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## RESEARCH ARTICLE

### MODEL OF THE RELATIONSHIP BETWEEN INTERNAL FACTORS TO CHANGE THE BEHAVIOR OF ORGANIC RICE FARMERS IN SRAGEN DISTRICT

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#### ABSTRACT

This research examined the influence of internal factors on the behavior of organic rice farmers in Sragen. Research using quantitative methods. The results of this research are described qualitatively. Relationships model between variables are described in qualitative descriptive. Hypothesis test by using path analysis program employing methods Amos SEM. Internal factors influence model on behavior are (1)  $Y_{P1} = 0.51 X_V + 1.12X_D$ ; (2)  $Y_{P2} = 0.32X_V + 0.26X_D$ ; (3)  $Y_{P3} = 0.59X_D$  where:  $Y_{P1}$  = knowledge,  $Y_{P2}$  = increase in ownership of assets of economic value,  $Y_{P3}$  = satisfaction as the organic rice farmer,  $X_V$  = personal motivation to make changes,  $X_D$  = supporting force to continue to make changes. Contributions supporting force to continue to make changes ( $X_D$ ) 1.12 is greater than the contribution of personal motivation to make changes ( $X_V$ ) 0.51 to behavioral change in the form of knowledge. Contributions personal motivation for change ( $X_V$ ) of 0.32 is greater than the contribution of the supporting force to continue to make changes ( $X_D$ ) 0.26 to behavioral change in the form of attitude. Internal factors that influence behavioral change in the form of attitude is supporting force to continue to make changes ( $X_D$ ) 0.59.

#### INTRODUCTION

Behavior is an act or activity or any response to both the reaction, response, reply, or reply by an organism. In particular understanding, the behavior is part of a whole pattern of reactions. Individuals will do something because there are causes, (Chaplin, 1995). The cause of the behavior (Ajzen, 1988), among others if the person gave a positive assessment on the behavior and believes that others have urgency for him and is willing to do that behavior. According to (Bloom, 1908), an expert in psychology education, human behavior is complex, and has a very broad scope. He divides behavior into three domains (domains / regions), ie the cognitive (knowledge), affective (attitude), and psychomotor (skills). Bandura, 1986, the farmer's behavior is influenced by two factors, namely internal and external. The internal factor is a personal situation of farmers, while external factors include the state of the physical environment, social environment and culture, and the kinds of institutional activity, capital and markets. According (Lippitt, Westley, & Jeanne Watson, 1958), some internal factors that influence the effectiveness of counseling that includes personal motivation for change, the forces of support to (continue to) make changes, the forces that inhibiting change. Personal motivation to make changes that support some one to change lives for the better.

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The forces supporting to (continue to) make the changes that the forces pushing for change that exist in a person including innovation characteristics, characteristics of potential users (attitudes, interests, perceptions), in decision making adoption, channel or media used, the innovation carrier qualification, the innovation carrier ability to communicate, the carrier attitude of innovation, the ability of the innovation carrier knowledge, and socio-cultural characteristics of the innovation carrier. The forces that inhibit the change that is the fear of failure in implementing a program of change that is made up of fear / trauma of the past in the form of the failure, lack of knowledge / skills / funds / experience in implementing change, fear of decreasing satisfaction has been perceived, whether accepted or not the activities in the community, and the threats from outsiders. Sragen is an area that is successful in implementing organic farming, especially organic rice. Development of organic rice in Sragen started when Soetjipto, farmers from Gringging village residents, Gondang Sragen, 1984 pioneered the use of manure to plant rice and a little urea fertilizer. The achievements productions in this cultivation were pretty good. Furthermore, starting with Reviews their SLPTT program (Integrated Crop Management Field School) in 1989, Followed SLPTT Program funded by the World Education through NGOs LPTP (Rural Technology Development Organization) Surakarta in 1991. The principle of IPM (Integrated Pest Management), Among others : healthy crop cultivation and preservation of natural enemies, also emphasizes the use of organic fertilizer is Carried out in the Gawan village, Tanon

District, Sragen. ut organic arming is not growing as expected, because it is located on the banks of the Bengawan Solo river. Later in 2001 growing issue of "back to the nature", in which until now no other leads to organic farming. Almost all discourse developed to try back in conventional agriculture that relies on chemical fertilizers and pesticides. Pioneering organic rice planting was done Also some farmers in the village of Tunggul, Gondang District, also in Sukorejo and Jeti village, Sambirejo District, Sragen. New era in 2002, currently led Sragen Regent by Untung Wiyono, organic farming developing again. Sragen is one of the districts that consistent for developing organic technology. Starting in 2003, Sragen Regent Untung Wiyono, S.H, organic farming Launched in Sragen. This was Followed by the launching of the villages and began to develop more organic farming, training, extension and farmers to develop organic technology.

On May 15, 2007 established the Organic Growers Association (APO) appointed by the Sragen Regent leader Untung Wiyono, S.H, housed in the pavilion regent's official residence. In the first year in practice are trying to focus more on marketing of organic rice mainly open new market network in Jakarta, Bogor, Medan and Semarang. In line with increasing global trade of organic agricultural products as well as increasing demands for quality assurance of products, the required system standard production, post-harvest handling systems, labeling, and marketing. Standardization of organic rice in Sragen existing certification from the Institute of Organic Certification INOFICE with Verification Number: Okpo-LS-003 and REG No: 013 / INOFICE / 2008. Government encourages Sucofindo certified organic rice products. Farmers entitled to put the logo "organic" on the packaging marketed and meet the Indonesian National Standard (SNI). Each product is certified organic must record detailed organic products (farm records). Sragen government has had a business entity that specifically accommodate and market organic rice produced by farmers (Farmers), PD. PAL (Pioneer Trading Company Alam Lestari), while the private sector were accommodating and market organic rice is P.B. Padi Mulya and Organic Farmers Association (APO).

Changes in behavior of organic rice farmers in Sragen arise because of the negative impact of the green revolution. Excessive land exploitation in the long term without a balanced organic matter into the soil, has led to depletion of nutrients from the soil (Atmojo, 2003; Sattler & Nagel, 2010). To improve the condition of the soil, then there is no other way except by applying organic farming systems (Reijntjes, Haverkort, & Bayer, 1992). The basic concept back to nature is to use a variety of biomass (Hairiah, 2002). To change the behavior of conventional farmers to organic farmers in regions: Asia, Africa, China, and the Netherlands it can be done fairly easily when farmers know for sure that the goal of organic agriculture is obvious. Increased confidence of farmers in question are in the region: (1) Netherlands (Acs, Berentsen, Huirne, & van Asseldonk, 2009), (2) Oya Nigeria (Ajewole, 2010), (3) Chimaltenango in Guatemala (Oleas, Dooley, Shinn, & Giusti, 2010) , (4) Northern Thailand (Jierwiriapant, Liangphansakul, Chulaphun, & Pichaya-satrapongs, 2012), (5) the Czech Republic (Mala & Michal, 2013). (Suryono, Karsidi, Wijaya, & Rahayu, 2016), not all internal factors influence the change of behavior of conventional rice farmers to organic rice farmers in Sragen.

Internal factors affecting it are: (a) motivation positive effect on knowledge and attitudes; (b) supporting factors positive effect on knowledge, attitudes, and skills. Internal factors which do not affect: (a) the motivation is not influencing skills; (b) the power of inhibiting the change does not affect the knowledge, attitudes and skills. Based on the above need to be analyzed / modeled the relationship between internal factors to change the behavior of organic rice farmers in Sragen.

## METHODOLOGY

Quantitative research methods. The results of the research are described qualitatively. Relationships between variables the model described by descriptive qualitative. Based on the results of a survey in nine districts that implement organic farming, had lived in Sambirejo District consisting of three villages namely Jetis, Jambeyan, and Sukorejo Villages. Data from the survey of farmers' groups, Jetis there are two groups of farmers that Tani Lestari (32 farmers) and Tani Makmur (47 farmers); Jambeyan village there are two groups of farmers that Sejahtera (61 farmers) and Suko Makmur (61 farmers); in Sukorejo there are five farmer groups that Margo Rukun 1 (50 farmers), Margo Rukun 2 (42 farmers), Gemah Ripah (74 farmers), Sri Rejeki (80 farmers), Sri Makmur (78 farmers); The research sample is drawn proportionally from the number of samples in the three villages of organic rice production center is the village of Jambeyan 28 farmers, Jetis 22 farmers and 80 farmer from Sukorejo.

To achieve the objectives tested primary variables (internal factors and behaviors), divided into six variables: (1) Factors personal circumstances farmers perceived by farmers to make changes consist of: (a) the personal motivation to be better ( $X_V$ ), (b) the supporting force for change as jurutani ( $X_D$ ), (c) the power that inhibits the change ( $X_H$ ); (2) The behavior is a response or a person's reaction to the stimulus (stimuli from the outside) that either: (a) knowledge ( $X_{P1}$ ), (b) the attitude ( $X_{P2}$ ), (c) skills ( $X_{P3}$ ) The hypothesis was tested using path analysis program that uses Amos SEM value ( $p$ )  $<0.01$  highly significant;  $0.01 < p < 0.05$  significantly different;  $p > 0.5$  not significant.

## RESULTS AND DISCUSSION

### The results of analysis of the influence of internal / personal circumstances of the behavior of organic rice farmers

Based on the analysis path analysis (path analysis) using a program that uses Amos SEM methods (Structural Equation Modeling) obtained Figure 1.

### Model the influence of internal / personal circumstances of the behavior of organic rice farmers

Based on the results of SEM analysis of the figures that we lose less than 0.5 (not significant) and not significantly different factors are also eliminated, thus obtained empowerment model that can support the success of the business such as the organic rice farming in Figure 2. From Figure 2. The above-mentioned model equations obtained internal factors influence on behavior :  $Y_{P1} =$

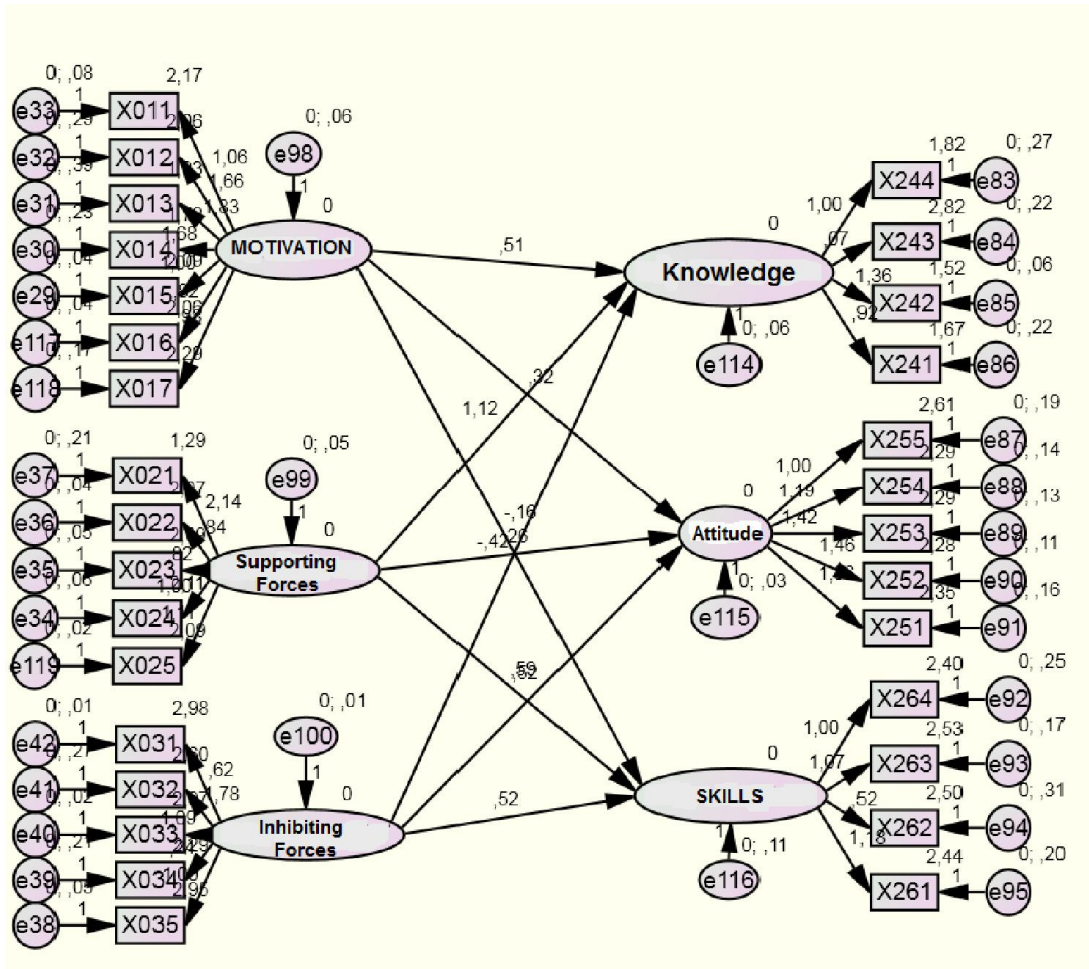


Figure 1. Results of the analysis of the internal influence / personal circumstances of the behavior of organic rice farmers using a program that uses Amos SEM methods (Structural Equation Modeling)

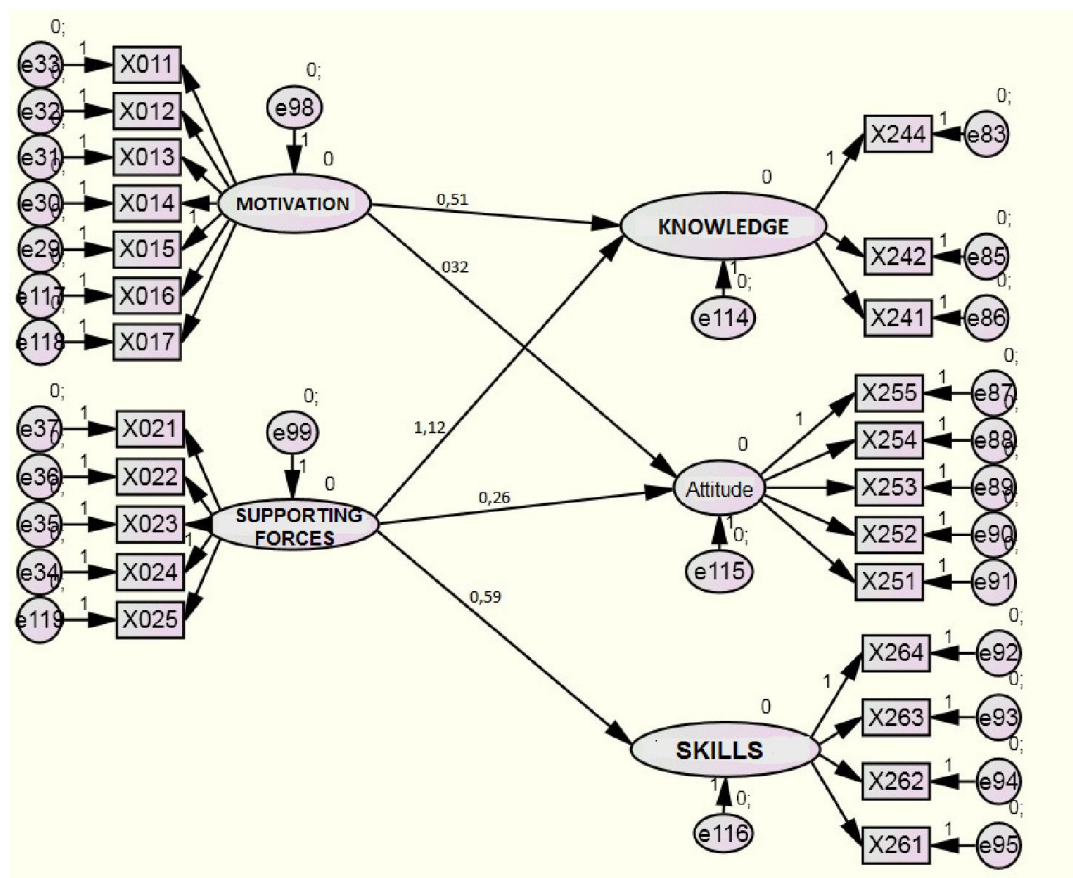


Figure 2. Model of internal factors influences to behavioral change

$$0.51 X_V + 1,12X_D \quad (\text{Equation 1})$$

$$Y_{P2} = 0,32X_V + 0,26X_D \quad (\text{Equation 2})$$

$$Y_{P3} = 0,59X_D \quad (\text{Equation 3})$$

Information :  $Y_{P1}$  = knowledge

$Y_{P2}$  = increase in ownership of assets of economic value

$Y_{P3}$  = satisfaction as the farmers of organic rice

$X_V$  = personal motivation to make changes

$X_D$  = forces supporters to continue to make changes

The equation 1 : supporting forces contribution to continue to make changes ( $X_D$ ) 1.12 is greater than the contribution of personal motivation to make changes ( $X_V$ ) 0.51 to behavioral change in the form of knowledge. Contributions of personal motivation for change ( $X_V$ ) of 0.32 is greater than the contribution of forces supporters to continue to make changes ( $X_D$ ) 0.26 to behavioral change that form of attitudes (equation 2). Internal factors that influence behavioral changes such attitude is the strength of support to continue to make changes ( $X_D$ ) 0.59 (Equation 3).  $X_V$  (personal motivation to make changes) consists of a feeling of misery over the circumstances being experienced ( $X_{Vd}$ ) and dissatisfaction with the state of the experienced ( $X_{Vp}$ ). Feeling the suffering of circumstance ( $X_{Vd}$ ) experienced consisting of natural conditions (soil fertility / soil), crop productivity, income. Of the three factors feeling of misery over the circumstances being experienced, all of whom have real impact on behavior change, so the feeling of suffering over the situation that is being experienced is composed of natural conditions (soil fertility / soil) ( $X_{Vda}$ ), plant productivity ( $X_{Vdp}$ ), and income ( $X_{Vdd}$ ).

Dissatisfaction with the situation experienced ( $X_{Vp}$ ) consists of the productivity gap achieved by research institutions with what has been achieved, the gap between the level of income that he was able to accomplish compared with the income of farmers in other areas that have the potential of natural relatively equal, technological developments and psychological demands in accordance with the development of civilization, economic, and social environment. Of these four factors are all striving apparent to behavioral change, so that dissatisfaction with the situation experienced ( $X_{Vp}$ ) consists of the productivity gap achieved by research institutions with what has been achieved ( $X_{Vpp}$ ), the gap between the level of income that he was able to accomplish compared with income of farmers in other areas with relatively similar natural potential ( $X_{Vpa}$ ), and technological developments, and psychological demands in accordance with the development of civilization, economic, and social environment ( $X_{Vps}$ ).  $X_D$  (forces supporters to continue to make changes) consists of a channel or medium used ( $X_{DM}$ ) and qualification of innovation carrier ( $X_{DK}$ ). Channel or medium used ( $X_{DM}$ ) consists of a wide / type of channel or medium used which significantly affect behavior change, so that the channel or medium used ( $X_{DM}$ ) is composed of a wide / type of channel or medium used ( $X_{Dms}$ ). Innovation carrier qualifications ( $X_{DK}$ ) consists of the ability to communicate, attitude innovation carrier, ability of the innovation carrier knowledge, and socio-cultural characteristics of innovation carrier.

Of these four factors, all influenced to the behavioral change so that qualifying innovation carrier ( $X_{DK}$ ) consists of the ability to communicate ( $X_{DKm}$ ), the attitude of the innovation carrier ( $X_{DKs}$ ), a working knowledge of the innovation carrier ( $X_{DKp}$ ), and the characteristics of the socio-cultural carrier of innovation ( $X_{DKk}$ ).

## Conclusion

- It found model of the relationship between internal and external factors on behavior:

$$Y_{P1} = 0.51 X_V + 1,12X_D$$

$$Y_{P2} = 0,32X_V + 0,26X_D$$

$$Y_{P3} = 0,59X_D$$

Information :  $Y_{P1}$  = knowledge;  $Y_{P2}$  = increase in ownership of assets of economic value;  $Y_{P3}$  = satisfaction as the faemers of organic rice;  $X_V$  = personal motivation to make changes;  $X_D$  = forces supporters to continue to make changes

- Contributions of supporting forces to continue to make changes ( $X_D$ ) 1.12 is greater than the contribution of personal motivation to make changes ( $X_V$ ) 0.51 to behavioral change in the form of knowledge.
- Contributions personal motivation for change ( $X_V$ ) 0.32 is greater than the contribution of forces supporters to continue to make changes ( $X_D$ ) 0.26 to behavioral change that form of attitudes.
- Internal factors that influence behavioral changes such attitude is the strength of support to continue to make changes ( $X_D$ ) 0.59.

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## REFERENCES

- Acs, S., Berentsen, P., Huirne, R. & van Asseldonk, M. 2009. Effect of yield and price risk on conversion from conventional to organic farming. *Australian Journal of Agricultural and Resource Economics*, 53(3), 393–411. <http://doi.org/10.1111/j.1467-8489.2009.00458.x>
- Ajewole, O. C. 2010. Farmer's response to adoption of commercially available organic fertilizers in Oyo state, Nigeria. *African Journal of Agricultural Research*, 5(18), 2497–2503. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-78449288520&partnerID=tZOtx3y1>
- Ajzen, I. 1988. *Attitudes, Personality, and Behavior*. Milton Keynes: Open University Press.
- Atmojo, S. W. 2003. *Peranan Bahan Organik Terhadap Kesuburan Tanah Dan Upaya Pengelolaannya*. Surakarta: Pidato Pengukuhan Guru Besar Ilmu Kesuburan Tanah Fakultas Pertanian Universitas Sebelas Maret.
- Bloom, B. S. 1908. *Taxonomy of Educational Objectives : The Classification of Educational Goals, Handbook I Cognitive Domain*. New York: Longmans, Green and Co.
- Chaplin, J. P. 1995. *Dictionary of Psychology*. Dell Pub. Co.

- Hairiah, K. 2002. *Pertanian Organik: Suatu Harapan Atau Tantangan*. Malang: Jurusan Tanah. Fakultas Pertanian Universitas Brawijaya.
- Jierwiryapant, P., Liangphansakul, O. A., Chulaphun, W., & Pichaya-satrapongs, T. 2012. Factors affecting organic rice production adoption of farmers in Northern Thailand. *Chiang Mai University Journal of Natural Sciences*, 11(1 SPECIAL ISSUE), 327–333. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-84872357598&partnerID=tZOtx3y1>
- Lippitt, R., Westley, B., & Jeanne Watson, B. 1958. *The Dynamics of Planned Change*. New York: Harcourt Brace.
- Mala, Z., & Michal, M. 2013. The determinants of adopting organic farming practices: a case study in the Czech Republic. *Agricultural Economics*. Retrieved from [https://www.researchgate.net/profile/Zdenka\\_Zakova\\_Kroupova/publication/268978163\\_The\\_determinants\\_of\\_adopting\\_organic\\_farming\\_practices\\_a\\_case\\_study\\_in\\_the\\_Czech\\_Republic/links/547c49a30cf293e2da2da46a.pdf](https://www.researchgate.net/profile/Zdenka_Zakova_Kroupova/publication/268978163_The_determinants_of_adopting_organic_farming_practices_a_case_study_in_the_Czech_Republic/links/547c49a30cf293e2da2da46a.pdf)
- Oleas, C., Dooley, K. E., Shinn, G. C., & Giusti, C. 2010. A case study of the diffusion of agricultural innovations in Chimaltenango, Guatemala. *Journal of International Agricultural and Extension Education*, 17(2), 33–45. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-79960735185&partnerID=tZOtx3y1>
- Reijntjes, C., Haverkort, B., & Bayer, W. 1992. *Pertanian Masa Depan. Pengantar Untuk Pertanian Berkelanjutan Dengan Input Luar Rendah*. (Y. Sukoco, Ed.). Yogyakarta: Kanisius.
- Sattler, C., & Nagel, U. 2010. Factors affecting farmers' acceptance of conservation measures—a case study from north-eastern Germany. *Land Use Policy*. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0264837708000252>
- Suryono, S., Karsidi, R., Wijaya, M., & Rahayu, E. 2016. The Influence of Personal Factors to Changes in The Behavior of Organic Rice Farmers in Sragen District. *International Journal Of Scientific Research and Education*. Retrieved from <http://ijsae.in/ijsaeems/index.php/ijsae/article/view/1297>

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