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## The effect of biosphere on willingness to pay organic rice mediated by pro-environmental attitudes

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This study uses an explanatory research type through a quantitative analysis approach which aims to analyze the relationship of the biosphere value on the willingness to pay for organic rice mediated by pro-environmental attitudes. The sample in this study were 150 consumers who consumed organic rice obtained using using accidental sampling technique. The questionnaire included in part a number of criteria that influence consumers when buying organic rice for willingness to pay more for organic rice. Data analysis using Generalized Structured Component Analysis (GSCA). The results show that the consumer's pro-environmental attitude fully mediates the relationship between biosphere value and willingness to pay more for organic rice. This finding is based on the consumers reason consume the organic rice, namely by consuming organic rice also helps preserve the natural environment that is free of pesticides, participate in the environmental preservation, protecting the environment from pollution, consider natural balance is sensitive and easily disturbed. This research is as important information for the organic rice industry, especially when selling organic rice must focus on the target market, so that it will determine the success in the marketing of organic rice.

**Keywords:** Biosphere, Pro environment, willingness to pay for organic rice.

### INTRODUCTION

Pro-environmental behavior or attitude is a variety of forms of human activities that have the aim of minimizing negative impacts on the environment. Pro-environmental behavior aims to reduce or provide solutions related to existing environmental problems (Homburg & Stolberg, 2006). Pro-environmental behavior is likely to be best seen as a combination of personal interests and concern for others, the next generation, other living things or the ecosystem as a whole (Bamberg & Moser, 2007). Thus the public is increasingly aware that the use of chemicals can actually cause negative effects on the health of the body and the surrounding environment (Manuhutu, 2005).

The pattern of food consumption of the community is also increasingly shifting towards

changes in lifestyle that pay more attention to health and the environment. These conditions are slowly forming a community healthy lifestyle that is environmentally friendly. According to Mayrowani (2012), a healthy lifestyle has been institutionalized internationally which requires that agricultural products must have attributes that are safe for consumption, high nutrient content and environmentally friendly. Attention to organic food by local and international communities over time has increased.

One of the many organic foods consumed by Indonesian people is organic rice. Thus the trend of changes in public consumption to a healthy lifestyle and the existence of pro-environmental attitudes make the demand for organic rice continue to increase every year. Organic rice can

be said as an exclusive rice, meaning that organic rice is not sold anywhere, but needs special marketing methods. The high price of organic rice has caused its consumers are also from limited circles, namely people who understand its superiority and are willing to pay more expensive prices (Andoko, 2010).

The effect of consumer behavior on the willingness to pay for organic rice in the presence of a new phenomenon or fact that demand for organic rice is increasing. This is because the behavior of rice consumers has shifted from simply consuming medium-quality rice to high-quality rice (Syahrir et al, 2015). Community interest in organic rice affects the development of organic rice producers (Mayrowani 2012). This is in line with the research of Peattie and Crane (2005) which states that environmental awareness and increasing consumer interest in organic rice and willingness to pay for organic features lead to the company's interest in marketing organic products by initiating major changes and innovations. Environmental problems such as the value of the biosphere can affect the willingness to pay consumers directly or indirectly (Hansla, Gamble, Juliusson, & G€arling, 2008). However, all changes to the attributes of organic rice require high production costs, this is a result of improving the quality of the product itself so that it will affect the selling price of organic rice itself. Thus this research is important to conduct to find out what factors can influence the willingness to pay for organic rice.

## MATERIALS AND METHODS

This study uses an explanatory research type through a quantitative analysis approach that aims to analyze the relationship of the value of the biosphere on the Willingness To Pay mediated by pro-environment. This research was conducted at the Organic Depot of Universitas Brawijaya, the distributor of N790 organic rice in Dau and Organic Vigur in Cemorokandang.

### Data collection

Determination of respondents in this study using purposive techniques or intentionally using accidental sampling technique, which is based on consumers who consume organic rice found at the location. According to Sugiyono (2009: 85), Accidental/ Purposive Sampling is a technique of determining samples based on coincidence, that is, consumers who accidentally / incidentally meet with researchers can be used as samples, if viewed by the person who happened to be found suitable as a data source. This research was conducted in

three locations with each sampling taking as many as 50 respondents. Thus the sample in this study was 150 samples. The data collection technique used in this study is the survey method. The process carried out by researchers in primary data collection by distributing questionnaires. All variables in this study were measured using a 1-5 Likert scale. Respondents were asked to determine their opinions from a statement submitted in writing. The Likert Scale generally uses 5 (five) points (Davis and Consenza, 1993). The assessment ranges from 1 to 5 are as follows: 1 = Very Disagree; 2 = Disagree; 3. Fairly Agree; 4 = Agree and; 5. Very Agree.

### Statistical Analysis

The testing of empirical models and hypotheses in research uses Generalized Structured Component Analysis (GSCA) developed by Hwang et al. (2004) with the aim of replacing factors with linear combinations of indicators (manifest variables) in Structural Equation Modeling (SEM) which includes measurement models and structural models. According to Solimun (2013) This analytical approach uses the least square method in the parameter estimation process.

## RESULT AND DISCUSSION

### Descriptive Analysis of Research Variables.

Descriptive analysis aims to get respondents' perceptions of the questions or statements given related to the research variables used in a study. Descriptive analysis is calculated based on the percentage of respondents' answers to research questions by looking at the mean value of each indicator proposed to describe the perceptions of all respondents.

Based on the mean value, then conducted the interpretation on the respondents perceptions referring to the three-box method (Ferdinand, 2011) criteria namely: 1,0 - 2,3 = low; 2,4 - 3,7 = moderate; and 3,8 - 5,0 = high. Furthermore, based on these criteria conducted the description of the general description of each question item from each research variable. The research variables studied namely Biosphere Value, Pro-Environmental Value and willingness to pay (WTP).

Table 1. shows that the Biosphere Value variable is perceived high by the respondents, it can be seen from the respondent's answer average value of 4,39 which is located between the score 4 (agree) and the score 5 (very agree). Likewise, the majority of respondents answered agree and very

agree on all items of questions about the Biosphere Value variable, seen from the mean score of the indicator known that I care about the surrounding environment, one of them by consuming organic rice (B1) highest perceived by respondents with a mean of 4,48 and the indicator I consider natural balance is sensitive and easily disturbed (B6) lowest perceived with a mean of 4,31. These data indicate respondents' perceptions on the Biosphere Value are generally classified as very high located at intervals of 3,8 - 5,0.

The description of respondents' perceptions as a whole shows that all respondents agreed that I care about the surrounding environment, one of them by consuming organic rice (B1), I am part of nature and help preserve the environment by consuming organic rice that is free of pesticides (B2), By consuming organic rice, I also help preserve the environment (B3), I helped preserve the environment from pollution by consuming organic rice (B4), I believe can protect natural resources by consuming organic rice (B5), I consider natural balance is sensitive and easily disturbed (B6) are the forming factor of the Biosphere Value Variable.

Table 2, Pro Environmental Value variable consists of 5 indicators namely among other It is important for me that the organic rice that I use does not damage the environment (L1), I consider the potential environmental impact of my actions when i make many decisions to consume other than organic rice (L2), I am worried about damage to our natural resources when we do not consume organic rice (L3), I will describe myself as being environmentally responsible by consuming organic rice (L4), I am willing to be bothered to take environmentally friendly actions by consuming organic rice (L5). Based on the index of perceptions of respondents 'answers involved in filling out the questionnaire in this study, then described the respondents' perceptions on the Pro Environmental Value variables and presented as visualization of Table 2.

Table 2. shows that the Pro Environmental Value variable is perceived high by the respondents, it can be seen from the respondents' average score of 4,19 which is located between the score 4 (S) and the score 5 (SS). Likewise, the majority of respondents answered agreeing on all items in the question of the Pro Environmental Value variable, seen from the mean indicator score that It is important for me that organic rice that I use does not damage the environment (L1) is perceived to be the highest by respondents with a mean of 4, 38 and the indicator I am willing to be

bothered to take actions that are environmentally friendly by consuming organic rice (L5) perceived to be the lowest with a mean of 4,07. The data indicate the respondents' perceptions on the Pro Environment Value are generally classified as very high located at intervals of 3,8 - 5,0.

The description of respondents' perceptions as a whole shows that all respondents agreed that It is important for me that the organic rice that I use does not damage the environment (L1), I consider the potential environmental impact of my actions when i make many decisions to consume other than organic rice (L2), I am worried about damage to our natural resources when we do not consume organic rice (L3), I will describe myself as being environmentally responsible by consuming organic rice (L4), I am willing to be bothered to take environmentally friendly actions by consuming organic rice (L5) are the forming factor of the Pro Environmental Value Variable.

The willingness to pay (WTP) variable consists of 4 indicators, namely Organic rice has always been my choice to be consumed (WTP1), Organic rice is very beneficial for me (WTP2), I am willing to pay more for consuming organic rice (WTP3), I am consistent in consuming organic rice (WTP4). Based on the index of perceptions of respondents 'answers involved in filling out the questionnaire in this study, the respondents' perceptions of the willingness to pay (WTP) variables were then described as presented in Table 3.

Table 3. shows the willingness to pay (WTP) variable is perceived high by the respondents, as seen from the respondents' answer mean score of 4,04 which is located between the score 4 (S) and the score 5 (SS). Likewise, the majority of respondents answered agreeing on all items of the willingness to pay (WTP) variable, as seen from the indicator mean score known that organic rice is very beneficial for me (WTP2) perceived the highest by respondents with a mean of 4,11 and the indicator of I am consistent in consuming organic rice (WTP4) perceived to be the lowest with a mean of 3,96. These data indicate that respondents' perceptions on the willingness to pay are generally classified as very high in the intervals of 3,8 - 5,0.

The description of respondents' perceptions as a whole shows that all respondents agreed that Organic rice has always been my choice to be consumed (WTP1), Organic rice is very beneficial for me (WTP2), I am willing to pay more for consuming organic rice (WTP3), I am consistent in consuming organic rice (WTP4) are the forming factor of the willingness to pay (WTP) Variable.

**Table 1. Description of Biosphere Value Variables**

Variable Indicator	Frequency of Respondent Answers (%)										Average Score (Mean)
	STS(1)		TS(2)		N(3)		S(4)		SS(5)		
	f	%	f	%	f	%	F	%	f	%	
B1	0	0	0	0	4	2,7	70	46,7	76	50,7	4,48
B2	0	0	0	0	7	4,7	79	52,7	64	42,7	4,38
B3	0	0	0	0	9	6	73	48,7	68	45,3	4,39
B4	0	0	0	0	12	8	69	46	69	46	4,38
B5	0	0	0	0	11	7,3	71	47,3	68	45,3	4,38
B6	0	0	0	0	12	8	80	53,3	58	38,7	4,31
Biosphere Value Variable Mean Perception Index											4,39

Source: Primary data processed, 2019

**Table 2. Description of Pro Environment Value Variable**

Variable Indicator	Frequency of Respondent Answers (%)										Average Score (Mean)
	STS(1)		TS(2)		N(3)		S(4)		SS(5)		
	f	%	f	%	F	%	f	%	f	%	
L1	0	0	0	0	7	4,7	79	52,7	64	42,7	4,38
L2	0	0	1	0,7	19	12,7	74	49,3	56	37,3	4,23
L3	0	0	0	0	26	17,3	72	48	52	34,7	4,17
L4	0	0	0	0	30	20	75	50	45	30	4,10
L5	0	0	4	2,7	21	14	86	57,3	39	26	4,07
Pro Environmental Value Variables Mean Perception Index											4,19

Source: Primary data processed, 2019

**Table 3. Description of WTP Variables (WTP)**

Variable Indicator	Frequency of Respondent Answers (%)										Average Score (Mean)
	STS(1)		TS(2)		N(3)		S(4)		SS(5)		
	f	%	f	%	F	%	f	%	f	%	
WTP1	0	0	2	1,3	25	16,7	85	56,7	38	25,3	4,06
WTP2	0	0	1	0,7	24	16	82	54,7	43	28,7	4,11
WTP3	0	0	1	0,7	35	23,3	71	47,3	43	28,7	4,04
WTP4	0	0	1	0,7	37	24,7	79	52,7	33	22	3,96
WTP (WTP) Variables Mean Perception Index											4,04

Source: Primary data processed, 2019.

**Structural Model Test (Inner Model)**

**Analysis of Relationships Among Research Variables.**

The Inferential Statistical Method used in the analysis of relationships among research variables is Generalized Structural Component Analysis (GSCA). The reason for using GSCA is by considering that the causal relationship formulated in this study uses a one-way (recursive) causality

model with measurement of reflective variables, Solimun (2013). This study involved four variables, namely Biosphere Value, Lifestyle, Pro Environmental Value and WTP (WTP). The design of the inter-variable relationship model on GSCA is based on the formulation of the problem or research hypothesis

**Test of Validity and Reliability**

The Unidimensionality Test of each construct

is done by looking at the convergent validity of each construct indicator. Respondents Characteristic Variables do not need to conduct Validity and Reliability test because it is an ordinal scale. Testing is done by conducting Discriminant Validity and Composite Reliability as follows:

**Discriminant validity**

Discriminant validity, is a measurement of reflexive indicators based on cross loading with its latent variables. Another method is by comparing the square root of average variance extracted (AVE) value of each construct, with correlations between other constructs in the model. In this regard, it is recommended measurement value must be greater than 0.50. Further, the testing results of Discriminant validity can be seen as a visualization in Table 4.

The results of discriminant validity test show

**Table 4. Discriminant validity Testing Results**

Variable	Average variance extracted (AVE)
Biosphere Value	0,653
Pro Environmental Value	0,709
willingness to pay (WTP)	0,741

Source: Primary data processed, 2019.

**Table 5. Composite Reliability Testing Results**

Variable	Composite Reliability	Information
Biosphere Value	0,893	Reliable
Pro Environmental Value	0,896	Reliable
willingness to pay (WTP)	0,883	Reliable

Source: Primary data processed, 2019.

**Structural Equation Modeling**

This study uses the GSCA approach structural equation model. Before analyzing, first performed testing or evaluation of empirical research models. The results of testing the empirical model of this study can be seen in the visualization of Figure 1.

**Goodness of Fit Model**

The theoretical model on the conceptual framework of the study is said to be fit if supported by empirical data. There are two indications to see whether the model used is good, namely goodness of fit structural model and goodness of fit overall model. The testing results of the goodness of fit structural models and overall models in accordance with the results of the GSCA analysis are presented in the Appendix.

that all values of Average variance extracted (AVE) are greater than 0,50. Thus it can be concluded that this measurement meets the Convergent Validity requirements based on the value of Average Variance Extracted (AVE).

**Composite Reliability.**

Composite reliability testing aims to test the validity of the instrument in a research model. The composite reliability test results can be seen as visualization in Table 5.

The composite reliability test results show satisfactory value, where all latent variables have been reliable because all values of the variable have a composite reliability value of  $\geq 0.70$ . In other words, the questionnaire used as an instrument in this study is reliable or consistent. Thus it can be concluded that, all indicators are indeed a measure of their respective constructs.

At the goodness of fit structural model is seen from the values of FIT and AFIT. In this modeling obtained the FIT value namely equal to 0.62 which means that the research model formed can explain all existing variables equal to 0,62. The diversity of Altruistic Values, Egoistic Values, Biosphere Values, Lifestyle, Pro-Environmental Value and willingness to pay (WTP) which can be explained by the model is amounted to 62% and the rest (38%) can be explained by other variables which not included in the research. To find out that the hypothetical model namely the goodness of fit overall model supported by empirical data is presented in Table 6.

The testing results of the Goodness of Fit Overall Model based on Table 6. show that GFI has fulfilled the cut off value, so the GSCA model in this study is suitable and feasible to use, so that

interpretation can be made for further discussion.

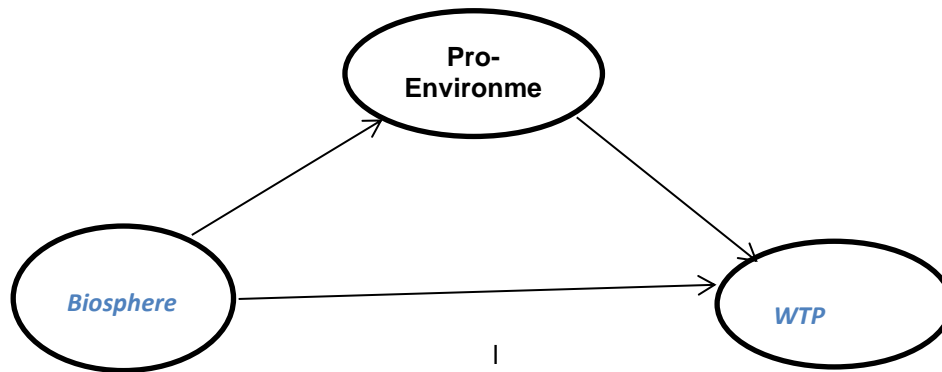
Goodness of Fit Structural models is measured using FIT and AFIT. FIT formed from the structural model is 0,62. So, the model formed can explain all existing variables amounted to 0.62. The diversity of Altruistic Values, Egoistic Values, Biosphere Value, Lifestyle, Pro-Environmental Value and willingness to pay (WTP) which can be explained by the model amounted to 62% and the rest (38%) can be explained by other variables which not included in the study. That is, if viewed from the FIT value obtained, the model formed can be said good.

Adjusted from FIT is almost the same as FIT. However, because there is not only one variable that affects performance but there are five variables so that it would be better if the interpretation of the model's accuracy using AFIT. AFIT formed from the structural model is 0,614. So,

the model formed can explain all variables equal to 0,614. The diversity of Altruistic Values, Egoistic Values, Biosphere Values, Lifestyle, Pro-Environmental Value and willingness to pay (WTP) that can be explained by the model is equal to 61.4% and the rest (38.6%) can be explained by other variables. Means that, if viewed from the AFIT value obtained, the model formed can be said still quite good.

**Measurement Model**

Conversion of the path diagram into the measurement model on each variable of Biosphere Value, Pro-Environmental Value and willingness to pay (WTP) can be found through Table 7.



**Figure 1. Structural Relationship Mode**

**Table 6. Testing Result of Goodness Of Fit Overall Model**

Criteria	Cut-of value	Model Results	Information
SRMR	≤ 0,08	0,154	Marginal
GFI	≥ 0,90	0,992	Good Model

Source: Primary data processed, 2019

**Table 7. Biosphere Value, Pro- Environmental and WTP Variable Measurement Model and Structural Model**

Variable	Loading			Weight			SMC		
	Estimate	SE	CR	Estimate	SE	CR	Estimate	SE	CR
<b>Biosphere</b>	<b>AVE = 0.653, Alpha =0.893</b>								
<b>B1</b>	0.657	0.106	6.17*	0.206	0.026	7.95*	0.431	0.156	2.77*
<b>B2</b>	0.832	0.032	25.83*	0.165	0.002	104.49*	0.692	0.055	12.57*
<b>B3</b>	0.864	0.011	77.81*	0.218	0.032	6.8*	0.747	0.019	38.56*

<b>B4</b>	0.859	0.014	62.34*	0.238	0.013	18.14*	0.738	0.024	30.82*
<b>B5</b>	0.847	0.018	46.34*	0.197	0.030	6.47*	0.717	0.031	22.82*
<b>B6</b>	0.769	0.017	44.68*	0.218	0.005	46.9*	0.591	0.027	21.99*
<b>Environment</b>	<b>AVE = 0.709, Alpha =0.896</b>								
<b>L1</b>	0.825	0.008	103.85*	0.289	0.017	17.45*	0.680	0.013	52.28*
<b>L2</b>	0.864	0.024	35.82*	0.249	0.025	9.82*	0.747	0.043	17.56*
<b>L3</b>	0.887	0.012	75.12*	0.210	0.005	40.86*	0.786	0.021	37.21*
<b>L4</b>	0.870	0.020	44.51*	0.221	0.003	64.4*	0.756	0.035	21.91*
<b>L5</b>	0.757	0.002	381.29*	0.222	0.024	9.42*	0.573	0.003	191.0*
<b>WTP</b>	<b>AVE = 0.741, Alpha =0.883</b>								
<b>WTP1</b>	0.810	0.017	47.83*	0.255	0.021	12.03*	0.656	0.027	24.27*
<b>WTP2</b>	0.879	0.015	60.17*	0.294	0.027	10.76*	0.773	0.025	30.44*
<b>WTP3</b>	0.858	0.067	12.79*	0.291	0.009	33.5*	0.736	0.109	6.77*
<b>WTP4</b>	0.894	0.023	39.63*	0.318	0.002	151.78*	0.800	0.040	20.18*

The model shows the following matters:

Value of loading indicators of I care about the surrounding environment, one of them by consuming organic rice (B1) equal to 0.657. This means the diversity of Biosphere Value Variables can be explained by indicators of I care about the surrounding environment, one of them by consuming organic rice (B1) amounted to 65,7%. In other words, the contribution of indicators of I care about the surrounding environment, one of them by consuming organic rice (B1) in measuring variable of the Biosphere Value Variable equal to 65.7%.

Value of loading indicators of I am part of nature and help preserve the environment by consuming organic rice that is free of pesticides (B2) equal to 0.832. This means the diversity of Biosphere Value Variables can be explained by indicators of I am part of nature and help preserve the environment by consuming organic rice that is free of pesticides (B2) amounted to 83,2%. In other words, the contribution of indicators of I am part of nature and help preserve the environment by consuming organic rice that is free of pesticides (B2) in measuring variable of the Biosphere Value Variable equal to 83,2%.

Value of loading indicators of By consuming organic rice, I also help preserve the environment (B3) equal to 0.864. This means the diversity of Biosphere Value Variables can be explained by indicators of By consuming organic rice, I also help preserve the environment (B3) amounted to 86,4%. In other words, the contribution of indicators of By consuming organic rice, I also help preserve the environment (B3) in measuring variable of the Biosphere Value Variable equal to 86,4%.

Value of loading indicators of I helped preserve

the environment from pollution by consuming organic rice (B4) equal to 0.859. This means the diversity of Biosphere Value Variables can be explained by indicators of I helped preserve the environment from pollution by consuming organic rice (B4) amounted to 85,9%. In other words, the contribution of indicators of I helped preserve the environment from pollution by consuming organic rice (B4) in measuring variable of the Biosphere Value Variable equal to 85,9%.

Value of loading indicators of I believe can protect natural resources by consuming organic rice (B5) equal to 0.847. This means the diversity of Biosphere Value Variables can be explained by indicators of I believe can protect natural resources by consuming organic rice (B5) amounted to 84,7%. In other words, the contribution of indicators of I believe can protect natural resources by consuming organic rice (B5) in measuring variable of the Biosphere Value Variable equal to 84,7%.

Value of loading indicators of I consider natural balance is sensitive and easily disturbed (B6) equal to 0.769. This means the diversity of Biosphere Value Variables can be explained by indicators of I consider natural balance sensitive and easily disturbed (B6) amounted to 76,9%. In other words, the contribution of indicators of I consider natural balance is sensitive and easily disturbed (B6) in measuring variable of the Biosphere Value Variable equal to 76,9%. The measurement model of the Biosphere Value Variable also informs that By consuming organic rice, I also help preserve the environment (B3) has the largest loading value namely equal to 0.864. This means that By consuming organic rice, I also help preserve the environment (B3) is the most dominant indicator in measuring Biosphere Value Variables.

Value of loading indicators of It is important for

me that the organic rice that I use does not damage the environment (L1) equal to 0.825. This means that the diversity of the Pro-Environmental Value Variables can be explained by the indicator of It is important for me that the organic rice that I use does not damage the environment (L1) amounted to 82,5%. In other words, the contribution of indicators of It is important for me that the organic rice that I use does not damage the environment (L1) in measuring variable of Pro-Environment Value Variable equal to 82,5%.

Value of loading indicators of I consider the potential environmental impact of my actions when i make many decisions to consume other than organic rice (L2) equal to 0.864. This means that the diversity of the Pro-Environmental Value Variables can be explained by the indicator of I consider the potential environmental impact of my actions when i make many decisions to consume other than organic rice (L2) amounted to 86,4%. In other words, the contribution of indicators of I consider the potential environmental impact of my actions when i make many decisions to consume other than organic rice (L2) in measuring variable of Pro-Environment Value Variable equal to 86,4%.

Value of loading indicators of I am worried about damage to our natural resources when we do not consume organic rice (L3) equal to 0.887. This means that the diversity of the Pro-Environmental Value Variables can be explained by the indicator of I am worried about damage to our natural resources when we do not consume organic rice (L3) amounted to 88,7%. In other words, the contribution of indicators of I am worried about damage to our natural resources when we do not consume organic rice (L3) in measuring variable of Pro-Environment Value Variable equal to 88,7%.

Value of loading indicators of I will describe myself as being environmentally responsible by consuming organic rice (L4) equal to 0.87. This means that the diversity of the Pro-Environmental Value Variables can be explained by the indicator of I will describe myself as being environmentally responsible by consuming organic rice (L4) amounted to 87%. In other words, the contribution of indicators of I will describe myself as being environmentally responsible by consuming organic rice (L4) in measuring variable of Pro-Environment Value Variable equal to 87%.

Value of loading indicators of I am willing to be bothered to take environmentally friendly actions by consuming organic rice (L5) equal to 0.757. This means that the diversity of the Pro-Environmental Value Variables can be explained by the indicator of I am willing to be bothered to take

environmentally friendly actions by consuming organic rice (L5) amounted to 75,7%. In other words, the contribution of indicators of I am willing to be bothered to take environmentally friendly actions by consuming organic rice (L5) in measuring variable of Pro-Environmental Value Variable equal to 75,7%. The measurement model of the Pro-Environmental Value variable also informs that I will describe myself as being environmentally responsible by consuming organic rice (L4) has the largest loading value namely equal to 0.87. This means that I will describe myself as being environmentally responsible by consuming organic rice (L4) is the most dominant indicator in measuring Pro-Environmental Value Variables.

Value of loading indicators of Organic rice has always been my choice to be consumed (WTP1) equal to 0.81. This means that the diversity of WTP variables can be explained by indicators of Organic rice has always been my choice to be consumed (WTP1) amounted to 81%. In other words, the contribution of indicators of Organic rice has always been my choice to be consumed (WTP1) in measuring variable of WTP variables equal to 81%.

Value of loading indicators of Organic rice is very beneficial for me (WTP2) equal to 0.879. This means that the diversity of WTP variables can be explained by indicators of Organic rice is very beneficial for me (WTP2) amounted to 87,9%. In other words, the contribution of indicators of Organic rice is very beneficial for me (WTP2) in measuring variable of WTP variables equal to 87,9%.

Value of loading indicators of I am willing to pay more for consuming organic rice (WTP3) equal to 0.858. This means that the diversity of WTP variables can be explained by indicators of I am willing to pay more for consuming organic rice (WTP3) amounted to 85,8%. In other words, the contribution of indicators of I am willing to pay more for consuming organic rice (WTP3) in measuring variable of WTP variables equal to 85,8%.

Value of loading indicators of I am consistent in consuming organic rice (WTP4) equal to 0.894. This means that the diversity of WTP variables can be explained by indicators of I am consistent in consuming organic rice (WTP4) amounted to 89,4%. In other words, the contribution of indicators of I am consistent in consuming organic rice (WTP4) in measuring variable of WTP variables equal to 89,4%.

Measurement model of The willingness to pay variable also informs that I am consistent in consuming organic rice (WTP4) has the largest loading value namely equal to 0.894. This means



that I am consistent in consuming organic rice (WTP4) is the most dominant indicator in measuring WTP Variables.

### Hypothesis Testing Results

In the structural model, nine hypotheses of relationships among the variables (direct influence) were tested. The testing results of the relationship among the research variables in whole are presented in Table 8.

**Table 8. Testing Results of Direct Influence Hypothesis**

Direct Influence	Path Coefficient	Standard Error	Critical Ratio	Information
BIOSPHERE ->ENVIRONMENT	0.704	0.026	26.75*	Significant
BIOSPHERE ->WTP	0.052	0.024	2.18*	Significant
ENVIRONMENT ->WTP	0.505	0.050	10.14*	Significant

CR\* = significant at .05 level

Source: Primary data processed, 2019.

### Discussion

Influence of Biosphere Values on WTP through Pro-Environmental Value. The findings of this study suggest that the value of the biosphere has a positive influence on pro-environmental values. This is in line with the research of Shin et al. (2017) who states that the value of the biosphere had a positive effect on the value of the environment. The value of the biosphere is shown when a person behaves pro-environment based on perceived costs and benefits for the ecosystem as a whole (Schultz, 2001; de Groot & Steg, 2008). According to Schultz (2001); Stern et al. (1993); Thompson & Barton (1994) states that the biosphere in a pro-environmental attitude, such as trusting awareness of consequences or environmental concerns.

Respondents' perceptions regarding the biosphere's value on the environment were perceived high by respondents, It can be seen from the respondent's average value the majority of respondents answered agree on the surrounding environmental concerns one of them by consuming organic rice and respondents thought the natural balance was sensitive and easily disturbed. This is in line with the study of Poortinga, Steg, & Vlek (2004); Schultz & Zelezny (1998); Vining & Ebreo (1992) which states that higher environmental concerns are associated with acting more pro-environmentally.

The findings of this study also suggest that the value of the biosphere has a positive effect on the WTP of organic rice. This is not in line with the research of Shin et al., (2017) who states that the value of the biosphere did not have a positive effect on the WTP of organic rice. Respondents' perceptions regarding the biosphere's value on the environment were perceived high by respondents, It can be seen from the respondent's average value the majority of respondents answered agree on the surrounding environmental concerns one of them

by consuming organic rice and respondents thought the natural balance was sensitive and easily disturbed.

Ojea and Loureiro (2007) found that environmental attitudes positively influence on the willingness of customers to pay for pro-environmental activities. Previous research also suggested that environmental problems such as the value of the biosphere can affect the willingness to pay consumers directly or indirectly through attitudes (Hansla, Gamble, Juliusson, & G arling, 2008).

Pro-environmental values have a positive effect on willingness to pay more for organic rice. This research is relevant to the research conducted by Shin et al. (2017); Bissing-Olson, Iyer, Fielding, & Zacher (2013); Grunert & Juhl, (1995); Kang et al., (2012); Lee & Yang (2015) that a pro-environmental attitude has a positive impact on consumers' willingness to pay more for organic restaurant menus.

These findings reveal that when customers are concerned about the environment and feel a sense of responsibility for their role in protecting natural resources, they tend to spend more money on organic rice. The pro-environmental attitude in this study as a mediator between the value of the biosphere and the intention to pay more in purchasing organic rice. This finding shows that the pro-environmental attitude of consumers fully mediates the relationship between the value of the biosphere and the willingness to pay more. In particular, consumers' willingness to pay more is an important factor that can reveal buying behavior (Krystallis, Fotopoulos, & Zotos 2006). Overall, the findings of this study support the relationship among general consumer values of sustainability, pro-environmental attitudes, and willingness to pay more for organic rice. These results offer empirical

evidence to support the consumer behavior value model. Important information for all three outlets, especially when selling organic rice is to focus on the target market in determining the success of organic rice marketing.

Hughner, McDonagh, Prothero, Shultz, & Stanton, (2007) state that pro-environmental is one of the most important motives when choosing organic food. Based on the respondents' perceptions on the high pro-environmental values that can be known from organic rice consumed, it does not damage the environment, does not have a potential environmental impact, does not damage natural resources, and is responsible for the environment. This finding is also relevant to previous research which states that consumption of organic food requires a future orientation in which it further increases the predictions of pro-environmental consumer behavior and has a broad and strong impact on community behavior (Zimbardo&Boyd, 2015), and specifically pro-environmental behavior (Gad-Mohsen, 2015; Miniero et al, 2014;. Milfont et al, 2012.).

The willingness to pay more is influenced by the attitude of consumers in buying organic rice, the willingness to pay is assumed to be large enough priority in determining the consumption of organic rice. This finding underlies Vlosk'y et al. (1999); Magnusson et al. (2003), Krystallis& Chryssohoidis (2005), Tsakiridou et al. (2008), Qasim et al. (2019), Van Huy et al. (2019), Fynn-Green et al. (2019), Basha, & Lal (2019) statement that willingness to pay is an important factor in the behavior of consumers consuming organic food. This indicates that the individual's willingness to pay to facilitate the consumption of organic food. WTP was found to be the second strongest factor in decision making consumption individual, is a strong facilitation factor at the same time potential constraints that might limit consumption (Sanne, 2002). Decision making is an effective way to outweigh the impact of high prices and increase willingness to pay is to simply highlight and communicate the benefits of products related to pro-environmental values having an important influence on the decision to pay more in terms of consuming organic rice (Annunziata et al., 2019).

In order to facilitate the consumption of organic food, marketers / producers must review the structure of their production costs, supply chain structure and form of requests to revise their bid prices for organic rice produce to make it more attractive and affordable for consumers and increase in sales volume which can benefit both the parties. This can help to minimize the significant

price gap between organic and conventional rice which limits or blocks the purchase of organic rice. Even though the break-even point on investment capital will be longer or a reduction in marginal profits in the short term, marketers / producers will still make large profits through increasing sales volumes in the long term and have a higher market share in the food industry due to an increasing number of new consumers that shifting from conventional rice to organic rice.

In addition, the responsible government ministries can provide assistance to farmers in many ways including the provision or lending of additional land to successful organic farmers, various input subsidies such as machinery, seeds, etc., training, and monetary assistance. This effort will help to encourage/stimulate large-scale production to achieve economies scale and thus, minimize production costs that promise cheaper or more affordable prices of organic food and increase the supply/availability.

### **Conclusion**

The findings of this study conclude that the pro-environmental attitude of consumers fully mediates the relationship between biosphere value and willingness to pay more for organic rice. pro-environmental behavior aims to reduce or provide solutions to environmental problems. Pro-environmental behavior is related to willingness to pay more for organic rice reflected through the consumption of organic rice which does not damage the environment, cares about damage to natural resources, environmentally responsible by consuming organic rice, and willing to be bothered to take environmentally friendly actions by consuming organic rice.

### **CONFLICT OF INTEREST**

The authors declared that present study was performed in absence of any conflict of interest.

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### **AUTHOR CONTRIBUTIONS**

The article is part of the Dissertation of Doctoral and all the authors have contributed: YZ

as data collection, data analysis and writing manuscript, Prof. DK, Prof BS, and Dr. S, contributed to review of manuscripts

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