes and employment opportunities also indicate different elasticity of each sector for employment. Employment elasticity is defined as the ratio of the employment growth rate to the economic growth rate. Overall employment elasticity is as follows (Sumarsono, 2008: 15):

$$E = \frac{\text{Employment Growth Rate}}{\text{Investment Growth Rate}}$$

Based on the above definition and formula, it means that employment elasticity is the comparison between employment growth rate and investment growth rate. In general,employment elasticity can be formulated as follows:

$$E = \frac{\%\Delta\ EG}{\%\Delta\ IG}$$

Where:

E = Employment Elasticity

$\%\Delta$ EG = EmploymentGrowth Rate

$\%\Delta$ IG = at Year t

This elasticity calculation results have several criteria, namely: (1) if E is greater than 1 or (E> 1) then E is said elastic; (2) if E is equal to 1 or (E = 1) then E is said unitary elastic; and (3) if E is less than 1, or (E <1) then E is said in-elastic.

To create a basic framework for the discussion of new job creation strategy that can withstand a further increase of the excess labour in Indonesia,a basic framework of estimation using the concept of employment elasticity is used. In conjunction with the employment, the variable to find the employment elasticity is measured by dividing the changes in employment withthe changes in the number of productions. Thus, the greater the elasticity of employment is, the smaller the employment will be.

Welfare

MahbubulHaq in Hardinsyah (2011: 85) developed the aggregate measure of the human qualities in a country or a region called Human Development Index (HDI). Furthermore, every year the United Nations Development Program (UNDP) analyzes and publishes the index of HDI in the Human Development Report.

Human Development Index (HDI) is a composite measure of three dimensions of human development, i.e. the man who: 1) lives long in healthy life; 2) isknowledgeable and educated; and 3) has a decent income. Each dimension is measured or proxied simply based on secondary data which are generally available on a regular basis in each country. The first dimension is simply measured in terms of

life expectancy (UH); the second dimension is simply measured in terms of percentage of literate people among the population aged 15 years and above, and the percentage of the population enrolled in Elementary School, Junior High School, and Senior High School; and the third dimension is simply measured in terms of the average of per capita income from the point of view of purchasing power or poverty level. HDI shows the value of the three basic dimensions of human development which is then ranked among countries and analyzed.
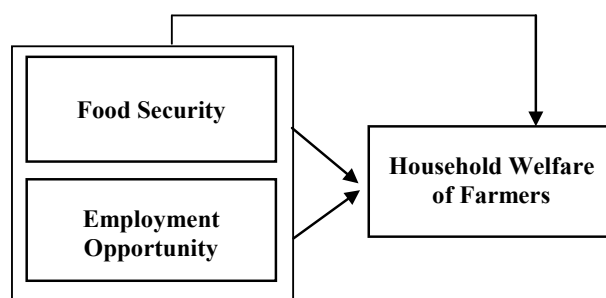

Figure 1. Research Framework

Stiglitz et al. (2011: 19) state that in order to define welfare, multidimensional formula should be applied. Based on the academic researches and a number of concrete initiatives developed around the world, the basic dimensions that make up the welfare of the community are: (a) material living standards; (b) health; (c) education; (d) the individuals activities, including working; (e) political voice and governance; (f) social relationships and kinship; (g) living environment; and (h) insecurity, both economically and physically.

The research framework can be schematically illustrated in Figure 1.

I. Research methodology

This research belongs to quantitative research using survey method which is conducted by looking at the cause and effect relationship of the variables to the object under study;consequently, this research has both independent and dependent variables. Precisely,

the method used in this research is explanatory-survey.

The population in this researchwould be all households of farmers in the Province of Aceh, 640,522 people in total. Of the total population, six regencies/cities in the Province of Aceh were purposively taken as the sample; they are Aceh Besar,Pidie, Aceh Barat Daya, Aceh Selatan,Langsa, and Lhokseumawe. The sampling technique followed Slovin'sformula of affordable number of populationtaking 193,596 people as the sample. By using sampling error rate of 10%, the number of sample was,then, calculated as follows:

$$n = \frac{N}{1 + Ne^2} = \frac{193,596}{1 + 193,596(10\%)^2}$$

$$n = \frac{193,596}{1,936.96} = 99.95 = 100$$

Thus, the number of sample of this research was 100 respondents who were taken by using cluster sampling (area sampling) and purposive random sampling techniques.

The variables used in this research consisted of:
  a. The independent variable (free): Food Security (X_1) and Employment Opportunity (X_2).
  b. The dependent variable (bound): Household Welfare of Farmers (Y).

The operational limitations of the research variables are as follows:
  1. Food Security (X_1) is a condition when the food supply is stable and all people have access to sufficient food to maintain a healthy and productive life (Suryana, 2009). Food Security indicators consist of: (a) the sufficiency of food; (b) the quality of food; and (c) the safety of food.
  2. Employment Opportunity (X_2) is the labour demand related to the number of workers needed by a particular company or agency (Sumarsono, 2008). Employment opportunity consists of: (a) the expansion of cropland; (b) diversification of crop; (c)

the increase in production; and (d) the use of technology.
  3. Household Welfare of Farmers (Y) is the people's ability to meet the needs of commodities in general (Stiglitz et al., 2011). Household Welfare of Farmers consists of: (a) healthy living; (b) literacy/education; and (c) purchasing power.

The technique data collection in this research was conducted through observations and questionnaires. The source of the data in this research includes:
  1. Primary data,the data collected by the researcher by distributing the questionnaires. In addition, the researcher made observations of the object of the study.
  2. Secondary data,the data obtained through the Central Bureau of Statistics (CBS) of the province of Aceh, the Indonesian CBS, the Local Food Security Agency, literature studies, research reports and journals, the data report of the research objects, and other necessary sources.

The draft analysis used is multiple linear regression analysis with Ordinary Least Square (OLS) method. The model analyzed in this study is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e, \text{ where: } b_{1,2} > 0$$

Notes:
X_1 = Food Security
X_2 = Employment Opportunity
Y = Household Welfare of Farmers
$\beta_{1,2}$ = Regression Coefficient = Elasticity
e = Error

For each model of analysis, the regression coefficient of the response variables of each stimulus variable was measured and compared based on the value of unstandardized regression coefficient (b or unstandardized coefficient). Meanwhile, the weight of the effect of each stimulus variable was measured and compared based on the

value of standardized regression coefficient (Beta or standardized coefficient). The dominant variable in the model was the cause variable with the largest standardized regression coefficient showing the strongest effect compared to other cause variables.

Statistical analysis techniques in this research include several tests:

1. Test of Validityand Reliabilityof the Instruments. The scale of the validity and reliability measurement is described as follows:
    a. Validity test. A valid measurement scale should have corrected item correlation value of more than 0.400.
    b. Reliability test. A reliable measurement scale should have an AlphaCronbachvalue of at least 0.700. (Uyanto, 2009: 274).

2. Testof Regression AnalysisRequirements. Test of regression analysis requirements includes (Erlina, 2011: 106):
    a. Normality test by using histograms and normal P-P Plot. A normal probability plot of distribution of existing data spreads evenly to all areas of the normal curve with a distribution pattern centered in the middle and has dots scattered around the straight line.
    b. Multicolinierity test by using VIF. In general, if the VIF value is greater than 10, then there is a fairly heavy multicolinierity among the independent variables.
    c. Heteroscedasticity test by using Park test. Park suggests that the variance (S^2) is a function of the independent variables. A model is said to haveheteroscedasticity symptoms if the Beta parameter (significance value) is statistically significant. Conversely, if the Beta parameter (significance value) is not statistically significant, this suggests that the estimated empirical model data do not have heteroscedasticity symptoms.

3. Hypothesis Testing
    a. F-Test
        If the F count is larger than F table (F count> F table), then there is a real effect of thecause variables simultaneously to the effect variables, or in other words, H_o is rejected and H_a is accepted. Conversely, if F count is smaller than F table, then H_o is accepted and H_a rejected which means there is no simultaneous effect of cause variables to effect variables.
    b. T-Test
        If Sig or p-value is less than 0.05 (p-value <0.05), this means there is a real positive effect of the cause variable partially to the effect variable. H_a is rejected if Sig or p-value is larger than 0.05 (p-value > 0.05), meaning that there is no real positive effect partially from the cause variable to the effect variable.

In addition to test the hypotheses, this study also used correlation and coefficient of determination. Correlation test aims at measuring the strength of the linear association (correlation) between the two variables (Ghozali, 2009: 9);while the coefficient of determination (R^2) basically measures how far is the ability of the model to explain variations in the dependent variable. The coefficient value of determination is between zero and one.

The correlation test used a Guildford standard category degree of correlation coefficients presented in Table 1 below:

Table 1. Guildford Standard Category

Parameter	Category
Less than 0.20	Slight; almost negligible relationship
0.20 – 0.40	Small correlation; low relationship
0.40 – 0.70	Moderate correlation; substansial relationship
0.70 – 0.90	High correlation; dependable relationship
0.90 – 1.00	Very high correlation; very dependable relationship

Source: Al Rasyid (1994: 46)

The test of feasibility of the model was done by measuring the goodness of an econometric model or the characteristics that can be expected from an econometric model. The feasibility characteristics measured are as follows (Wirasasmita, 2008: 4):

1. *Theoretical plausibility*. Is the direction of the effect of the hypothesis testing result consistent with the underlying theory?

2. *Accuracy of the estimates of the parameters*. Is the hypothesis parameter estimator accurate (not bias) and significant, which is characterized by the fulfillment of the required analysis assumption and the statistical error probability model (p-value) which is smaller than the significance level of $\alpha = 0.05$?

3. *Explanatory ability*. Does the research model have the ability to explain the relationship between economic phenomena which is characterized by the low standard error of estimations (less than ½ times of the estimator value)?

4. *Forecasting ability*. Does the research model have the ability to predict the behavior of the effect variable (response) which is characterized by a high determination coefficient or worth more than 50% (Baye size).

Result and discussion

The respondents' identity or profile shows that most of the respondents are male (74.0%) of ages between 51-60 years (27.0%) with the number of family members of more than 5 people (28.0%) and the education background of senior high school graduates (38.0%) having a rice plant (65.0%) and a land area of less than 1,000 m² (32.0%) with the land ownership status of private property or family property (58.0%).

The results of the distribution of the respondents' responses for each variable are described below:

a. The distribution of the respondents' responses on the variable of Food Security (X_1) shows that 33.3% of the respondents stated 'always', 26.0% of the respondents stated 'sometimes', 22.4% of the respondents stated 'never', and only 18.2% of the respondents stated 'frequently'. This finding indicates that the respondents considered that food security of the households of farmers in the province of Aceh has been very good. As a result, the households of farmers in the province of Aceh have consumed sufficient, quality and safe food. The households of farmers have been able to provide the food needs – in terms of sufficient (quantity), quality (quality), safe or free from biological/chemical contamination, affordable and secure – that meet the standards of caloric needs and energy needs of human body.

b. The distribution of the respondents' responses on the variable of Employment Opportunities (X_2) shows that 47.2% of the respondents stated 'sometimes', 26.9% of the respondents stated 'often', 22.9% of the respondents stated 'never', and only 3.0% of the respondents stated 'always'. This finding indicates that the respondents considered that employment opportunity in the province of Aceh has been good enough. As a result, most of the households of farmers in the province of Aceh have started to increase employment opportunities, especially in the agricultural sector. Improving kinds of crops by utilizing the available land can expand employment opportunities, one of which is farming activities in an integrated manner involving several commodities such as crop-livestock integration system, crop-livestock-fish integration system, and so forth.

c. The distribution of the respondents' responses on the variable of Welfare of Farmer Household (Y) shows that 52.1% of the respondents stated 'always', 18.6% of the respondents stated 'often', 18.3% of the respondents stated 'sometimes', and only 11.0% of the respondents stated 'never'. This finding indicates that the respondents considered that the household welfare of farmers in the province of Aceh has been

very good. As a result, the households of farmers in the province of Aceh have reached the level of households that are prosperous, decent, and healthy with supporting education background, income and purchasing power.

The test result of the validity of the variables of Food Security (X_1), Employment Opportunity (X_2) and Household Welfare of Farmers (Y) indicates that the value of corrected item-total correlation of all variables is greater than the critical r (0.400). Thus, the statement items

in the instrument of all variables are declared invalid.

The test result of the reliability of the variables of Food Security (X_1), Employment Opportunity (X_2) and Household Welfare of Farmers (Y) indicates that the value of Cronbach's Alpha is greater than the criticalr (0.700). Thus, all of the statement itemsin the instrument ofall variablesare declared unreliable.

The results of the tests of normality, multicollinearity, and heteroscedasticityare presented in Table 2.

Table 2. The Results of Regression Analysis Requirements Test

Classical Assumption Test	Statistic	Decision	Conclusion
Normality	The normal P-P Plot spreads evenly to all areas of the normal curve with a distribution pattern centered in the middle. Meanwhile, the histogram has dots scattered around the straight line.	The normal P-P Plot spreads evenly to all areas of the normal curve with a distribution pattern centered in the middle. Meanwhile, the histogram has dots scattered around the straight line.	The data has normal distribution.
Multicollinearity	VIF (X_1) = 2.089 VIF (X_2) = 2.089	*Variance Inflation Factor* (VIF) < 10	There is no multicollinearity situation in the model.
Heteroscedasticity	Sig. (LnX_1) = 0.379 Sig. (LnX_2) = 0.292	Significance value> 0.01	There is no heteroscedasticity situation or symptom in the model.

Source: Data ProcessingResults (2013)

Table 2 above shows that the regression model has been decided to meet the required classical assumptions of normality, multicollinearity, and heteroscedasticity. Consequently, the regression model of the data processing can be analyzed for the sake of hypothesis testing.

The effect of Food Security (X_1) and Employment Opportunity (X_2) of the Household Welfare of Farmers (Y) can be seen in Table 3.

Table 3 shows that the effect of Food Security (X_1) and Employment Opportunity (X_2) on the Welfare of Farmer Households (Y) in the province of Aceh is high or in high correlation

(R = 0.823). This means that the better food security and employment opportunity will improve the household welfare of farmers. The contributions of the effect of Food Security (X_1) and Employment Opportunity (X_2) on the Household Welfare of Farmers (Y) is equal to 67.7% (R^2 = 0.677). This means that the household welfare of farmersin the province of Aceh may be influenced by food security and employment opportunity for 67.7%, while the remaining 32.3% is influenced by other factors which are not examined such as the demand and supply of labour, education level, and other non-economic factors.

Table 3. The Result of Hypothesis Testing

R²	R	Category		
0,677	0,823	Strong		
F calculated	**p-value**	**Decision**		
101.837	0.000	H_0 rejected : Significant		
Effect	**b_i**	**T calculated**	**p-value**	**Decision**
Food Security (X₁)	0.732	6.055	0.000	$H_{0(1)}$ rejected: Significant
Employment Opportunity (X₂)	0.450	4.570	0.000	$H_{0(2)}$ rejected: Significant
The Equation of Multiple Linear Regression				
Y= 0.048 + 0.732 X₁ + 0.450 X₂				

Source: Data Processing Results (2013)

The F-test result is explained as follows:
1) Fcalculatedshows 101.837 (Sig. 0.000).
2) Ftable (n = 100, df numerator = k = 2 and df denominator = n – k – 1 = 100 – 2 – 1 = 97) at a confidence level of 95.0% (two-way test) is compatible with the Ftable = 3.09.
3) Fcalculatedis larger than Ftable (101.837> 3.09), then the effect of Food Security (X₁) and Employment Opportunity (X₂) on the Household Welfare of Farmers (Y) is significant. Therefore, H_0 is rejected and the research hypothesis regarding the effect of Food Security (X₁) and Employment Opportunity (X₂) simultaneously on the Household Welfare of Farmers (Y) is accepted. By using the statistical probability perspective of F or p-value, the significance of this effect is also shown by p-value = 0.000000 which is smaller than α = 0.05. This finding indicates that the effect of Food Security (X₁) and Employment Opportunity (X₂) on the Household Welfare of Farmers (Y) is significant (p-value <0.05).

The T-test resultis explainedas follows:
1. The statistical probability value of t or p-value or significance (Sig) of the variable of Food Security (X₁) is 0.000, then the value of p-value or Sig. is smaller than α = 0.05 (0.000 <0.05). This finding indicates that the effect of Food Security (X₁) partially on the Household Welfare of Farmers (Y) is real. As a result, partially, $H_0$is rejected for Food Security (X₁), and the research hypothesis regarding the effect of Food Security (X₁) onthe Household Welfare of Farmers (Y) is accepted.
2. The statistical probability value of t or p-value or significance (Sig) of the variable of Employment Opportunity (X₂) is 0.000, then the value of p-value or Sig. is smaller than α = 0.05 (0.000 <0.05). This finding indicates that the effect of Employment Opportunity (X₂) partially on the Household Welfare of Farmers (Y) is real. As a result, partially, H_0isrejected for Employment Opportunity (X₂), and the research hypothesis regarding the effect of Employment Opportunity (X₂) of the Household Welfare of Farmers (Y) is accepted.

The result of the multiple linear regression equation is: **Y = 0.048 + 0.732 X₁ + 0.450 X₂.** The function of the multiple linear regression equation above can be described as follows:
a. If there are no variables of Food Security (X₁)andEmployment Opportunity (X₂), then the Household Welfare of Farmers(Y) is0,048.
b. If the variables of Food Security (X₁) increased by 1 unit and if the presence of the variable of Employment Opportunity (X₂) is constant, this will increase the Household Welfare of Farmers (Y) by 0.732.
c. If the variable of Employment Opportunity (X₂) increases by 1 unit, and when the existence of the variable of Food Security (X₁) is constant, this will increase the Household Welfare of Farmers (Y) by 0.450.

The result of the analysis of multiple linear regression equation can be presented in Figure 2.
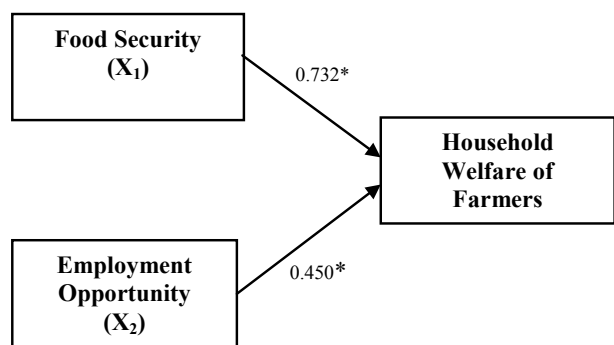
Notes:
Constant = 0.048
* = real/significant

Figure 2. Multiple Linear Regression Equation

Food Security (X_1) and Employment Opportunity (X_2) havea positive effect on the Household Welfare of Farmers (Y). The significant effect is contributed by the two variables: Food Security (X_1) and Employment Opportunity (X_2). From the equationof the standardized regression coefficient value, the effect of Food Security (X_1) dominatesthe effect on the Household Welfare of Farmers (Y) with a standardized regression coefficient ($Beta_1$) of 0.505. The dominant effect of Food Security (X_1) on the Household Welfare of Farmers (Y) shows that the high-low Food Security (X_1) significantly explains the high-low Household Welfare of Farmers (Y). In other words, the Household Welfare of Farmers (Y) is contributed more by the role of Food Security (X_1).

The effect direction of Food Security (X_1) to the Household Welfare of Farmers (Y) is positive, as indicated by both regression coefficient and correlation coefficient. The positive effect direction of Food Security (X_1) shows that the increase in Food Security (X_1), relatively fixed on the condition of unexamined factors, tends to result inthe exponentially high Household Welfare of Farmers (Y).

The results of the feasibility test of the model in this research include:

1. Theoretical plausibility can be presented in Table 4.

Table 4.The Results of the Conformity Theory Test

No.	Inter-Variable Relationship	Pre-Estimation	Post-Estimation	compatibility
1.	The effect of Food Security (X_1) onthe Household Welfare of Farmers(Y)	+	+	compatible
2.	The effect of Employment Opportunity (X_2) on the Household Welfare of Farmers(Y)	+	+	compatible

2. The accuracy of the estimates of the parameters indicates that the p-value of Food Security (X_1) is 0.000 and the p-value of Employment Opportunity (X_2) is 0.000. Consequently, all of the variables have the p-value smaller than $\alpha = 0.05$.

3. The explanatory ability can be presented in Table 5.

4. The forecasting ability indicates that the effect of Food Security (X_1) and Employment Opportunity (X_2) of the Household Welfare of Farmers (Y) shows the coefficient of determination of more than 50% ($R^2 = 67.7\%$).

The findings show that food security and employment opportunityhave a significant effect to the household welfare of farmers in the province of Aceh. Compared to external factors, food security and employment opportunity simultaneously contributea dominant effect on the household welfare of farmers. Partially, from the equation of the standardized regression coefficient value, the household welfare of farmersis affected more by food security rather than employment opportunity.

Table 5. Explanatory Ability

No.	Inter-Variable Relationship	Regression Coefficients	Standard Error (SE)	Decision
1.	The effect of Food Security (X_1) on the Household Welfare of Farmers (Y)	0.732	0.121	(SE < ½ |b|) (0.121 < 0.366)
2.	The effect of Employment Opportunity (X_2) on the Household Welfare of Farmers (Y)	0.450	0.098	(SE < ½ |b|) (0.098 < 0.225)

Stiglitz et al. (2011: 19), state that the material living standard dimensions such as income, consumption and wealth make up the people's welfare. Food is a human right that must always be fulfilled any time and should not be delayed. From the legal aspect, the access of every citizen to food should be respected, protected and fulfilled. The right to food is equal for the whole society inany place and time so that the right to food should not be different but should be non-discriminatory. The most important point in the fulfillment of the right to food is to ensure food security for each individual and household. Food must be sufficient(both in quantity and quality), safe, nutritious, diverse, equitable and affordable by the people's purchasing power. The research findingof Capone, et. al. (2013: 1) indicates that the division of food consumption expenditure of the total household expenditure is high in Albania by 67.3 percent and 43.9 percent in Algeria.

The food that is safe, quality, nutritious, varied and sufficiently available is the main prerequisite for the health, prosperity and welfare of the community as mentioned by Suandiin his research findings (2012: 57).He concluded that the level of food security of the household can be seen from the aspect of availability, power purchasing and nutritional value. The achievement of food security of the household of farmers and the expansion of employment opportunity can concretely realize the ideals of the welfare of farmers. Agricultural development must be designed and oriented towards improving the welfare of farmers. The realization of the welfare of farmers through increased food security can be done by means of intensification and expansion of the production of staple food commodities, increased farmers' access to productive resources, formulation of planning policies and land use, strengthening farmer institutions, and development of the institutional model of agricultural innovation-based farming. Meanwhile, improving farmers' welfare can be done through the increased

expansion of employment opportunities such as through the development of agricultural-based domestic business diversification, the increaseof the production and quality of agricultural products, and the efficiency of business.

Food security is closely related to the household welfare of farmers in the province of Aceh, where the indicator of public welfare, especially the farmerfamily here, is the capability of having healthy life, literacy and considerable purchasing power. Therefore, the better food security will improve the household welfare of farmers in the province of Aceh.

Employment opportunityis closely related to the household welfare of farmers in the province of Aceh. Employment opportunity includes the availability of job fields in the required quantities. The number of labours in an area becomes a considerationof the adequacy of manpower required in the process of production. The structure of manpower is still currently dominated by the agricultural sector. The agricultural sector performs only a small growth, but the number of people working in this sector is far more than other sectorswith higher growth. This shows that the important role of agriculture as the sector where the majority of manpower earn for a living. Therefore, a strategy to provide employment in the agricultural sector for the community in the future is needed. The first strategy is to revitalize the various means of supporting agricultural sector, and the opening of new land as a place to create new employment opportunities for the community. Prioritizing the agricultural sector, such as the availability of fertilizer and human resources that provide consultancy for farmers to improve their productivity, needs to be optimally performed. This priority is an incentive for farmers to retain their business in agriculturebecause without this priority, more manpower and land will switch to other sectors with more attractive incentives. Therefore, the better employment opportunity will improve the household welfare of farmers in the province of Aceh.

Conclusion

The results of this study conclude that the effects of food security and employment opportunity partially and simultaneously to the household welfare of farmers in the province of Aceh are real. This means that the better food security and employment opportunity partially and simultaneously will improve the household welfare of farmers in the Province of Aceh. The increase of food availability, the improvement of land and plant species, as well as the increaseof production and technology advancement can improve the household welfare of farmers in the province of Aceh.

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