

Determinant Analysis Of Effectiveness Factor Of Farmer-Owned Enterprise (Bump) In Farmer Empowerment In Central Java, Indonesia

Tri Cahyo Mardiyanto¹, Sunarru Samsi Hariadi², Krishna Agung Santosa³

¹Students of Doctor in Extension and Development Communication Study Program, Graduate School, Gadjah Mada University of Yogyakarta and staff of the Agriculture of Institute Assessment Technology Central Java, Indonesian Agency for Agricultural Research and Development, Ministry of Agriculture, Indonesia.
Email:tricahyomardiyanto29@gmail.com

²Lecture of Doctor in Extension and Development Communication Study Program, Graduate School, Gadjah Mada University of Yogyakarta, Indonesia.

³Lecture of Doctor in Extension and Development Communication Study Program, Graduate School, Gadjah Mada University of Yogyakarta, Indonesia.

Abstract

Farmers institution is developed under the expectation to be dynamic, robust, and independent to fulfill farmers' needs, improve competitiveness, and support business continuity. In agribusiness context, BUMP (Badan Usaha Milik Petani/Farmer-owned Enterprise) is an institution which covers the production, distribution of farming system production means, storage, processing, and marketing, as well as empowers the farmers by improving their capacity, farming system, environment, and institution. The research is aimed at analyzing the factors (farmers' personality and participation, and stakeholders' role) influencing the effectiveness of BUMP in farmer empowerment in Central Java. It applies quantitative method with respondents of 336 farmers who are involved in BUMP activities and selected using simple random sampling, to further be analyzed using SEM at $\alpha=0.05$.

Research result indicates that stakeholders' role does not influence farmers' participation and BUMP effectiveness in empowering the farmers. Instead, such effectiveness is significantly influenced by farmers' personality, i.e., their motivation, confidence, and participation. The farmers have decent confidence and motivation as well as great participation towards BUMP effectiveness to improve farmers' capacity, environment, institution, and satisfaction of the role of BUMP.

To enhance BUMP effectiveness in the empowerment, other personality of the farmers need to be improved, i.e. farmers' attitude towards BUMP activities in Central Java. Empowering their attitudes will encourage them to participate more actively. In addition, improvement should also be made to BUMP cooperation with stakeholders, such as national and regional governments, universities, and private sectors.

Keywords: effectiveness, farmer-owned enterprise, empowerment, participation

Introduction

Agriculture is a sector that should not to be overlooked, as it will continually be the source of livelihood for most people in Indonesia. Small scale agricultural business hinders the farmers from increasing their incomes and breaking the poverty cycle. Low productivity, limited infrastructure, low accessibility to capital, technology, and market, as well as inadequate capacity of the farmers, add up to difficulties in agricultural development. Such development should have focused not only on agricultural production or fulfillment of national food necessity, but also on improvement of farmers' life. Implicitly, it puts farmers as the subject, instead of object, in agricultural development with their presence as dignified human beings.

Based on Center for Agricultural Data and Information (2017), the area of land used for agriculture in Indonesia in 2015-2016 saw a decrease of 1.92%. In such use, each province has varied area of agricultural land. Based on the Center, still in the same year, agricultural land in Central Java Province (irrigated ricefield, non-irrigated ricefield, and field/farm) is the second largest (9.98%) following East Java Province (13.16%) out of total land area of Indonesia. Data from National Bureau of Statistics and Central Java Bureau of Statistics (2013-2017) shows that development of NTP (Nilai Tukar Petani/Farmers Exchange Rate) in the last 8 years (2013-2020) tends to decrease nationally (Figure 1). Particularly in Central Java, NTP in the last 8 years also saw a decreasing trend (Figure 2).

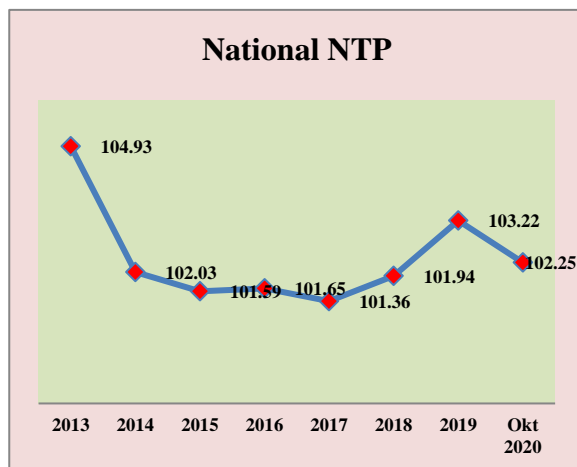


Figure 1. Graph of National NTP development in 2013-October 2020

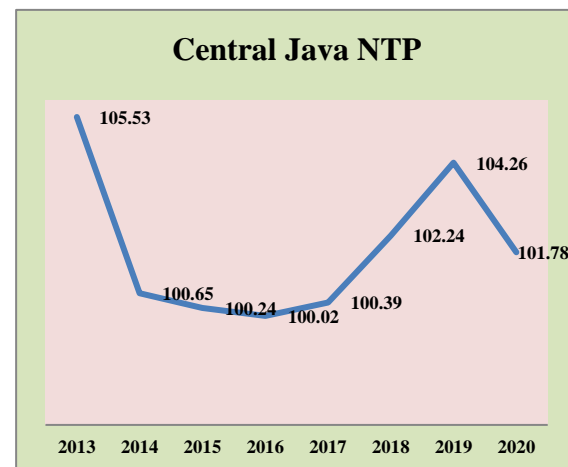


Figure 2. Graph of Central Java NTP development in 2013-2020

The effort to enhance productivity, farming system efficiency, and farmers competitiveness and capacity is conducted by developing an agricultural institution, in this case farmers' economics institution. The fulfillment of farmers' necessities, both their individual and social ones, in limited resource environment requires a developmental strategy oriented at improvement of farmers capability and establishment of robust farmers institution in addition to other agricultural institution. According to Mardikanto (2009), in agricultural development, BUMP is an institutional breakthrough and a hybrid of business and community empowerment institutions. It is professionally profit-oriented on one side and empowerment-oriented on the other side.

The role of stakeholders is required under the condition that their role or intervention is performed proportionally. External party should perform the role of facilitator who provides temporary support, such as assisting to provide guidance, identifying problems, and providing alternatives or possible solution. To support a group/organization, external party should understand its local social economics condition, in order to devise proper and effective goal and support for it (FAO, 1998).

From the above explanation, the research is aimed at describing the factors influencing the effectiveness of BUMP in empowering farmers in Central Java, Indonesia.

Literary Review

Community Empowerment

According to Subejo et al. in Mardikanto (2010a), community empowerment process is a deliberate effort to facilitate local community in planning, determining, and managing local resources through collective action and networking, with the purpose of developing their economical, ecological, and social capability and independence. According to Payne in Adi (2008), empowerment is essentially aimed at assisting the clients to obtain the force to make decision and determine the course of action to be taken in relation to their own selves, including reducing personal and social obstacles in performing the action. This is conducted by improving their capability and confidence to utilize their force by means of force transfer from their surroundings. In short, the objective of community empowerment is to improve the quality of life or welfare of individuals and community, which comprises of betterment in education, accessibility, institution, business, income, environment, living, and community.

Stakeholders play crucial role in the empowerment. They are present in private and public sectors, as well as among civil society (Start andHovland, 2010 inKusumantya, 2013) as Addisu (2018) has focused on determinants of customers' bank selection decision across private and public sectors. Their role usually takes the form of initial intervention as community motivator to participate in community development to build their tenacity. External intervention can encourage the development of change and renewal in community development.

Participation

Participation is the continuously present individual or group's behavior in empowerment. It is one's involvement in an activity as an act to take part in it to gain benefit (Mardikanto, 2007). Community participation in development is highly determined by communication and interaction among individuals within the community. Thus, according to Madrie (1986), determinant factors of community participation in development are environmental and internal factors within each individuals of the community. Koentjaraningrat (2014) specified two main sources (motives) of participation, i.e. internal (within human beings) and external sources. Externally-sourced participation can take form of coercion or stimulation to act in the development. On the other hand, internally-sourced participation is without external coercion and stimulation, and indicates awareness in the development.

In Effendi (1994), Cohen et al. presented that participation is divided into three steps, i.e. (1) participation in decision-making process; (2) participation in activity implementation; and (3) participation in reaping the benefits of development. Slamet (1985) stated that the growth of participation as a concrete action requires three prerequisites, i.e. willingness, capability, and opportunity to participate. According to Mardikanto (2010b), basic exchange principle must be used as a reference to materialize

community participation. Community will participate in the development. When incentive (reinforcement) of a development is likely to be negative and causes punishment and loss, the community is prone to withdraw from the activity. This indicates that community participation inevitably requires identification of their actual necessities, in order that development outcomes can be fully beneficial for them.

Organizational Effectiveness Theory

According to Robbins (1994), organization is a consciously coordinated social entity, with a boundary that can relatively be defined, that works continuously to achieve shared goals. Social entity means the unit consists of a person or a group of people interacting with each other. Organization structure defines task distribution, formal coordination mechanism, and interaction pattern to be followed in order to improve organizational effectiveness. Robbins (2002) specifies that organizational behavior is a discipline which investigates the influence of individual and group/organization, as well as organizational structure towards the behavior of people involved in it, aimed at applying the knowledge in enhancing organizational effectiveness.

In order to have good quality, as a business group/organization, BUMP must have action/force to determine and influence the behavior of a group/organization and its members in achieving their goals effectively. This highly depends on the members' activity and creativity in performing their actions. In other words, group/organizational development depends on its dynamics. Lewin's Field Theory specifies that one's Behavior (B) is a function of a Person (P or Personality) himself and his Environment (E), formulated as $B = f(P, E)$. Further, Lewin applied this theory to group/organization, known as group dynamics theory (Schultz & Schultz, 2011). Group/organizational dynamics is defined as group/organizational action due to the inner and outer forces of them, and those forces mutually influence the process to achieve its goals (Hariadi, 2011; and Johnson and Johnson, 2012).

Gibson, et al. (1994) specifies that effectiveness is an assessment made in relation to the achievements of individual, group, and organization. Slamet (2001) asserted that group/organizational effectiveness is equivalent to group/organization success which tends to enhance group/organization dynamics as seen in the following aspects: (1) group/organization result/productivity to achieve their goals; (2) group/organization moral as seen in the spirit of cooperation and earnestness; and (3) satisfaction level of the members. Hariadi and Hariri (2017) stated that group/organizational effectiveness is the total contribution of all its members, hence the extent of effectiveness equals to the extent of contribution from each individual. There is a view that organizational effectiveness represents individual and group/organization, hence organizational effectiveness not only constitutes, but also greatly relies upon both individual and group/organizational effectiveness. Individual effectiveness is often influenced by one's psychological factor, such as work motivation, attitude, self-confidence, and others.

Method

This research is a survey research using quantitative approach. Research population is farmers involved in BUMP activities in Central Java, i.e. those in Salaman Subdistrict, Magelang District; Ngablak Subdistrict, Magelang District; Kledung Subdistrict, Temanggung District; and Jatipurno Subdistrict, Wonogiri District. Research location is selected purposively based on the distribution of BUMP institutions in Central Java which are present only in those 4 locations. There are 2,100 farmers involved in BUMP in Central Java. Slovin formula is applied to obtain samples depicting and

representing the population. Afterwards, sample amount for each location is calculated proportionally (Sugiyono, 2009), resulting in samples of 336 farmers collected using simple random sampling.

Data is collected by means of observation and interview. The collected data is transformed into data with interval scale using Likert scale. Afterwards, it is analyzed using SEM (Structural Equation Modeling). Hypothetical test is conducted with $\alpha=0.05$ as follows:

Hypotheses:

Ho: SEM model corresponds to field condition

Ha: SEM model does not correspond to field condition

Notes:

Hypothesis Ho is accepted if prob value > 0.05

Hypothesis Ha is accepted if prob value ≤ 0.05

SEM model comprises of 4 (four) construct variables and 13 (thirteen) indicator variables. Four construct variables are composed of stakeholders' role, farmers' personality, farmers' participation, and BUMP effectiveness in empowering the farmers. Indicator variables consists of agriculture instructor's role, facilitator's role, village administrator's role, farmers' attitude, farmers' motivation, farmers' self-confidence, material participation, immaterial participation, improvement of farmers' HR capacity, improvement of farming system capacity, improvement of environment capacity, improvement of institutional capacity, and farmers' satisfaction of BUMP role. Result of initial analysis indicates that data is not normally distributed among all respondents.

Analysis is proceeded by removing 94 outlier respondents, resulting in 242 farmer respondents, further rendering the data to be normally distributed. According to Haryono and Wardoyo (2013), SEM analysis requires large amount of samples in the range of 100-400. Raw data collected in the research uses Likert scale for all variables ($X_1, X_2, X_3, X_4, X_5, X_6, Y_1, Y_2, Y_3, Y_4, Y_5, Y_6, Y_7$), and is processed through value determination step of Likert scale with normal deviation, to obtain research data with interval scale.

Results and Discussion

Based on normality assessment on AMOS output, it is found that CR kurtosis multivariate value is 1.663. It is within the range of ± 2.58 , thus the data meets the condition of normal distribution in multivariate manner. Analysis of structural model by means of SEM analysis is conducted to assess stakeholders' role, farmers' personality and participation towards BUMP effectiveness in empowering farmers illustrated theoretically in SEM diagram.

Initial analysis applies SEM, which results in probability value of lower than $\alpha = 0.5$, hence H_a is accepted. This means that SEM model does not correspond to field condition. Afterwards, in order to meet the criteria of Goodness of Fit Index (Waluyo, 2011 and Gozali, 2014), model modification is applied by including agricultural instructor's role to construct variable of farmers' personality as an indicator of farmers perception towards the role of the instructor. On the other hand, indicators of facilitator's and village administrator's role are removed to obtain Fit Model. The resulted prob value from the analysis is 0.157 (greater than $\alpha = 0.5$), thus the SEM model (Fit Model) as illustrated in Figure 3.

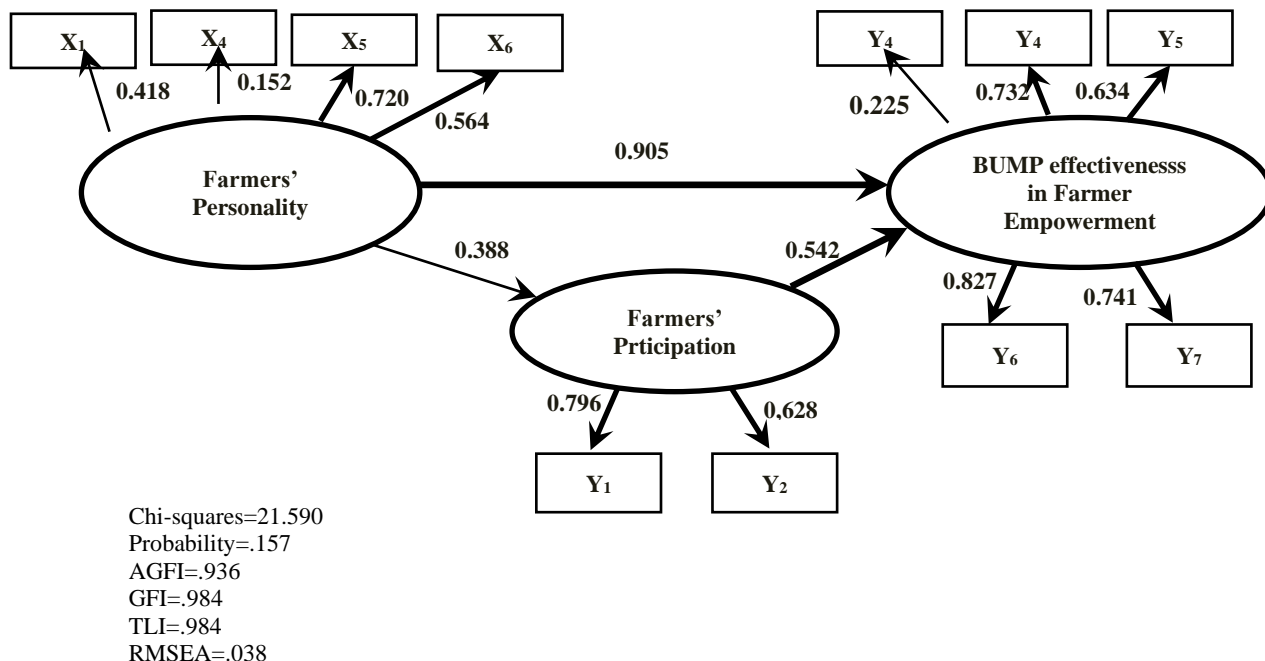


Figure3. Fit Model of Determinant Analysis of BUMP Effectiveness Factor in Farmer Empowerment in Central Java (simplified)

Notes:

- X₁ : Farmers' Perception towards Agricultural Instructor's Role
- X₄ : Farmers' Attitude
- X₅ : Work Motivation
- X₆ : Self-Confidence
- Y₁ : Material Participation
- Y₂ : Immaterial Participation
- Y₃ : Improvement of Farmers' HR Capacity
- Y₄ : Improvement of Farming System Capacity
- Y₅ : Improvement of Environment Capacity
- Y₆ : Improvement of Institutional Capacity
- Y₇ : Farmers' Satisfaction towards BUMP Role

Table. 1. Loading Factor (λ) Value of Indicator Standards Based on Standardized Regression Weights Parameter

Reflective Indicators	Loading Factor (λ) Value
Farmers' Perception towards Agriculture Instructor's Role (X ₁)	← Farmers' Personality 0.418
Farmers' Attitude (X ₄)	← Farmers' Personality 0.152
Farmers' Work Motivation (X ₅)	← Farmers' Personality 0.720
Farmers' Self-Confidence (X ₆)	← Farmers' Personality 0.564
Material Participation (Y ₁)	← Farmers' Participation 0.796
Immaterial Participation (Y ₂)	← BUMP Effectiveness 0.628
Improvement of Farmers' HR Capacity (Y ₃)	← BUMP Effectiveness 0.225
Improvement of Farming System Capacity (Y ₄)	← BUMP Effectiveness 0.732
Improvement of Environment Capacity (Y ₅)	← BUMP Effectiveness 0.634
Improvement of Institutional Capacity (Y ₆)	← BUMP Effectiveness 0.827

Farmers' Satisfaction towards BUMP Role (Y ₇)	← BUMP Effectiveness	0.741
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Source: Primary Data Analysis (2020)

Table 2. Regression Weights: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
Farmers' Participation	← Farmers' Personality	2.882	1.452	1.985	.047	par_10
BUMP Effectiveness	← Farmers' Participation	.661	.135	4.888	***	par_7
BUMP Effectiveness	← Farmers' Personality	8.209	3.468	2.367	.018	par_9
Y ₁	← Farmers' Participation	1.000				
Y ₂	← Farmers' Participation	.935	.114	8.203	***	par_1
X ₄	← Farmers' Personality	1.000				
X ₅	← Farmers' Personality	4.036	1.655	2.439	.015	par_2
X ₆	← Farmers' Personality	4.183	1.794	2.332	.020	par_3
Y ₇	← BUMP Effectiveness	1.000				
Y ₆	← BUMP Effectiveness	.947	.092	10.256	***	par_4
Y ₅	← BUMP Effectiveness	.528	.057	9.286	***	par_5
Y ₄	← BUMP Effectiveness	.638	.068	9.384	***	par_6
X ₁	← Farmers' Personality	5.028	2.141	2.349	.019	par_8
Y ₃	← BUMP Effectiveness	.143	.040	3.601	***	par_35

Source: Primary Data Analysis (2010)

Table 3. Standardized Regression Weights: (Group number 1 - Default model)

		Estimate
Farmers' Participation	← Farmers' Personality	.388
BUMP Effectiveness	← Farmers' Participation	.542
BUMP Effectiveness	← Farmers' Personality	.905
Y ₁	← Farmers' Participation	.796
Y ₂	← Farmers' Participation	.628
X ₄	← Farmers' Personality	.152
X ₅	← Farmers' Personality	.720
X ₆	← Farmers' Personality	.564
Y ₇	← BUMP Effectiveness	.741
Y ₆	← BUMP Effectiveness	.827
Y ₅	← BUMP Effectiveness	.634
Y ₄	← BUMP Effectiveness	.732
X ₁	← Farmers' Personality	.418
Y ₃	← BUMP Effectiveness	.225

Source: Primary Data Analysis(2020)

Result of Compatibility Test SEM Model Full Final Modification

Table4. Result of Goodness of Fit Test Based on Goodness of Fit Index Criteria

No	Goodness of Fit Index	Cut off Value	Analysis Result	Criteria
1	Df	≥ 0	16	Over Identified (Good Fit)
2	Chi-square (X^2)	> 0.05	21.590	Good Fit
3	Probability	< 2.00	0.157	Good Fit
4	CMIN/DF	≤ 0.08	1.349	Good Fit
5	RMSEA	≥ 0.09	0.038	Good Fit
6	GFI	≥ 0.09	0.984	Good Fit
7	AGFI	≥ 0.09	0.936	Good Fit
8	TLI	≥ 0.09	0.984	Good Fit
9	CFI		0.995	Good Fit

Source: Primary Data Analysis (2020)

Table 5. Direct, Indirect, and Total Influences

Influence Type	Value
Direct Influence	
Farmers' Personality →BUMP Effectiveness	0.905
Farmers' Personality→Farmers' Participation	0.388
Farmers' Participation→BUMP Effectiveness	0.542
Indirect Influence	
Farmers' Personality→Farmers' Participation→BUMP Effectiveness	0.210
Total Influence	
Farmers' Personality→BUMP Effectiveness	0.905
Farmers' Personality→Farmers' Participation→BUMP Effectiveness	0.210

Source: Primary Data Analysis (2020)

Based on Table 1, calculation result from Standardized Regression Weights in relation to parameter towards analysis result model, it is found that according to the parameter, indicators X_4 , X_5 , Y_1 , Y_2 , Y_4 , Y_5 , Y_6 , and Y_7 are valid due to their standard loading factor values (λ) of > 0.5 , while X_1 , X_4 , dan Y_3 are not valid due to their standard loading factor values (λ) of < 0.5 .

Based on Figure 3 and Table 3, it can be seen that farmers' personality as a variable does not directly influence farmers' participation in the activities of Central Java BUMP. As seen in the Standardized Regression Weights, the influence of farmers' personality towards farmers' participation is 0.388. It indicates that farmers' personality quite significantly influences farmers' participation in a positive manner, and it can be said that every increase of an aspect of farmers' personality values (farmers' motivation, self-confidence, attitude, and perception towards agriculture instructor's role) can enhance farmers' participation of 0.388. As farmers' motivation, self-confidence, attitude, and perception towards agriculture instructor's role increases, their participation in the activities of Central Java BUMP also enhances.

Table 3 signifies that both farmers' motivation and self-confidence evidently influence as indicators in measuring farmers' personality due to their loading factor (λ) values of 0.720 and 0.564, respectively. On the other hand, farmers' attitude and perception towards agriculture instructor's role

shows less evident influence as indicators in measuring farmers' personality with their low loading factor (λ) values of 0.152 and 0.418, respectively. The above measurement indicates that BUMP effectiveness in empowering farmers in Central Java is highly influenced by farmers' effectiveness in performing their duties as members. This is in line with the statement of Hariadi and Hairi (2017), that group/organizational effectiveness is the total of its members' contributions, thus the extent of effectiveness equals to the extent of contribution from each individual.

Conclusion

Farmers' work motivation and self-confidence as the elements of farmers' personality variable directly influence BUMP effectiveness in empowering farmers in Central Java. However, such variable does not directly influence farmers' participation in BUMP activities. Instead, it directly influences BUMP effectiveness in empowering farmers in Central Java.

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