The influence of ihsan attitude and economic condition to farmer household food security

H Hendrarini¹, E S Rahayu¹, Kusnardar¹, R J Sunarsono² and T Soedarto³

¹Departement of Agriculture, Faculty of Agriculture, Sebelas Maret University, Jl. Ir. Sutami Number 36A Jebres, Surakarta city, 57126, Indonesia
²Departement of Management, Faculty of Economics and Business, University of Pembangunan Nasional Veteran East Java, Jl. Raya Rungkut Madya, Gunung Anyar, Surabaya city, 60294, Indonesia
³Departement of Agriculture, Faculty of Agriculture, University of Pembangunan Nasional Veteran East Java, Jl. Raya Rungkut Madya, Gunung Anyar, Surabaya city, 60294, Indonesia

Email: hamidahrini1@gmail.com

Abstract. Ihsan attitude is one unique attitude that was owned by farmers in Bangkalan Madura, Indonesia. This study was focused to examining the relationship of ihsan attitude and economic condition on household food security of farmers in Bangkalan. The ihsan attitude will be one a new view regarding to the human resource perspective in agribusiness. For that this study was aimed to analyse the influence and the effect of that attitude to food security of farmer household. Data were collected from 360 respondents, followed with descriptive analysis. The social ecological model was the basis concept in this study, moreover its also used to test the three variables. In this study, a structural equation model tools call WarpPLS was employed. Results from this study would be provide ihsan attitude picture to economic conditions on household food security of farmers indicated, that would be important for formulation of the farmer empowerment policy in the future.

1. Introduction

One element that becomes a prosperity variable in a country is food security. Food security becomes a very crucial variable in almost countries in many parts of the world, including Indonesia. In the 1970s food security began to be an international issue [1]. In the early stages, the focus on of food security concept lies in the availability of food at the national and international levels. The concept was based on the world food crisis from 1972 to 1974. The concept of food security has been discussed in depth by Food and Agriculture Organization, food security as the starting point of world food situation evaluation, based on the thoughts that emerged at the UN world food conference in 1974 [2].

Food security for a country is very crucial, especially for countries with very large populations such as Indonesia, where by 2020 the Indonesian population is expected to reach 271 million people and estimated to 305 million people by 2035. Ministry of Agriculture (2004) states that agricultural development is one of the backbone of national development and its implementation should be synergistic with other development sector. Food security according to the requires simultaneous fulfilment of two sides: (a) the availability of adequate food for the entire population in the amount, quality, safety and affordability, of domestic products, and (b) the consumption side which is the
ability of every household to access enough food for each member to grow healthy and productive from time to time.

2. Methods
A quantitative approach will be used in this study where the researcher will involve the administration of a structured set of questions or statements with predefined response options aimed at a large number of respondents [3]. The data and source format used is clearly identified and well defined. Compiling and formatting the data collected follow a neat procedure that is mostly numerical [3]. This research is designed to explain the influence between variables or relationships affect (causality) between one variable to another variable through hypothesis testing or confirm the relationship influence between variables or constructs where the relationship between variables that are built or tested is a relationship that has been researched and tested before by researchers either conceptually or through a data analysis technique.

2.1. Analytical Tool
WarpPLS is an analytical tool used in this study. The flow of use of this analytical tool will begin by designing a structural model (inner model) involving several variables involved in this study. Then the next step is to design the measurement model (outer model) followed by constructing the path diagram and convert the path diagram to the system of equations. Further measurements were made to determine the value of path coefficient, loading factor, and weight. Which is continued by determining the value of goodness of fit and the last is hypothesis testing.

3. Result and Discussion

3.1. Model Fit And Quality Indices
In the WarpPLS analysis there is a fit model size and quality index to be met, here are the results of the analysis presented in the following table.

| MF &QI  | Fit Criteria                  | Result          | Note       |
|--------|-------------------------------|-----------------|------------|
| APC    | P < 0.05                      | 0.411 P < 0.001 | good       |
| ARS    | P < 0.05                      | 0.495 P<0,001   | good       |
| AARS   | P < 0.05                      | 0.492 P<0,001   | good       |
| AVIF   | Acceptable if ≤ 5, ideally ≤ 3.3 | 1,001          | good       |
| AFVIF  | Acceptable if ≤ 5, ideally ≤ 3.3 | 1,496          | good       |
| GoF    | Small >= 0.1, medium ≥ 0.25, large ≥ 0.36 | 0,505       | good       |
| SPR    | Acceptable if ≥ 0.7, ideally = 1 | 1              | ideal      |
| RSCR   | Acceptable if ≥ 0.9, ideally = 1 | 1              | ideal      |
| SSR    | Acceptable if ≥ 0.7           | 1              | good       |
| NLBCDR | Acceptable if ≥ 0.7           | 0.5            | enough     |

Note : MF&QI is Model Fit and Quality Indices; APC is Average path coefficient; ARS is Average R-squared; AARS is Average adjusted R-squared; AVIF is Average block VIF; AFVIF is Average full collinearity VIF; GoF is Tenenhaus Goodness of Fit; SPR is Sympson's paradox ratio; RSCR is R-squared contribution ratio; SSR is Statistical suppression ratio; NLBCDR is Nonlinear bivariate causality direction ratio.

From the table above, it shows that the overall model is fit. After the testing is done, we can identify that all criteria in the fit and quality indices model are met, Thus the model is said to be good
and can be used to explain the phenomenon (system) that is studied and can be used for hypothesis testing. In table 1 above we can see that the value of APC and ARS each has a number of 0.411 and 0.495. This shows that Average Path Coefficient (APC) and Average R-Squared (ARS) meet the fit and quality indices model. Then the AVIF (Averaged block VIF) value also shows a number smaller than 5 that is 1,001 where this shows that there is no multicollinearity in the model under study. For the value of other fit and quality indices model indicators such as AARS, AFVIF, GoF, SPR, RSCR, SSR, and NLBCDR generate numbers that match the predefined criteria to achieve the fit model.

3.2. Goodness of Fit Outer Model

3.2.1. Validity Test. The required load value for a construct to be said as valid is at least 0.533. A model is also said to be capable of having sufficient discriminant validity if the AVE root for each construct is greater than the correlation between kostruk and other constructs. Here are the results of the tests performed.

| Table 2. Validity Test |
|------------------------|
| Variable | X1 | X2 | Y1 |
|-----------|----|----|----|
| Ihsan Attitude (X1) | 0.594 | -0.228 | 0.581 |
| Farmer Economic Condition (X2) | -0.228 | 0.749 | 0.085 |
| Household Food Security of Farmers (Y1) | 0.581 | 0.086 | 0.796 |

From the Table 2, we can identify that the root value of the average variances extracted (AVE) in the numbers with bold print on the main diagonal of the table, while the number outside the main diagonal is the correlation coefficient between variables. When the AVE root value is greater than the correlation coefficient of that variable with other variables, then it is said that the instrument is valid. The table above shows that the research instrument in the form of questionnaires for all variables is said to be valid

3.2.2. Reliability Test. The loading value required for a construct to be reliable and satisfy the rule of thumb is a minimum of 0.733. Here are the results of analysis in identifying the reliability value of a construct.

| Table 3. Reliability Test |
|---------------------------|
| Variable | Composite Reliability | Cronbach Alpha |
|-----------|------------------------|----------------|
| Ihsan Attitude (X1) | 0.683 | 0.640 |
| Farmer Economic Condition (X2) | 0.777 | 0.570 |
| Household Food Security of Farmers (Y1) | 0.938 | 0.924 |

Based on the above table, we could see that the whole variable indicates good reliability figures. Although there are some variables that have values below 0.7 but the numbers are not too far from the specified limit. Thus, we can conclude that all indicators of each variable is valid and also reliable as a measure of research variables.

3.2.3. Factor Loading. The result of factor loading shows that the strongest indicator (dominant) as a measure or formator of Attitude Ihsan (X1) is X1.6 with a factor load of 0.907 close to 100 percent. Then the identified indicators are able to perform the measurements properly are X1.4 and X1.5 with a factor loading of 0.886 and 0.878. While other variables are identified able to make measurements with the amount of load factor is X1.2 and X1.3 with the factor load of 0.536 and 0.550. Meanwhile, other indicators such as X1.1, X1.7, X1.8, and X1.9 were identified as the indicators are able to measure with the lowest ability like X1.1 with value 0.254 and also indicator X1.7, X1.8, and X1.9,
each of them which has negative values of -0.058, -0.375, and -0.040. Then the table above also shows that the strongest indicator (dominant) as a measure (reflect) variable Farmer Economic Conditions (X2) is indicator X2.2 with a factor loading of 0.885. Then followed by indicators that also have strong enough ability to measure the variable that is X2.3 indicator with a factor loading of 0.864. Then the identified indicator has the weakest ability to measure the variable is the indicator X2.1 with a factor loading of 0.392. The strongest indicator (dominant) as a measure (reflective) household food security of farmers (Y1) is Y1.8 with a factor load of 0.919, and also Y1.9 with a factor load of 0.917. Then followed by other indicators such as Y1.1, Y1.2 and Y1.4 which also have a good factor load in measuring the variables which are respectively are 0.830, 0.859 and 0.869. The overall indicator used to measure the variable of Farmer's Household Food Security is identified as being overall positive. The last indicators to be gauges such as Y1.3, Y1.5, Y1.6 and Y1.7 are indicators that have a good enough value to reflect these variables with factor load values of 0.699, 0.778, 0.636 and 0.576, respectively.

4. Conclusion

Household food security of farmers is identified as an important variable in the welfare of the people in a country in which this research is tested together with some influencing variables such as ihsan attitude (X1) and also farmer economic condition (X2). In this study it was identified that the attitude of ihsan (X1) and also the farmers economic condition (X2) had an effect with a high enough significance value, especially for the ihsan attitude which each is 0.687 and 0.135. This result indicates that the attitude of ihsan owned by farmers in Bangkalan, Madura island gives a strong influence on food security of farm households. The better or increased attitude ihsan owned by farmers, it will also increase the food security of farm households. By knowing this, of course the related parties such as the government can strive and empower the ihsan attitude owned by the farmers so that the food security of farm households which become one of the indicators of the welfare of a country can be realized. Through this research, it is identified that the farmers in the Bangkalan Madura area have a good ihsan attitude, where the ihsan attitude is the attitude that is able to provide food security owned by the farmers.

One of the characteristics possessed by farmers is the economic condition owned by farmers. In this study, we identify that the farmer economic condition has positive relationship to household food security of farmers. The economic condition in this study is the economic condition of the family in terms of the status or position of the family economy either in terms of income or livelihood of farmers in Bangkalan Madura in meeting their families needs. We also identify that the better the economic condition owned by the farmers, the better the food security in the farmer's household.

Based on the results above, the researchers expect the parties which have responsibility on the preservation of household food security of farmers such as the government is expected to contribute through the implementation of policies or programs that can be implemented related to household food security of farmers. In addition, the government is also expected to formulate further policies on improving economic conditions owned by farmers. Through the implementation of these policies, it is expected to realize food security owned by farmers' households.

Reviewing the results of this study, it is hoped that further research can identify deeper about the classification of economic conditions that are divided into several levels of economic conditions, so that it can be known exactly at a level where economic conditions will actually be able to affect the food security of farm households. In addition, in-depth research on the ihsan attitude variable also need to be done back in the realm of agribusiness because of this attitude that has its own value for the realm of human development.

References
[1] Maxwell S and Frankenberger T 1992 Household food security: concepts, indicators, and measurements: a technical review New York, NY, USA and Rome, UNICEF and IFAD
[2] Food and Agriculture Organization 1996 The State Of Food and Agriculture
[3] Burns Alfin C and Ronald F Bush 2014 *Marketing Research Seventh Edition. International Edition* England: Pearson Education Limited