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The Impact of Village Finance Management to the Performance of Sustainable Rural Development in West Sumatra - Indonesia

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Abstract: The research related to how managing finance in terms of rural sustainable development is rarely conducted. The research novelty is to find out a new model in measuring the performance in rural sustainable development that focuses on the impact of delivering funds to the rural government either coming from the local or central government. This research aims to 1) analyze the impact in managing *Nagari* finance on the sustainable development performance; 2) analyze the impact in managing *Nagari* finance on the institutional and economic development in *Nagari*; and 3) find out a rural sustainable development model in West Sumatra. Hopefully, the result should be recommended in making plans, policy, and local development programs in West Sumatra. This research is explanatory by using quantitative data. it uses Structural Equation Models (SEM) to determine the relationships between latent variables. The sample is conducted by purposive and taken 182 *Nagari*. It is based on the Solvin formula. From the results of this study, it can be seen that the financial management of the *Nagari* has a direct significant influence on institutional performance in the *Nagari*. The better the financial management of the *Nagari*, the better the institutions in the *Nagari* are. Good *Nagari* financial management also significantly influences economic development in *Nagari*. The financial management in *Nagari* also had a significant effect on the performance of sustainable *Nagari* development. In villages whose financial management performance is good, the performance of sustainable village development is also good, and vice versa. Finally, this study recommends to the local government order to 1) prepare technical guidelines for the procedures for managing village finances starting from planning, implementation, administration, reporting, and accountability, as guidelines for implementing financial management in the *Nagari*; 2) carry out a program to improve the capabilities and skills of the *Nagari* government apparatus as the village financial manager; 3) give more attention to the development of institutional factors in the *Nagari*; 4) make efforts to equalize economic development in the *Nagari*; and 5) increase the number of assistance activities for the *Nagari* government.

Keywords: Institutional, Sustainable Rural Development Performance, Rural Finance Management.

1. Introduction

There are some researches related to rural sustainable development (Bjärstig & Sandström, 2017; Gorbenkova et al., 2018). All those researches describe methods used to exercise the sustainable development model and how public-private partnerships in financing sustainable development. However, the research related to how managing finance in terms of rural sustainable development is rarely conducted. The research novelty is to find out a new model in measuring the performance in rural sustainable development that focuses on the impact of delivering funds to the rural government either coming from the local or central government.

The regional development in the microscope is relatively interesting in developing countries because in last recent decades that phenomenon is very dynamic in terms of the change mainly from centralized to decentralized planning minded. Planning and implementation of the national development which was previously top-down have been changed bottom-up. Of course, this fast-paced change requires careful preparation of the infrastructure and super-structures that exist in the rural government (*Nagari*). What has happened is the contrary, where government policies have not been followed either by the ability or readiness of the *Nagari* to accept and to implement them into the village.

Policies made by the government in determining the sources of *Nagari* income, which are internalized into revenue and expenditure budget, still cause various problems, including the low quality of human resources for managing finances in them, development planning mechanisms that are not participatory yet, conflicts of interest between the community with the *Nagari* elite and the institutional system of the *Nagari* economy which is not established yet.

All of *Nagari* in West Sumatra Province have internalized and fully received the sources of *Nagari* income by the provisions of the regulations in their budget since 2015. They are namely 1) village original income; 2) allocation of the state revenue and expenditure budget; 3) part of the proceeds of regional taxes and regional levies on the regencies/cities; 4) *Nagari* fund allocation; 5) financial assistance from the provincial revenue and expenditure budget and the regency/city regional revenue and expenditure budget; 6) non-binding grants and a donation from third parties; and 7) other legitimate village income. This research aims to 1) analyze the impact in managing *Nagari* finance on the sustainable development performance; 2) analyze the impact in managing *Nagari* finance on the institutional and economic development in *Nagari*; 3) find out a rural sustainable development model in West Sumatra. Hopefully, the result should be recommended in making plans, policy, and local development programs in West Sumatra - Indonesia.

2. Method

This research is explanatory by using quantitative data. This research seeks to explain causal relationships among research variables through the submission of formulated hypotheses. *Nagari* in this context is as an analyses unit. They are spread over in 11 regencies. The total population is 803 *Nagari*. The sampling technique uses multi-stage stratified random sampling. It has some elements that are not homogeneous and stratified proportionally from each element of the population taken randomly (Abdillah, 2015). Characteristic each *Nagari* is relatively different. It depends on the progress of development itself. The Ministry of Village, Development of Disadvantaged Regions categorizes into four (4) villages based on the Village Development Index (VDI), they are 1) autonomous; 2) developed; 3) developing; and 4) under developing the village. In terms of choosing regency, it is conducted by purposive sampling. The sample size in this research uses the Slovin formula (Umar 2009; Arianti, 2018; Budiansya & Saudi. 2021). The equation is as follows:

$$n = \frac{\mathrm{N}}{1 + \mathrm{N}e^2}$$

Notes :
n = sample size
N = Population size
e = percentage of sampling looseness (1 – 10 %)
The implementation of the formula is as follows:

$$n = \frac{185}{1 + 185(0{,}01)^2}$$

$$n = \frac{185}{1{,}0185}$$

n = 181.64 (rounded up to 182 *Nagari*)

Table 1: Population and Sample

No.	Status of Nagari Based on VDI	Populations (Regencies)		Sub-sample		Total Sampel
		Agam	Padang Pariaman	Agam	Padang Pariaman	
1	Autonomous	4	1	4	1	5
2	Developed	49	30	48	29	77
3	Developing	29	67	28	68	96
4	Under develop	-	5	-	4	4
Total		82	103	80	102	182

Based on the 182 *Nagari*, the researcher ask by questionary to the 546 respondents. Each *Nagari* is taken, three (3) respondents. They consist of three (3) representatives of *Nagari* such as leader (*Wali Nagari*), secretary, and rural representative Board. To analyze processing data obtained from research respondents, it uses SEM to determine the relationships between latent variables. SEM is a statistical technique that can analyze the pattern of relationships between latent constructs and their indicators, latent constructs with each other, as well as direct measurement errors (Yamin, 2009). SEM allows analysis between several dependent and independent variables directly. SEM is a combination of two statistical methods, namely 1) factor analysis developed in psychometry; and 2) simultaneous equation model developed in econometrics. Two reasons underlying the use of SEM are, first, SEM can estimate the relationship between variables that are multiple relationships. This relationship is formed in the structural model (the relationship between the dependent and independent constructs), secondly, SEM can describe the pattern of the relationship between the latent (unobserved) construct and the manifest variable (manifest indicator variable).

The steps operating SEM are to use the Partial Least Square (PLS) application, which is an alternative SEM method that can be used to overcome the problem of the relationship among complex variables but the data sample size is small. PLS is a variant-based SEM that can simultaneously test the measurement model as well as test the structural model. The measurement model is used to test the validity and reliability, while the structural model is used to test causality (testing hypotheses with predictive models) (Abdillah, 2015). PLS assumes that the research data is free distribution, meaning that the research data does not refer to one particular distribution (eg normal distribution). PLS is an alternative method with a variance or component-based approach that is oriented towards model prediction. PLS may work for models of latent contractual relationships and manifest variables (indicators) that are reflective and formative (Yamin, 2009). Parametric techniques to test the significance of parameters are not needed because partial least square does not produce a certain distribution for parameter estimates, while the criteria for assessing the model in this study are as follows:

Table 2: Population and Sample

No	Criterion	Note
Measuring Evaluation Model (Outer Model)		
1	*Loading Factor (LF)*	Value of *loading factor (lf) >0,7, value lf >0,5 accepted if the value AVE>0,5*
2	*Composite reliability*	*Composite reliability* measures *internal consistency* and tha value should be > 0,6
3	*Average Variance Extracted (AVE)*	Value *AVE* should be greater than 0,5
4	*Discriminant Validity*	The square root value of AVE must be greater than correlation value among latent variables
5	*Cross Loading*	Another measure of discriminant validity. Expected value of indicator block has a higher loading value for each measured latent variable compared to indicators for other latent variables.
Structural Model Evaluation (Inner Model)		
1	R^2 for latent endogenous variables.	The results of R^2 for endogenous latent variables in the structural model indicate that the model is good, moderate and weak
2	Estimated path coefficient	The estimated value for the path relationship in the structural model must be significant. This significant value can be obtained by the

No	Criterion	Note
		bootstrapping procedure which also produces T-*value.*
3	f^2 for *effect size*	The value of f^2 can be interpreted whether the predictor variable has a weak, medium or large influence on the structural level
4	Prediction relevance (Q^2 and q^2)	The blindfolding procedure was used to measure Q^2. The value of $Q^2 > 0$ proves that the model has predictive relevance, on the contrary if the value of $Q^2 < 0$ proves that the model lacks predictive relevance.

3. Results and Discussions

Performance measurement is regularly used to assess the achievement of goals and objectives (Sedarmayanti, 2010). Performance measurement is used to assess the success/failure of implementing activities/programs/policies by the goals and objectives that have been set to realize the mission and vision of the organization. Therefore, it is urgent to create a system capable of measuring organizational performance and success. To be able to answer the question of the level of organizational success, all organizational activities are not solely on input from organizational programs, but more emphasis is placed on outputs, processes, benefits, and impacts of organizational programs. (Sedarmayanti, 2010). Performance indicators are quantitative and/or qualitative measures that describe the level of achievement of a predetermined target or goal. Performance indicators must be something that will be calculated and measured and used as a basis for assessing or seeing the level of performance, both in the planning, implementation and after activities are completed and functioning. Performance indicators are used to ensure that the day-to-day performance of the organization/work unit in question shows its ability in the context of and/or towards the goals and objectives that have been set.

The formulating method for developing performance indicators continues to improve. These indicators should be visionary. The trend of measuring development has changed from a production orientation to people's welfare. Consequently, new indicators are needed that more accurately measure the improvement of community welfare and the development of village development performance. Furthermore (Iskandar; 108) states that there are 13 (thirteen) villages that are the measure of the Sustainable Development Goals (SDGs), namely villages without poverty, villages without hunger, villages that care about health, quality village education, involvement of village women, water-worthy villages-clean-sanitation, clean and renewable energy villages, equitable village economic growth, village infrastructure and innovation as needed, villages without gaps, safe and comfortable village settlement areas, environmentally conscious village consumption and production, and climate change responsive villages.

Rural development is a process of deliberate or conscious change to achieve physical and spiritual well-being for all members of the rural community as a whole. Rural development covers all aspects of rural community life in a comprehensive holistic manner covering economic, social, political, cultural, religious, defense, and security aspects (Damsar, 2016). Rural development is an effort to improve the quality of life and the welfare of the village community as much as possible. According to Mulyanto (2014) in measuring the progress of village development, 9 (nine) indicators can be used, namely, 1) the capacity of the apparatus and the reach of public services; 2) Village wealth and finances; 3) Village economic facilities; 4)

Transportation and telecommunications facilities; 5) Institutional and community participation; 6) Community welfare; 7) Community education; 8) Public health; and 9) Family welfare.

Table 3: Value of **Cronbach's Alpha, Rho_A, Composite Reliability, Average Variance Extracted (AVE)** ***in the first measurement***

Variabel	*Cronbach's Alpha*	*Rho_A*	*Composite Reliability*	*Average Variance Extracted (AVE)*
Institutional (I)	0,741	0,782	0,841	0,577
Sustainable Rural Develop-ment Performance (SRDP)	0,831	0,862	0,873	0,430
Economic Development	0,785	0,800	0,854	0,542
Rural Finance Management	0,812	0,821	0,866	0,566

Source: Data analyses, 2021

Based on Table 3, it can be seen that the *Cronbach's Alpha, Rho_A, Composite Reliability, AVE* values in the first stage of the measurement meet the requirements of validity and reliability except for the AVE value of the SRDP variable. which has a value of 0.430 or under the provisions of the value > 0.5, so that further according to the provisions of data analysis using SEM smart PLS, it is necessary to remove the indicator that has the smallest outer loading value.

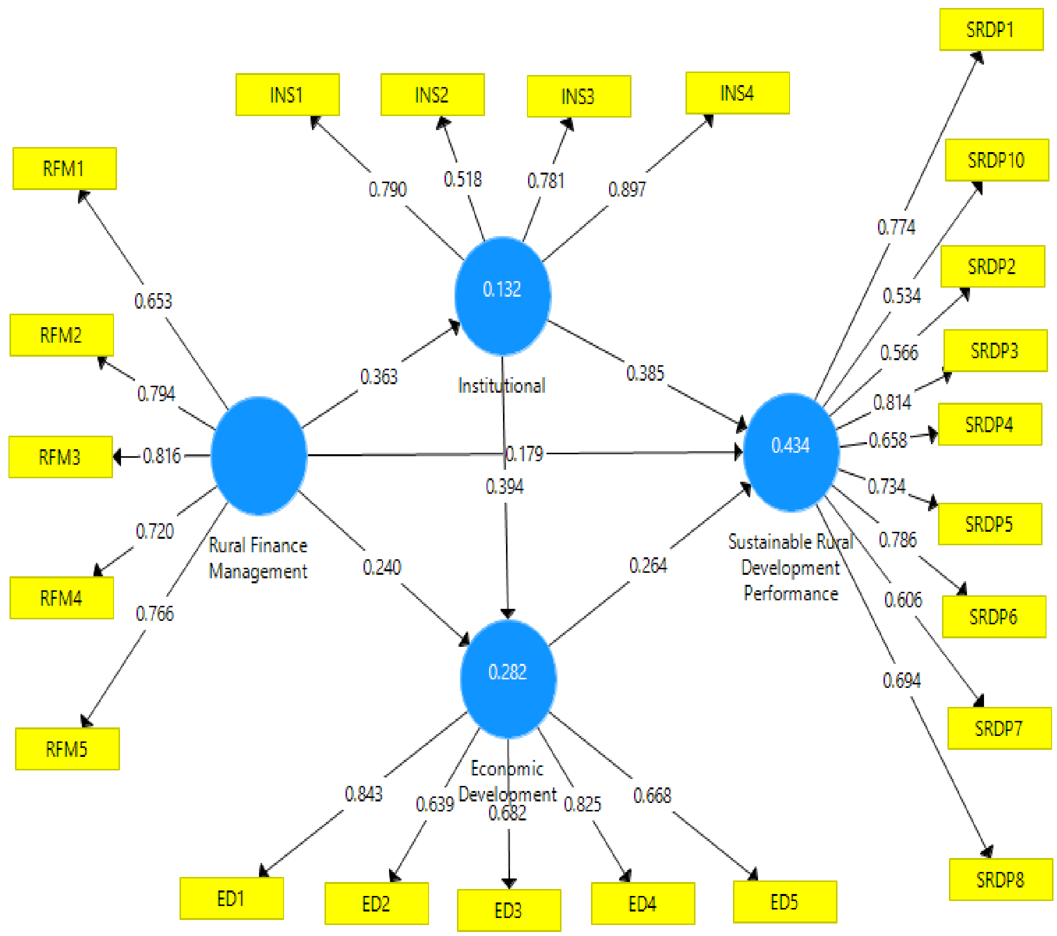

Figure 1: Output of Measurement Model Analysis Results Using Smart PLS 3.0.

Based on the analysis by using Smart PLS (Fig 1), it shows that the financial management in *Nagari* has a positive and significant effect on the institutional development itself. *Nagari* that have good financial management quality, the institutional development in their village is also good. These institutional values develop quite well and rapidly in *Nagari*. This may be found in the availability and enforcement of formal rules that can be run and understood and implemented by the community, economic institutions in the *Nagari* are also well developed, social capital in the *Nagari* also grows and supports the development of the *Nagari* and social institutions also play a very real role in village development.

The financial management in *Nagari* has a significant effect on the economic development of the *Nagari* in the province of West Sumatra. This means that the better the quality of *Nagari*'s financial management, the better the development of *Nagari*'s economic development. From the research, it was found that the villages with good economic growth rate, it is always found that the financial management of the villages is also good. The good economic development of the *Nagari* can be seen in the increasing income of the population, the community can also better access formal financial services, the sources of income of the *Nagari* also continue to increase, job opportunities in the *Nagari* are also increasingly open and the *Nagari* area is also open and easily accessible from various sources the place.

The financial management in *Nagari* has a significant effect on the performance of sustainable *Nagari* development in West Sumatra Province. It means that the better the quality of *Nagari* financial management, the better the performance of sustainable *Nagari* development in West Sumatra Province. From this study, it was found that the good performance of sustainable *Nagari* development can be seen from the reduction in the poverty rate from year to year, good health quality, good education quality, access to adequate clean water, village community access to the availability of proper sanitation is also good, the availability of sufficient energy that can be accessed by the community, the quality of infrastructure is also good, the availability of adequate housing for the population is also adequate, the community's concern for the environment is also good and in every development activity, there is always a balance of gender involvement, which is marked by the involvement of women.

Institutional Development in the *Nagari* has a significant effect on the economic development of the *Nagari* in the province of West Sumatra. This means that the better the institutional quality in the *Nagari*, the better the economic development of the *Nagari* in the province of West Sumatra.

The institutional development in *Nagari* has a significant effect on the performance of sustainable *Nagari* development in West Sumatra Province. This means that the better the institutional quality in the *Nagari*, the better the performance of sustainable *Nagari* development in the province of West Sumatra.

The economic development in *Nagari* has a significant effect on the performance of sustainable *Nagari* development in the province of West Sumatra. This means that the better the economic development in the *Nagari*, the better the performance of sustainable *Nagari* development in the province of West Sumatra.

The financial management in *Nagari* has a significant indirect effect on the performance of sustainable *Nagari* development through the role of institutions in the *Nagari* in West Sumatra Province. This means that the better the financial management of the *Nagari*, it will have an indirect impact on the role of institutions to the better performance of sustainable *Nagari* development in the province of West Sumatra.

The financial management in *Nagari* has a significant indirect effect on the Performance of Sustainable *Nagari* Development through the role of institutions in the *Nagari* and the economic development of the *Nagari* in West Sumatra Province. This means that the financial management of the *Nagari* does not have a significant indirect effect on the performance of sustainable *Nagari* development through the institutional role in the *Nagari* and the economic development of the *Nagari*.

The financial management in *Nagari* has an indirect significant effect on the performance of sustainable *Nagari* development through the economic development of the *Nagari* in the province of West Sumatra. This means that the better the financial management of the *Nagari*, the indirect impact through economic development will be on the better performance of sustainable *Nagari* development in the province of West Sumatra.

The financial management in *Nagari* has a significant indirect effect on economic development through the institutional role of the *Nagari* in the province of West Sumatra. This means that the better the financial management of the *Nagari*, it will have an indirect impact on the role of institutions in the better economic development of the *Nagari* in the province of West Sumatra.

The institutional development in *Nagari* has a significant indirect effect on the performance of sustainable *Nagari* development through the economic development of *Nagari* in West Sumatra Province. This means that the better the institutional role in the *Nagari* will have an indirect impact through the economic development of the *Nagari* to the better performance of sustainable *Nagari* development in the province of West Sumatra.

4. Conclusions and Recommendations

The allocation of funding from the central budget to the *Nagari* has entered its 7th year since it was first given in 2015. Before that, the source of revenue for the *Nagari* was only from the village's original income, revenue sharing from district taxes/retributions, and the allocation of *Nagari* funds from the district budget, financial assistance, grants, and non-binding donations from third parties and other legitimate *Nagari* income. This research examines how the influence of *Nagari* financial management on the performance of sustainable *Nagari* development in West Sumatra Province. The analytical method used is a quantitative method, by collecting data using a closed question questionnaire instrument. Sampling to represent 803 *Nagari* spread over 11 districts was carried out in several steps. The first step is to select 2 sample districts from 11 districts that have a *Nagari* government. Based on the results of this study, it can be seen that the financial management of the *Nagari* has a direct significant influence on institutional performance in the *Nagari*. The better the financial management of the *Nagari*, the better the institutions in the *Nagari* are. Besides that, it turns out that the financial management of the *Nagari* also has an indirect effect on the performance of sustainable village development through mediation from the *Nagari* institution. Furthermore, it was found that good *Nagari* financial management also significantly influences economic development in the *Nagari*. *Nagari* whose financial management is good, the achievement of economic development performance will also improve. This research also found that the financial management in *Nagari* also had a significant effect on the performance of sustainable *Nagari* development. In villages whose financial management performance is good, the performance of sustainable village development is also good, and vice versa.

Finally, this study recommend to the local government in order to 1) prepare technical guidelines for the procedures for managing village finances starting from planning, implementation, administration, reporting and accountability, as guidelines for implementing financial management in the *Nagari*; 2) carry out a program to improve the capabilities and skills of the *Nagari* government apparatus as the village financial manager; 3) give more attention to the development of institutional factors in the *Nagari* in order to support the performance of sustainable village development; 4) make efforts to equalize economic development in the *Nagari* through the preparation of priority development programs in accordance with the potential of each village in order to increase the independence of the *Nagari*; and 5) increase the number of assistance activities for the *Nagari* government by involving elements from expert institutions such as scientists from universities and professional practitioners in the context of empowering the *Nagari* government.

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