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Social Capital and Community Participation on Infrastructure Development in Pajaran Village, Malang Regency Indonesia

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Abstract. Indonesian statistics on village potential (2014) indicate that the province of East Java has not catch up with the infrastructure of its villages. The government is overcomes this delay through ADD (Alokasi Dana Desa/Village Fund Allocation). ADD is a government assistance program based on community participation. Desa Pajaran is part of the village group in Malang regency, which is a priority for ADD. The Mid Planning of Pajaran village 2014-2019 mentions that the priority program of the village of Pajaran is the improvement and development of infrastructure funded by ADD. The aims of the study are: 1) identification the participation level, which is divided into decision-making stage, implementation phase and utilization stage; 2) determine the factors forming social capital and social capital models and their relationship with participation. The result show that the level of participation in Desa Pajaran is low (57.5%). The structural equation model (SEM) analysis conducted in the Mplus program revealed that community social capital consisted of three elements: trust, social networks, and social norms. Trust is formed on six factors, social networks and social norms are formed on two factors. Social networks are an element of social capital that directly affects community participation in infrastructure development programs, while social beliefs and norms have an indirect relationship with community participation. The better social beliefs and norms, the better the network and community participation.

Keywords: Community participation, social capital, participation, structural equation model

1. Introduction

Infrastructure is a facility provided to improve the lives of local communities [1], Town and village need the infrastructure support for survival and economic sustainability[2], Infrastructure is a very important part to achieve prosperity or increasing the level of life in an area. Village Potential Statistics Data of Indonesia (2014) states that East Java province still have to catch up on infrastructure in their villages. In order to overcome the underdevelopment of infrastructure, the central government has handled this by providing financial assistance and non-financial. Financial or non-financial assistance provided by the government through the ADD (Village Fund Allocation). ADD is a government assistance program based on community participation. Potential high participation of a village can be raised because



basically the citizens or the villagers have high social capital to implement and oversee the running of the rural development programs[3]. This proves that to achieve success in a development program required the participation and social capital good of society [4], [5].

The poor districts has a mission to improve the availability and quality of local infrastructure (Development Malang 2016-2020). Those goals are set to support the success of the government grant program, which is gave priority to infrastructure development. Pajaran village is one of the villages located in the District Poncokusumo and included in the priority villages ADD Malang. Rural Development Plan year 2014-2019 of Pajaran said that one of the priorities program in the Village Pajaran is the improvement and development the infrastructure. Rural infrastructure development in Pajaran also listed on the RKP (Government Work Plan). The construction of the infrastructure need of society as an object in development.

The success of infrastructure development Program (ADD) in the village of Pajaran need community participation. Article 5 of Regulation Regent Number 37 of 2017 mentions the capacity of public participation should be improved in terms of planning, implementation and monitoring or evaluation of development programs. Phase evaluation is one of the important stages of the feedback that can provide input for improving the implementation of the project, but the use of ADD in particular for infrastructure development in the village Pajaran are not include of the evaluation phase program. This is affects the purpose of the development activities that are often not targeted. Rural infrastructure development in Pajaran are often experienced delays in the completion, the interviews show that this is caused by the public which is less active in the process of infrastructure development projects.

Community participation and social capital are two elements that can not be separated from public life, especially for infrastructure development activities. Village Pajaran research was conducted to determine the relationship between social capital owned by the participation in the village Pajaran. In particular, this study has three objectives: (1) determine the level of community participation in infrastructure development, (2) the factors that affect social capital and (3) the relationship between social capital through community participation.

2. Research Area

The distance of Pajaran village from the capital district Poncokusumo is 5 km, while towards the district capital is 30 Km. Pajaran village boundaries are:

North	: Village Ngingit
East	: Village Argosuko
West Side	: Village Gunungsari
South side	: Village Ngembal

Pajaran village is located at the 500 meters altitude that are region of mountainous terrain with moderate classification. Pajaran village has a total area of 339.6 hectares, which is composed of 3 hamlets namely Krajan, Tondoasri, (which is dominated by the Javanese) and Ketitang (which is dominated by the Madurese).

Table 1. Administrative Region Division of RT / RW

Hamlet	RW	RT
Krajan	6	28
Tondoasri	8	38
Ketitang	3	12
Total	17	78

3. Sampling and Data Collection

This study used probability sampling technique with random sampling method. Sampling using Table Krecjei and Morgan. Total population of households in the Pajaran village are 1.895 families which is

rounded to 1.900 families, so the number of samples can be obtained is 320 households. More detailed information can be seen in the Table 2 below.

Table 2 Total Sample Village Pajaran

Village	Population	KK	Proportion (%)	samples
Krajan	2352	636	33.6	107
Tondoasri	3084	831	43.8	141
Ketitang	1150	429	22.6	72
Total	6586	1895	100	320

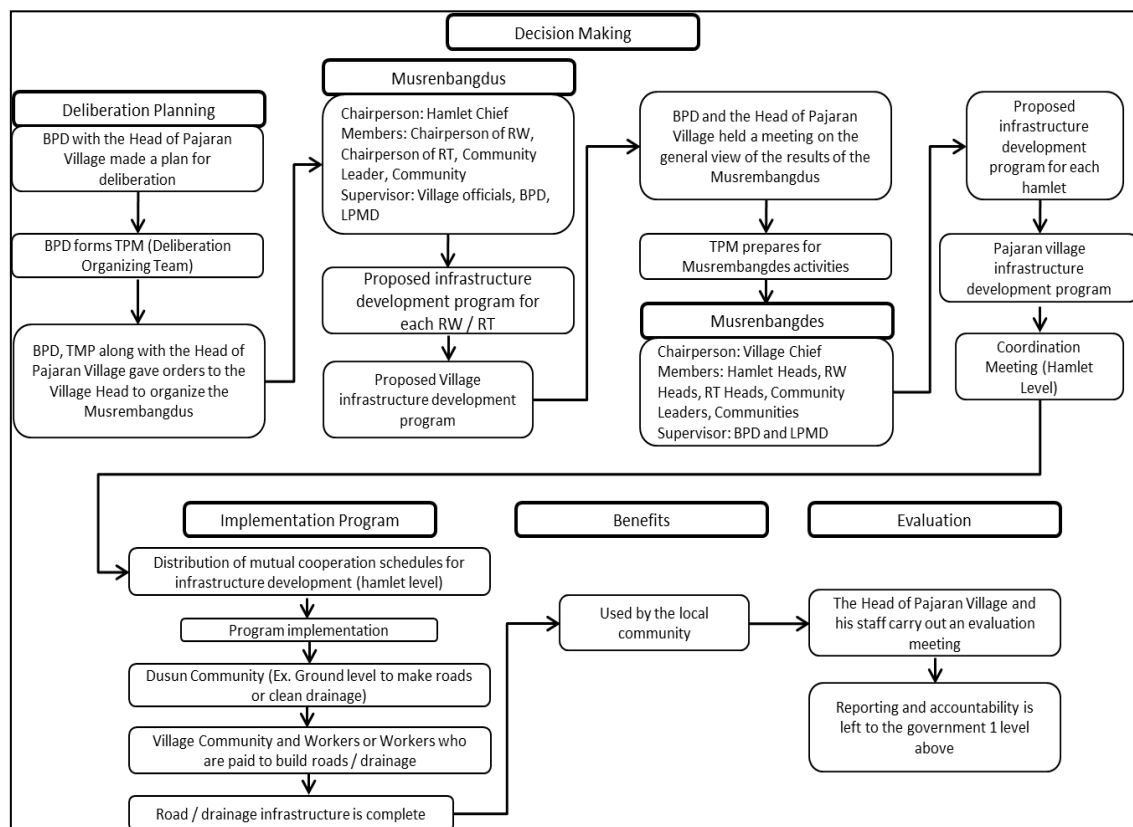


Figure 1. Public Participation Phase Chart

4. Results and Discussion

4.1. Determining the level of community participation in the development of Pajaran village infrastructure

Some earlier studies using a variety of techniques to determine the level of community participation, like in the study [10] and [11]. Among the various methods that exist in this study the level of participation was assessed by a scoring technique. The participation rate was measured with 4 (four) stages participation. The first stage is decision-making phase measurements, assessed by three indicators, (1) meeting attendance (2) activeness give opinions (3) activeness in asking. The second stage is implementation of the program and be measured by three indicators, (1) the involvement of help and spread information (2) cooperation and activeness in the implementation (3) the activity following the problem-solving activities. The third stage is the stage of utilization of the program assessed by two indicators: (1) knowledge of the benefits of the program (2) take benefit and feel the results of the program. The last stage is the stage of evaluation of the program was assessed by three indicators, (1)

presence in the meeting of the evaluation (2) monitor the activity of the program (3) activeness to give opinions.

4.1.1. Participation in infrastructure development implementation phase

Public participation in the village Pajaran on the implementation of infrastructure development consisting of:

1. Decision-making stage

Planning activities of deliberations prepared by the Village Consultative Body (BPD) together with the chief. BPD will form a TPM or Musrenbangdes Organizing Team members include secretary BPD (as chairman) and assisted by members of the BPD, public element and the village government. Next is the program and the preparation of a Musrenbangdes activities to be held. Previous BPD along with the village chief will instruct the head of the village to carry out in the village Musrenbangdus Pajaran. The results of Musrenbangdus is the list of proposed infrastructure development program that will be submitted within the village level meetings. Musrenbangdus activities in each village on average held 4-3 times, but usually 1-2 times.

The next stage after Musrenbangdus is conducting Musrenbangdes, but before implementing the BPD Musrenbangdus will hold a meeting to make an opinion or official views BPD associated with things that are the subject of or material during the deliberations held. Deliberation Committee or TPM implementation will set up a schedule, venue, and the order of events. The elements of society who were invited to this event are traditional leaders, religious leaders, community leaders, educators, representatives of farmer groups and representatives of women's groups. Musrenbangdes aims to produce Pajaran Rural infrastructure development program.

2. Program implementation phase

Program implementation phase includes two main activities, first is the division of the schedule activities of mutual cooperation and second is division of tasks in these activities.

3. Benefit phase

The results of the survey is the respondents who were around the locations is feel the program of infrastructure development and know the benefits of infrastructure development programs implemented by the government Pajaran village.

4. Program evaluation stage

Interview with the Village Head of Tondasri showed that the village government Handbook did not include the community because it assumed that the community was not active in meeting activities, especially in terms of giving comments and suggestions, besides that, the government also helped people in Desa Pajaran not to know about activities in the evaluation phase. This is not in accordance with Article 5 of the Malang Regent Regulation Number 37 of 2017, which requires the community to participate in every stage of participation.

4.1.2. Analysis of Participation

Decision-making stage. The calculation in the decision-making stage shows as many as 190 respondents, or about 59.4% are in the low participation rate. The low level of public participation is caused by 3 indicators: (1) that most people never attended a meeting activities; (2) active advice; and (3) ask questions during the meeting process. While the rest are in the participation level (30.0% or 96 respondents) and high (10.6% or 34 respondents).

Program implementation phase. A total of 169 respondents, or 52.2% had a low participation rate to the stage of implementation of the program, while 123 respondents or 38.4% are in the medium category and 28 respondents or 8.7% at the high category. The low level of participation at this stage due to two reasons that people are not actively involved in helping and disseminates information and is not actively participating in problem-solving activities.

Benefit phase of the program. Phase participation of utilization of the majority of respondents are in low-grade classification (127 respondents, or approximately 39.7%), this is because most people do not know the benefits and do not feel or utilize the results of the infrastructure development program.

Program evaluation stage. Program evaluation phase are in the low category. A total of 314 or 98.1% have a low participation rate. Interviews showed that indeed the evaluation stage community programs are not included.

The overall participation rates. The level of public participation will be assessed through the 9 items that have been previously submitted questions at every stage of participation. Approximately 184 respondents or 57.5% in the category of low enrollment, 116 respondents or 36.3% moderate and 20 or 6.2% higher level.

4.2. Determining factors that formed social capital

In this study, the determination of the determining factors of social capital is using CFA analysis (Confirmatory Factor Analysis). Confirmatory factor analysis is an analysis of dependence (interdependence) between variables that are multivariate (variables used much). The intended use of this analysis is to simplify some of the variables to be studied in fewer than before. The description given of this analysis is to form the structure of the data study, it means we want to know the structure and relationships that occur in the relationship between variables. CFA analysis in this study using Mplus application 7.0 [12]. Output analysis of the second objective is the model of the determining factors of social capital in the village Pajaran.

Confirmatory factor analysis (CFA). Factors can be said to form the latent variable if eligible loading factor > 0.5 and $P < 0.05$. Forming factors of social capital is trust (Trust) was formed by personal beliefs to neighbors (T1), Trust to fellow ethnic or clan has the same background (T2) trust government (T4), Trust in the local community leaders (T5), Trust in the local religious leaders (T6), and communication and information (T7). Variable social network (network) is formed by the cooperation (N1) and the presence and give advice at the meeting (N4). Variable social norm (norm) is formed by cultural values (M2) and a willingness to help others or activities in the village (M3). CFA analysis capital model can be seen in Figure 2.

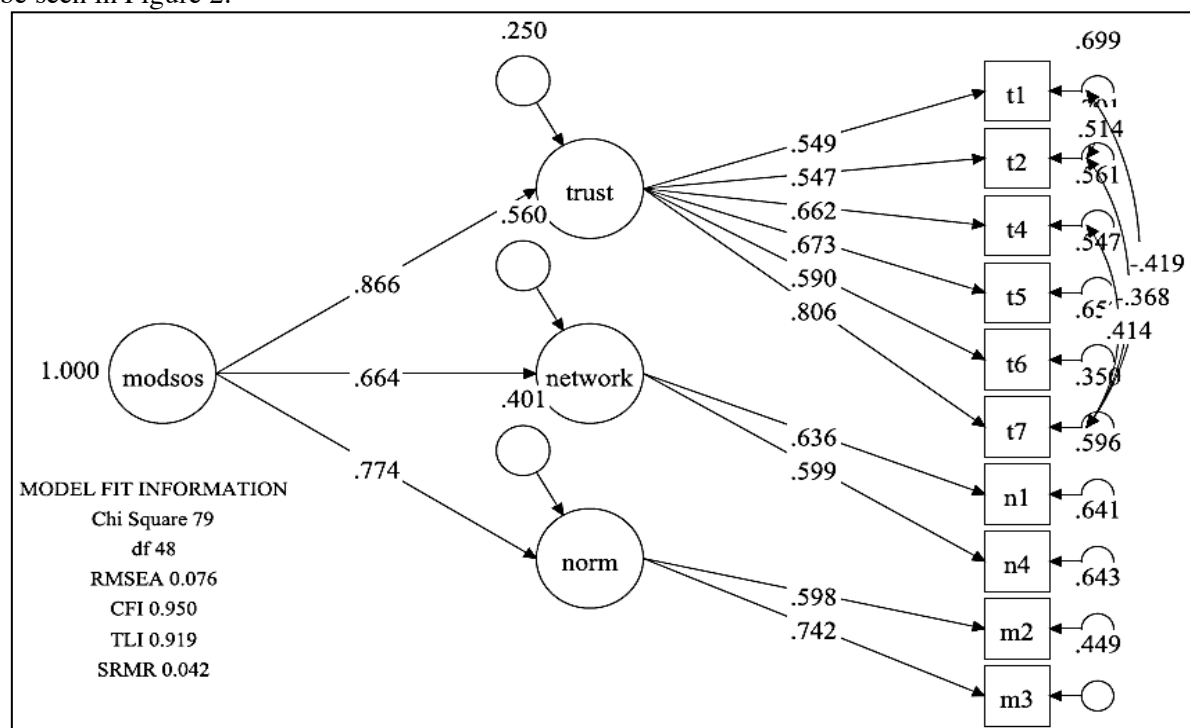


Figure 2. Factors Forming Social Capital

The relationship between social capital through community participation

To determine the model of the relationship between social capital is through community participation, the used input is the result analysis from the participation rate (goal 1) and the determining factors of social capital (objective 2). This relationship model analyzed using SEM (Structural Equation Modeling). SEM analysis is a statistical technique used to examine and estimate the causal relationship using statistical combination. SEM analysis have two common characteristics: (1) latent variables and observed variables, following the division of the variables in this study.

Table 3. Grouping Variables in Research

Latent Variables	Variables Observed
Participation (Y)	Phase Decision Making (Y9) [6]
	Phase Implementation Program (Y10) [6]
	Phase Utilization (Y11) [6]
Trust (T) [6]	Trust neighbors (T9) [7][8]
	Trust in intra-ethnic (T10) [8]
	Trust in ethnic (T11) [7][8]
	Trust the government (T12) [7][8]
	Trust the community leaders (T13) [8]
	Trust in figure religion(T6) [8]
Social Networking (N) [6]	Communication and information (T7) [4]
	Cooperation (N9) [4]
	Participation in religious activities (N10) [7]
	Participation in community activities (N11) [7]
Social norms (M) [6]	The presence and give advice in a community meeting (N12) [7][8]
	Norma (M9) [4]
	Cultural value (M10) [4]
	Readiness to help others (M11) [4]

* [4-9]

Further characteristics are (2) the structural model and the measurement model. Structural model describes the relationships that exist on the latent variables. While the measurement of each latent variable models have several sizes or unobserved variables or indicators modeled as a factor underlying the observed variables related. The first step to create a model form the SEM (Sarwono, 2010) is (1) make the specification model, the initial model is formulated based on a theory or previous researchers (2) indentificationthis stage deals with the study of the possibility of obtaining a unique value for each parameter (3) estimation of the model for the values of the parameters by using one of the methods of estimation provided (5) suitability test models, as Uju matches on CFA, ≤ 5), RMSEA (< 0.08), CFI (> 0.90), TLI (> 0.90), and SRMR (< 0.08) [13] and [14]. Output analysis of the third objective is to make a model of the relationship between social capital through community participation.

4.3. SEM Analysis

Relations with the participation of social capital. Variables examined in relation of the determining factors of social capital through community participation in infrastructure development is divided into two types, namely social capital (exogenous) as well as participation variables (endogenous).

- 1. Assumption 1** (3 variables of social capital: trust (T), social networking (N), as well as the social norm (M) has a direct relationship with the level of participation). Models with this assumption is rejected because the only social network that has an influence on participation, while based on the results of questionnaires confidence variable also has an influence on the level of community participation.
- 2. Assumption 2** (Social capital variables that are directly related to public participation (Y) is the belief (T), while for the social network variables (N) and social norms (M) rated of the belief (T)).

Models with this assumption was rejected because of the trust and the network has no influence on public participation, while the condition of the field suggests otherwise.

3. Assumption 3 (Social capital variables that have a direct relationship with the participation of the social norm is, two other variables: trust and social network relationships through social norms discount). This model was rejected because there is no social capital variables linked to participation.

4. Assumption 4 (Social capital variables that have a direct relationship with the participation of the social network is. Meanwhile, two other variables: trust and social norms have a relationship through social networks). Models with this assumption is acceptable because of the trust and the network has a relationship with participation, it is also supported by the results of the survey in the field. In more detail drawings for model 4 can be seen in Figure 3.

Table 4 shows that in Figure 4 have been categorized fit. Figure 4 shows that the social network has a direct impact on the level of participation and social norms, while confidence indirect influence on the level of participation through social networks. The model shows that the better trust and social norms of the community, the better is also a social network or the relationship between the community, the good condition of the social network will increase community participation in terms of infrastructure development in the village Pajaran. Based on the model, the results of questionnaires and interviews are two factors that make up social networks, namely cooperation (N1) and presence as well as giving advice in meetings of citizens (N4). The model of assumption 4 is supported by the theory of Putnam [7], networking is the most important element of a community and is able to increase the effectiveness of joint actions.

Table 4. Social Capital Model GoF Relations and Participation

Goodness of Fit Value Test Requirement Information			
Chi Square	39	Small	Good fit
CMIN / df	0,661	≤5	Good fit
RMSEA	0,067	<0,080	Good fit
CFI	0,942	> 0,900	Good fit
TLI	0,920	> 0,900	Good fit
SRMR	0,056	<0,080	Good fit

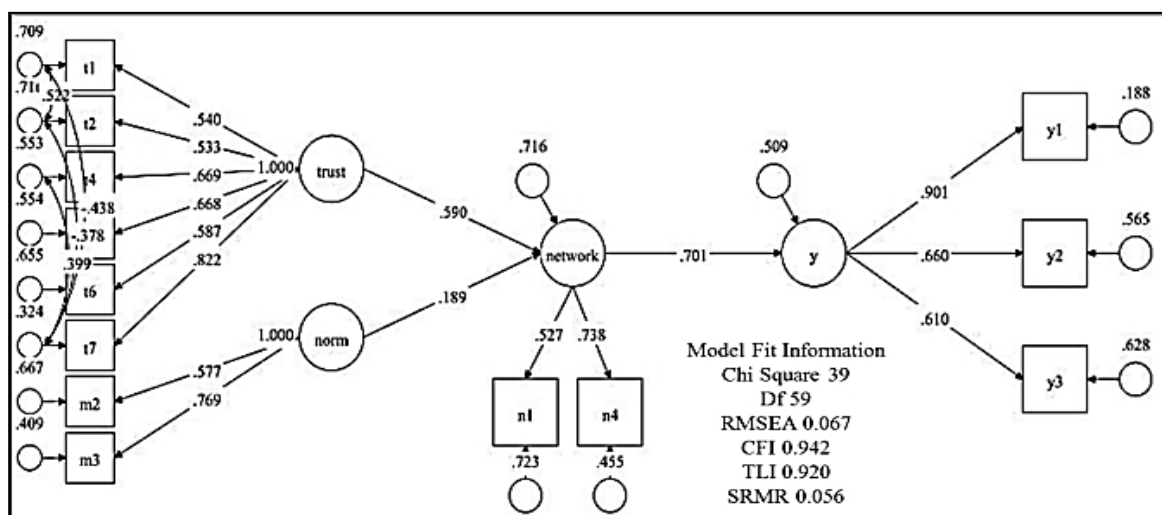


Figure 3. Relationships Model Social Capital and Participation

5. Conclusion

The participation rate in the whole community infrastructure development programs is still low, with a percentage of 57.5%. The level of participation in four stages are:

- a. Decision-making stage with a low participation rate, or 59.4%. The cause of the low level of participation in the decision-making stage is that people who are not active in meeting activities such as express opinions and ask questions.
- b. Program implementation phase with a low participation rate of 52.2% this is caused by the public was never actively involved in helping and disseminate information related to the infrastructure development program, and have never been actively involved in following the joint problem solving.
- c. Program deployment phase with a low participation rate is 39.7%. The low level of participation at this stage because the people do not know the benefits and feel the advantages of infrastructure development projects.
- d. Program evaluation phase with a low participation rate of 98.1%. The low level of participation at this stage because they were not included.

Social capital in the village Pajaran shaped by three factors: trust, social networks, and social norms. Each of these factors shaped by several factors, including are:

- a. Trust the people in the village Pajaran formed by six indicators: 1) trust the neighbors in the neighborhood of residence 2) trust in the people who have the background or the same tribe 3) confidence against village officials or village 4) public trust in public figures in the neighborhood 5) public confidence in the religious leaders around the place of residence 6) information and communication between government and society.
- b. Social network community in the village of Pajaran formed by two indicators: 1) the cooperation in the community and 2) the importance of giving advice and opinions in the community meetings.
- c. Social norms are formed by two indicators: 1) the importance of following custom events (cultural values) and 2) the importance of assisting infrastructure development activities.

SEM analysis related to relationships with the participation of social capital shows that social capital has a relationship with the participation. Relations with the participation of social capital is formed into 2 of the direct connection and indirect relationships. The social network is a variable that has a direct relationship with public participation, while the beliefs and social norms have an indirect relationship with the participation. The results of SEM analysis showed that the relationship between social networks with the participation would be better if public confidence is getting better too. So if the level of public confidence, the better form of social networks in the community were also good. Increasing social network will affect the level of community participation in terms of infrastructure development in the village Pajaran.

6. Recommendation and Suggestion

1. The government should organize activities to strengthen intercommunity relations, useful for increasing participation.
2. The BPD and LPMD institution may conduct a direct survey of the community regarding their suggestions or opinions.
3. Suggestions for future research
 - a. Subsequent research may use other complementary variables to obtain a better picture of social capital in the region.
 - b. In this study, the relationship between social capital and participation was assessed by linking it directly to community participation. It is suggested to make links between social capital and each stage of participation.

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