The Effect of Dry Land Governance in Madura Island in Islamic Perspective

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Abstract: ***The objectives of this study was to test and analyze the influence of exogenous variables Dry Land Management on indigenous variable s Agricultural Productivity of Dry Land and Absorbed Workforce and People's Welfare in Madura Island in Islamic perspective. The test analysis tools used is Kasyf/Intuitive analysis, integrated Shar'i qualitative with Smart-Partial Least Square, then the abstract can be compiled as below: Dry Land Governance has a positive and significant effect on Agricultural Productivity of Dry Land but has a positive and insignificant effect on Absorbed Workforce, it also has a negative and significant effect on People's Welfare in Madura Island. Whereas the Absorbed Workforce has a negative and insignificant effect on Agricultural Productivity of Dry Land and has a negative and insignificant effect on People's Welfare in Madura Island. The result of the study proves the enactment of the law of diminishing return, where the total of Absorbed Workforce is increasing but the productivity is decreasing. This study also proves that the multidisciplinary and dynamic modification model of Ibn Khladun has been applied to the activity of dryland agriculture in Madura Island, along with that, Zadjuli theory about line of poverty and prosperity can be applied to measure the level of welfare in Madura Island, so it can be said that Dry Land Governance is not yet kaffa according to Islamic law. Based on the intuitive or kasyf analysis, proved that Dry Land Governance in Madura Island has been unsuitable to Koran Al A'raf verse 56-57 but the low rainfall level in Madura Island as the shadow of rainfall in East Java mainland is suitable to Koran Al Baqarah verse 265.***

Keywords: dry land governance, agricultural productivity of dry land, absorbed labor

I. INTRODUCTION

The condition of the welfare of the people in East Java Province is based on employment conditions, the welfare of the rural community and the poverty profile show little improvement although it is still limited (Utomo et al., 2011). On the labor side, there was a decline in the unemployment rate in East Java from 4.31% in February 2015 to 4.14% in February 2016 (Ginting et al., 2018). Among the districts or cities categorized are left behind or not yet prosperous in East Java Province, partly in the territory of Madura Island (Buchori et al., 2017). The conditions of economic growth in Madura had fluctuations, but in 2011-2013 there was a difference in growth. Economic acceleration in East Java is relatively stagnant or decline (slowdown), but the districts in Madura (except Sampang) are still experiencing economic acceleration.

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Agricultural sector contributions are first in Madura from 2010-2014 with an average percentage of 29.25 percent, but if more closely observed it will be seen that the percentage of its contribution value tends to decline (Buchori et al., 2017).

The composition of 80 percent of all land in Madura is dry land. Agricultural activities conducted in Madura are more dominant in dry land (Kapa et al., 2018). The dry ecology still influences the economic activities undertaken by the Madurese. Thus, the agricultural activity of rice crops, especially rice, can only be done on relatively limited land area. Paddy planting can only be done during the rainy season. This is done to ensure adequate irrigation needs in Madura. Irrigation systems need to be addressed to increase rice production due to the limited supply of water in the mainland of Madura.

One of the problems in agriculture in Indonesia is the problem of agricultural land. According to Rahman (2017), there are five land issues in Indonesia, namely: the first, the narrower range of smallholder land ownership, making it difficult to support the farmer's family life. Secondly, land productivity decreases continuously, due to over-intensification and continuous use of chemical fertilizers. Third, the overgrowth of land conversion (conversion) for non-agricultural purposes, for industrial (factory) and settlement purposes. Fourth, there is no optimal implementation of commodity mapping related to agroecosystems. Fifth, there is still a lot of idle lands (Buchori et al., 2017; Kapa et al., 2018).

The dominant plants on the dry land in Madura are maize plants, where maize plants only require smaller irrigation when compared to rice plants. Besides maize plants, other types of plants can be planted in the area of the field such as cassava, beans, soybeans, tubers, and tobacco. In Madura Island, the agricultural sector is just a folk farm. In essence, Madurese farmers cultivate food crops for their own livelihoods, but rice and maize yields are inadequate to the farmers' daily needs. This makes farmers throughout Madura try to increase their income by planting fruit trees. In contrast to Java whose agriculture is dominant in paddy fields, agriculture in Madura is largely carried out on dry land. Dominant farming in farming has not undergone change despite the government's policy to issue development in the agricultural sector such as the development of irrigation systems. Paddy field with technical irrigation in Madura remains the same, which is still narrow and limited. The increase in rice production program did not bring much influence to the agricultural sector in Madura, especially in rice production.

Thus, the purpose of this study is to test and to analyze the influence of exogenous variable Dry Land Management on indigenous variables Agricultural Productivity of Dry Land and Absorbed Workforce and People's Welfare in Madura Island in Islamic perspective.

II. LITERATURE REVIEW

Agricultural governance has reported in several works. Based on previous studies, Plummer et al. (2011) describe that Land Governance is a physical integration. Planning for land use and management is the best way to do it. In the initial stage, land inventory potential should include an inventory of physical potential, diversity of genetic resources, climate, biota, and water content. Bezemer et al. (2008) reported that the productivity of agricultural land with the aim of knowing the impact of agricultural research on agricultural productivity growth that ultimately impacts on poverty reduction in Africa, Asia, and Latin America. An Piya, Kiminami, and Yagi (2011) examine the productivity of agricultural land in South Asia and Southeast Asia. Sudaryanto, et al (2002) has examined the factors causing the decline in productivity of paddy commodities business as the main commodities of food crops due to the absence of significant rice technology breakthrough.

In the Islamic perspective, agricultural activity is one of the noble and recommended jobs (Ali et al., 2008). The strategic role of the agricultural sector can be seen from the sources of public food sources, as well as a source of income for farmers. Activities in this field are one of the easy ways to get the reward. The importance of agriculture in the view of Islam can be seen in many verses of the Qur'an that mention about the yield of fruits and fruits of various types and specifications (Marwat et al., 2009). Fielke et al.(2015)demonstrated the territorial dissimilarity and suggestions for farming manageability caused by such a strategy demonstrate and reviewed ranchers in two South Australian contextual investigation locales, the abutting peri-urban Barossa-Light district, and the provincial region of Loxton. Armaset al. (2012) evaluated the patterns and development of open spending in the agriculture part in Indonesia, just as the effect of open spending on rural development. Wijaya et al.(2016) discussed about another advancement in the connections between private supportability measures and governments as it looks at how the Indonesian government, a precursor in this field, reacts to the private affirmation of palm oil. McCarthy et al. (2012) presented examinations procedures of oil palm improvement in three oil palm areas. It thinks about how strategy models, routine interests, and agribusiness techniques shape neighborhood creation systems, produce nearby results, and influence the potential outcomes of handling issues related with this blast. Mangunjaya et al. (2012) reported that the creators contend that while state-supported endeavors to protect Indonesia's common assets have been required, their adequacy has been constrained because of the scarcity of accessible arable land and the regular clashes preservation strategies have produced among neighborhood populaces.

III. METHODOLOGY

Research Hypothesis

The following comprises the research hypothesis of this work. Based on the Thinking Process Framework and the Conceptual Framework, it can be compiled hypothesis as follows. 1. Dryland Agricultural Governance (TPKLK) has a significant effect on Dryland Agricultural Productivity (PPLK) in Madura Island.2. Dryland Agricultural Governance (TPKLK) has a significant effect on the Abattoir Workforce (TKT) in Madura Island. 3. Dryland Agriculture Governance (TPKLK) affects People's Wellness (KR) in Madura Island. Dryland Agriculture Productivity (PPLK) has a significant effect on the People's Welfare (KR) in Madura Island. Absorbed Workers (TKT) have a significant effect on Dryland Agricultural Productivity (PPLK) in Madura Island. Absorbed Workers (TKT) have a significant effect on People's Welfare (KR) in Madura Island.

Study Design

In this research process, determining research design or research design is very important. In this respect, the determination of research design in the domain of Islamic Economics must also be attentive because it has several different characteristics compared to the study of Conventional Economics. This research is based on secondary data so that it will give priority to valid or true documentary observation. This Research Study uses Syar'i Quantitative Analysis approach, Qualitative Analysis of Syar'i and Analysis of Kasyf. Third The analysis is discussed specifically and is integrated into analyzing the results of the study resulting in a comprehensive discussion and integrated conclusions.

Population and Sampling Technique

This study takes an object or analytical unit in four districts located in Madura Island area, namely Bangkalan Regency, Sampang Regency, Pamekasan Regency, Sumenep Regency. In this study, all members of the population are used as samples, thus the sample used is a census or saturated sample. The population size and sample size in this study are four districts in Madura Island. In this study sampling technique or sampling technique uses Nonprobability sampling with saturated sampling type. This study uses a quantitative approach with secondary data so that in this study, the data from the research sample uses panel data in the form of data every year from the four districts. In addition, the population criterion is data taken from 2005 to 2014, thus observing 10 years x 4 districts are 40 observations. Therefore, the sample data used in this study is 40 for each indicator of research variables that includes 40 Land Data Governance variables, 40 data on Agricultural Productivity Variables, 40 Variable Economic Growth data, 40 variable data Employed Absorption and 40 People's Welfare variable data. This research is based on a comprehensive secondary data from four districts in Madura Island so it uses Census-based research.

The analysis unit in this study was Four Regencies in Madura Island, namely Bangkalan Regency, Sampang Regency, Pamekasan Regency, and Sumenep Regency.

Variables and Data source

Variables in this study consist of exogenous variables and endogenous variables. Exogenous variables are independent variables, while endogenous variables consist of intervening variables and dependent variables. In this research, the type used is secondary data covering Land Governance data, dry land productivity indicator data, absorbed labor data, and people welfare indicator data in Madura Island. This study uses secondary data obtained from the Central Statistics Agency (BPS) of East Java, contained in the Indonesian Statistical Report.

Data Analysis

This study begins with the collection of data, documents and tabulations as well as data retrieval from observation to be analyzed in accordance with the chosen analysis method. Analytical methods used in this study include intuitive analysis / kasyf, quantitative analysis of syar'i, and qualitative analysis of syar'i. Intuitive analysis / kasyf is an analysis aimed at obtaining a conclusion based on the guidance of Allah SWT, or on the contrary analysis to elaborate an object to be more detailed and clearly based on the norms of Quran and Hadith Rasulullah SAW. Kasyf analysis is also called intuitive analysis because it is part of a science called "mukasyafah" (Ali,2011). Syar'i quantitative analysis in this study uses partial Least Square (PLS) analysis known as Structural Equational Modeling (SEM) based variance or often called Component-Based SEM.PLS was developed first as a general method for estimating the path of the model which uses latent constructs with multiple indicators. The qualitative analysis of the syar'i used in this study uses the analysis of the hijab line of prosperity and poverty (Ali, 2011) to find out the socio-economic well-being of the Muslim family or society, whether it is still poor or prosperous at a certain place and time..

IV. RESULT AND DISCUSSION

From the test results using the Average Variance Extracted (AVE) method in table 1 shows the result exceeds> 0.5. This shows that the outer model is valid so it is not necessary to eliminate the indicator variable.

In doing the Validity Discriminate test there are two methods that are cross loading indicator variable and Fornell-Larcker. Cross loading values of indicator variables to latent variables should be a greater value to other latent variables. Whereas Fornell-Larcker is the root of AVE for each latent variable should be larger than the correlation between latent variables. From the cross loading and Fornell-Larcker testing results can be seen in Table 2 and Table 3. From the results of the Cross Loading and Fornell-Larcker test results show satisfactory and valid results.

Table. 1 Average Variance Extracted (AVE)

Variabel	Average Variance Extracted (AVE)
Land Administration (X)	**0.739**
Dryland Agricultural Productivity (Y1)	**0.746**
Labor (Y2)	**1.000**
People's Prosperity (Y3)	**0.586**

Table. 2 Fornell-Larcker Criterion

	Land Management (X))	Dry Land Productivity (Y1)	Labor (Y2)	Wellness (Y3)
Land Management (X)	0.860	0.546		0.334
Dry Land Productivity (Y1)		0.864		0.800
Labor (Y2)	0.205	0.099	1.000	-0.059
Wellness (Y3)				0.766

Table. 3 Cross Loadings

Variabel	Land Management (X)	Dry land Agricultural Productivity (Y1)	Absorbed Labor (Y2)	People's Prosperity (Y3)
TKL_1	0.787	0.378	0.150	0.134
TKL_2	0.927	0.538	0.196	0.387
PPLK_1	0.247	0.779	0.042	0.707
PPLK_2	0.367	0.908	0.052	0.903
PPLK_4	0.587	0.835	0.177	0.652
PPLK_5	0.594	0.923	0.077	0.806
PPLK_6	0.548	0.866	0.084	0.714
TKT	0.205	0.099	1.000	-0.059
KR_2	0.095	0.702	-0.132	0.847
KR_3	0.094	0.472	0.018	0.591
KR_4	0.501	0.687	-0.062	0.720
KR_5	0.320	0.843	0.005	0.872

Reliability testing in this study uses the Composite Reliability method. If the Composite Reliability value> 0.6 is satisfactory. Test results can be seen in table 4. The calculation of composite reliability in Table 4 shows that the indicators used to measure the variables of Land Governance (X), Dryland Agriculture Productivity (Y1), Absorbed Workers (Y2) and People's Welfare (Y3) all have a greater value than 0.6. This result gives the indicator that the indicators used are reliable and feasible to measure the variable. Table 5 shows the Cronbach's Alpha. Test results show Cronbach's Alpha value of all latent variables> 0.6. This result also gives the indicator that the indicators are capable and feasible to measure the variables.

Table. 4 Composite Reliability

Variable	Composite Reliability
Land Management (X)	**0.849**
Dryland Agricultural Productivity (Y1)	**0.936**
Labor (Y2)	**1.000**
People's Prosperity (Y3)	**0.847**

Table. 5 Cronbach's Alpha

Variable	Cronbach's Alpha
Land Management (X)	**0.664**
Dryland Agricultural Productivity (Y1)	**0.914**
Labor (Y2)	**1.000**
People's Prosperity (Y3)	**0.757**

The structural model (Inner Weight) test is shown through the result of structural path coefficients. Where the path coefficients result to answer the hypothesis formulas in this study which include:

H1: Dryland Agriculture Management (TPKLK) has a significant effect on Dryland Agricultural Productivity (PPLK) in Madura Island

H2: Dryland Agricultural Governance (TPKLK) has a significant effect on Absorbent Workers (TKT) in Madura Island.

H3: Dryland Agricultural Governance (TPKLK) has a significant effect on the People's Welfare (KR) in Madura Island.

H4: Dryland Agriculture Productivity (PPLK) has a significant effect on the People's Welfare (KR) in Madura Island.

H5: Absorbed Workers (TKT) have a significant effect on Dryland Agricultural Productivity (PPLK) in Madura Island.

H6: Absorbed Workers (TKT) have a significant effect on People's Welfare (KR) in Madura Island. The results of the structural path coefficients (Inner Weight) and their significance values, can be seen in Table 6.

Table. 6 Test Inner Weight on People's Welfare (KR) Through Dryland Agricultural Productivity and Absorbed Labor with Bootstrap

Variable	Coeff Ori	(Bootstrap B = 500)	
		Coef	t test
Land Management (X) -> Dryland Agricultural Productivity (Y1)	0.546	0.560	4.807
Land Management (X) -> Absorbed Labor (Y2)	0.215	0.230	1.157
Land Management (X) -> People's Welfare (Y3)	-0.199	-0.201	2.332
Dryland Agriculture Productivity (Y1) -> People's Welfare (Y3)	1.020	1.032	17.525
Absorbed Labor (Y2) -> Dryland Agricultural Productivity (Y1)	-0.018	-0.033	0.090
Absorbed Manpower (Y2) -> People's Welfare (Y3)	-0.120	-0.120	2.131

(* significant at 0.05)

Table 7 shows that inner weight between:

a. Dryland Agriculture (TPKLK) (X) has a positive and significant effect on Dryland Agricultural Productivity (PPLK) (Y1). This is evident from the path coefficient marked positive at 0.546 with the absolute price of Statistics T 4.807 which is larger than T-table = 1.96. Thus, Dryland Agriculture Governance (X) has directly affected Dryland Agriculture Productivity (YPL) (Y1) of 0.546, which means that any increase in Dryland Agriculture Governance (TPKLK) (X) will increase Productivity Dryland Agriculture (PPLK) (Y1) is 0.546. The results of this study prove that Hypothesis 1 is proven. It means that Dryland Agriculture Governance (XI) significantly influences the Productivity of Dry Land Agriculture (PPLK) (Y1).

b. Dryland Agriculture Governance (TPKLK) (X) has a positive and insignificant effect on Abattoir Workforce (TKT) (Y2). This is evident from the positive coefficient of the band at 0.215 with a T statistic value of 1.157 which is smaller than T table = 1.96. Thus, Dryland Agriculture Governance (TPKLK) (X) has no direct effect on Absorbed Workers (TKT) (Y2). The results of this study prove that Hypothesis 2 is not proven. This means that Dryland Agriculture Governance (TPKLK) (X) has no significant effect on Abattoir Workforce (TKT) (Y2).

c. Dryland Agriculture (TPKLK) (X) has a negative and significant effect on the People's Prosperity (KR) (Y3). This is evident from the path coefficient marked negative of 0.199 with the absolute pricing value of Statistics T of 2.332 which is greater than T-table = 1.96. Thus, Dry Land Agriculture Governance (X) directly affects the People's Prosperity (KR) (Y3) of -0.199, which means that any increase in Dryland Agriculture Governance (X) will reduce the People's Welfare (KR) (Y3) is -0.199. The results of this study prove that Hypothesis 3 is proven. This means that the Dryland Agriculture Governance (TPKLK) (X) significantly affects the People's Prosperity (KR) (Y3).

d. The productivity of Dryland Agriculture (PPLK) (Y1) has a positive and significant effect on the People's Prosperity (KR) (Y3). This is evident from the path coefficients marked positive at 1.020 with a statistic T value of 17.525 larger than T-table = 1.96. Thus, Dryland Agriculture Productivity (YPP) directly affects the People's Welfare (KR) (Y3) of 1.020, which means that any increase in Dryland Agricultural Productivity (YPP) will increase the People's Prosperity (KR) (Y3) of 1,020. The results of this study prove that Hypothesis 4 is proven. This means that Dryland Agriculture Productivity (YPL) (Y1) significantly affects People's Welfare (KR) (Y3).

e. Absorbent Worker (TKT) (Y2) has negative and insignificant influence on Productivity of Dryland Agriculture (PPLK) (Y1). This is seen from the coefficient of the path marked negative -0.018 with a T statistic value of 0.090 which is smaller than T table = 1.96. Thereby, the Absorbed Labor (TKT) (Y2) has no direct effect on Dryland Agriculture Productivity (PPLK) (Y1). The results of this study prove that Hypothesis 5 is not proven. This means that Absorbed Labor (TKT) (Y2) has no significant effect on Dryland Agricultural Productivity (PPLK) (Y1).

f. Absorbed Workers (TKT) (Y2) have a negative and significant effect on People's Welfare (KR) (Y3). This is evident from the path coefficient marked negative -0.120 with the absolute pricing value of Statistics T of 2.131 greater than T-table = 1.96. Thus, the Absorbed Workers (YE) (Y2) directly affect the People's Welfare (KR) (Y3) of -0.120, which means that any increase in the Absorbed Workforce (TK) (Y2) will lower the People's Welfare (KR) (Y3) is -0.120. The results of this study prove that Hypothesis 6 is proven. This means that Absorbed Workforce (TKT) (Y2) significantly affects People's Welfare (KR) (Y3).

Table. 7 Test Results of the Path of the People's Welfare Model Coefficient

Variable	Coef Ori	T-Test	T Table	Description
Land Management (X) -> Dryland Agricultural Productivity (Y1)	0.546	4.807	1,96	Significant
Land Management (X) -> Absorbed Labor (Y2)	0.215	1.157	1,96	Not significant
Tata KelolaLahan (X) ->Kesejahteraan Rakyat (Y3)	-0.199	2.332	1,96	Significant
Land Management (X) -> People's Welfare (Y3)	1.020	17.525	1,96	Significant
Absorbed Labor (Y2) -> Dryland Agricultural Productivity (Y1)	-0.018	0.090	1,96	Not significant
Absorbed Manpower (Y2) -> People's Welfare (Y3)	-0.120	2.131	1,96	Significant

V. CONCLUSION

Dry Land Agriculture Governance has a positive and significant effect on Dry Land Agricultural Productivity in Madura Island, thus Dry Land Agriculture Governance directly affects the Productivity of Dry Land Agriculture which means that any increase in the quality of Dry Land Agricultural Governance will increase the Agricultural Productivity Dry in Madura Island and vice versa. Dryland Agriculture Governance has a positive and insignificant influence on Absorption Workers. This shows that although there are still positive effects but still very weak intensity.

Dry Land Agriculture Governance has a negative and significant effect on the People's Welfare on Madura Island. These results show that the Variable Land Degradation Governance has a negative and significant influence on the People's Welfare Variable in Madura Island. This means that when more and more land management is intensified, the people's prosperity is further diminished because the added value of dryland agriculture in Madura is still very low.

Dry Land Agricultural Productivity has a positive and significant effect on the People's Welfare on Madura Island. This shows that the Variable Productivity of Dry Agricultural Agriculture with People's Welfare Variable in Madura Island has a linear relationship because its influence is positive and significant. This suggests that if Dry Land Productivity Variables increases, the People's Welfare Variable also increases, otherwise.

Absorbed Workers have a negative and insignificant effect on the Productivity of Dry Land Agriculture. This shows that Labor Variable Absorption with Variable Productivity of Dry Land Agriculture has a contrasting relationship, its influence is negative but has no direct effect, because it has been applied a law of diminishing return for the land productivity and applies more quickly.

Absorbed Workers have a negative and significant effect on the People's Welfare on Madura Island. This is due to the low value-added occurring in dry land in Madura wherein the event of the accumulation of labor absorption then the productivity of dry land also decreases so that people's welfare decreases.

This study proves that Dryland Agriculture Governance has a significant and positive effect on Dryland Agricultural Productivity and is positive and insignificant for Absorbed Workers but has a significant and negative effect on People's Welfare on Madura Island, which is limited to the investigated Island only. Thus, the results of studies can be studied more deeply so that they can be implemented at other institutions whether provincial or other regional governments for future research.

REFERENCES

1. Utomo, B., Sucahya, P. K., &Utami, F. R. (2011). Priorities and realities: addressing the rich-poor gaps in health status and service access in Indonesia. *International journal for equity in health*, *10*(1), 47.
2. Ginting, E., Manning, C., & Taniguchi, K. (2018). Indonesia: Enhancing Productivity Through Quality Jobs.
3. Buchori, I., Sugiri, A., Maryono, M., Pramitasari, A., &Pamungkas, I. T. (2017). Theorizing spatial dynamics of metropolitan regions: A preliminary study in Java and Madura Islands, Indonesia. *Sustainable Cities and Society*, *35*, 468-482.
4. Kapa, M. M. J., &Henuk, Y. L. (2018, February). Contribution of local beef cattle production on farmer's income in the dryland farming of Kupang Regency, Indonesia. In *IOP Conference Series: Earth and Environmental Science* (Vol. 122, No. 1, p. 012118). IOP Publishing.
5. Rahman, S. A. (2017). *Incorporation of Trees in Smallholder Land Use Systems: Farm Characteristics, Rates of Return and Policy Issues Influencing Farmer Adoption* (Doctoral dissertation, University of Copenhagen, Faculty of Science, Department of Food and Resource Economics).
6. Bezemer, D., & Headey, D. (2008). Agriculture, development, and urban bias. *World Development*, *36*(8), 1342-1364.
7. An Piya, S., Kiminami, A., & Yagi, H. (1980). Sources of agricultural productivity growth in South and Southeast Asia. *South Asia*, *37*(953.2), 68-64.
8. Sudaryanto, T., Simatupang, P., Irawan, B., &Sadra, D. K. S. (2002). Medium-and Longterm Prospect of Rice Supply and Demand in Indonesia. *Development in the Asian Rice Economy*, 97-125.
9. Ali, A. J., & Al-Owaihan, A. (2008). Islamic work ethic: a critical review. *Cross cultural management: An international Journal*, *15*(1), 5-19.
10. Marwat, S. K., Khan, M. A., Khan, M. A., Ahmad, M., Zafar, M., Rehman, F., & Sultana, S. (2009). Fruit plant species mentioned in the Holy Qura'n and Ahadith and their ethnomedicinal importance. *American-Eurasian Journal of Agricultural and Environmental Science*, *5*(2), 284-295.
11. Ali, M. M. (2011). *Holy Quran*. Ahmadiyya AnjumanIshaat Islam Lahore USA.
12. Plummer, R., de Grosbois, D., de Loë, R., &Velaniškis, J. (2011). Probing the integration of land use and watershed planning in a shifting governance regime. *Water Resources Research*, *47*(9).
13. Fielke, S. J., &Bardsley, D. K. (2015). Regional agricultural governance in peri-urban and rural South Australia: strategies to improve multifunctionality. *Sustainability Science*, *10*(2), 231–243.
14. Armas, E. B., Osorio, C. G., Moreno-Dodson, B., &Abriningrum, D. E. (2012). *Agriculture public spending and growth in Indonesia*. The World Bank.
15. Wijaya, A., &Glasbergen, P. (2016). Toward a new scenario in agricultural sustainability certification? The response of the Indonesian national government to private certification. *The Journal of Environment & Development*, *25*(2), 219–246.
16. McCarthy, J. F., Gillespie, P., & Zen, Z. (2012). Swimming Upstream: Local Indonesian Production Networks in "Globalized" Palm Oil Production. *World Development*, *40*(3), 555–569.
17. Mangunjaya, F. M., & McKay, J. E. (2012). Reviving an Islamic approach for environmental conservation in Indonesia. *Worldviews: Global Religions, Culture, and Ecology*, *16*(3), 286–305.