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Social Capital Based Partnership Model for Reaching 100% Universal Access of Improve Water and Sanitation Services

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Abstract

Indonesia had launched the strategic plan for water and sanitation provision post-millennium development goal 2015. The universal access of 100% for water supply and sanitation sector has been designated to be reached by 2019. This study is aimed to model the partnership approach that is suitable to reach the designated sanitation sector targets based on some success story of some base technology application. The decentralized- and community-based technology that could be replicated should take into consideration all aspects that relate to social capitals. It also identifies and analyses the vital cross-cutting themes and success factors, highlights gaps in the current knowledge, and identifies high-potential areas for partnerships. The grounded theory was used to systematically code, constant comparison, render the categories. Mixed method and technique were used for data analysis. The developed model consists of ten out of twenty collaboration factors that generate variables to structure the model social-capital-based partnership with six dynamic similarity trends of growth and two different trends of growth. This model demonstrates that social connections might drive the collaboration activity to generate benefit from the social connection. The 100% universal access to the sanitation target might be achieved if the model is applied correctly.

Keywords: social capital, partnership, sustainable development goals, water, sanitation

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1. Introduction

The Indonesia Strategic Plan for water and sanitation sector that has been launched in the year 2015 has two objectives. The first objective is to response the designated goals and targets for the coming era of Sustainable Development Goal (SDGs). Sustaining the provision of primary and universal services to human need is the SDGs agenda under the infrastructure theme. The SDGs is the new global development strategy that might be effective in operation by the year 2016. This SDGs strategy is expected to replace the Millennium Development Strategy that had been used to guide global development since the year 1990 up to the year 2015. The second objective is to accelerate the

achievement of the water and sanitation program to reduce and emptied gap of both access and quality of the water and sanitation services.

The Indonesia MDGs achievement for the sanitation sector has been evaluated since the year 2013 and reported in the year of 2014. Based on this evaluation, the population that had already get access to the improved sanitation services is 60.91% (77.15% urban and 44.74% rural). The proportion of the community served by an onsite system in an urban area is 74.15%, and rural area is 44.74%. The access of the population to the centralized system both citywide and communal is only 3%. Meanwhile, the society that had been getting access to solid waste services is 79.80% (urban population 87.00% and rural population 72.6%)[1]. Based on this figure, the achievement of solid waste sector program is higher than the wastewater sector.

The Indonesia MDGs program for wastewater has been targeted to increase the population served from 30% (1990) to 65.5% (2015) or the achievement rate of about 1.42% per year. The achievement rate for solid waste development has not been included in this MDGs target. However, the figure seems not too far from the wastewater MDG targets. Meanwhile, the universal access of 100% for water supply and sanitation (wastewater and solid waste) sector have been designated to be reached by 2019[2]. Based on this designated target, the achievement rate is 7.82% per year or more than 5.5 time of the previously used rate. It is estimated that the budget of about IDR 268.33 trillion is needed to achieve the designated sanitation sector target. About 47.3% from the total estimated budget will be allocated from the national budget, 18.6% from local government budget and the remaining of about 34% is expected could be mobilized from private and community. This mention sanitation budget is 7 (seven) time greater than the budget that had already been stated in the National Five Year Development Plan (2015-2019). Therefore, this designated sanitation target is too optimistic but challenging.

From the perspective of Indonesia environmental act, these challenging targets may be controllable. The act stated that every person has a right to get easy access to proper sanitation services but also must manage these services in a sustainable manner [3]. This is a basic argumentation that not only government institutions shall responsible to procure, operate and maintenance of the build sanitation services. All individual or groups of an individual has a specific role in mobilizing their capital to perform the sanitation services. Therefore, a partnership which includes networking, coordination, cooperation, and collaboration is an exciting theme to be further research.

The infrastructure development using the Public-Private Partnership (PPP) approach for the provision of water, sanitation has been discussed in an integrated manner with

health program [4-7]. The PPP approach for water and sanitation is developed from some tools from other infrastructure development such as sector electricity, port, rail transportation, and tourism.[8-11]. Those are the assessment tool to explore an inter-organization partnership, an integration for collection information and communication, systematic framework to assure the infrastructure development and evidence-based implementation of partnership [12-15].

From the perspective of environmental engineering and management, the terminology, as well as the inside knowledge of social capital, is considered new. However, from the review of the literature [16}, the social capital is the mechanism to identify and subsequently utilized resources both tangible and intangible that actors to get mutual benefits among the actors. Therefore, the social capital linking social capital connection (exchange resources) into the expected profit from performing partnership through the development of social capital connections.

This paper discusses more on a social capital based aspect of the partnership. The discussion begins with describing the water and sanitation system that is constructed and operated in the selected study location. The characteristic of the association is then summarized and discussed. Furthermore, the collaboration factors and their capacity is analyzed and followed by the identification of collaboration factor that has a strong correlation. Finally, the dynamic social capital based partnership is modeled. The developed model will be used to discuss the mechanism of partnership to reach the designated national water supply and sanitation target.

2. Methodology

This study uses a selected community-based water supply and sanitation projects that had already been in operation for more than five years and still working correctly. Those selected projects consist of five rural water supply systems and five urban sanitation systems of wastewater and solid waste management. The study area is selected based on the typology of rural and urban type of services since there are some differences in technology options and social cultural aspects that affect the partnerships in rural and urban areas

The selected study for water supply system is located at Sekejengkol (SKJK), Cibangkong (CBK), Cibodas (CBD), Kuweron (KWRN) and Rancakalong (RCKL). The selected study area for sanitation is located at Karangwaru (KRWR), Mulyoagung (MYAG), Pantura (PTR), Tegalrejo (TGRJ) and Cimanggung (CMG). Those selected location

studies are designated by the Research Institute of Housing and Settlement (RIHS) for researching the field of water and sanitation.

Data is gathered from research report including a report on monitoring and evaluation of the status of system operation and maintenance. The collected secondary data in particularly information related to partnership is formed according to the stage of system development. The typology of partnership for each stage of development is divided into three categories namely initiative, role sharing, and decision making. The primary data which relates to project preparation is gathered through an in-depth interview to the research team member who did survey, investigation and design the system, construction supervision, and commissioning. Lesson learned of the research team is re-evaluated, particularly the works of different actors who involve during the project preparation. Data which is related to a successful partnership is gathered using Wilder Collaboration Factor Inventory tool [17-18]. The selected respondent is also the RIHS researcher who has already familiar with the chosen project study. The respondents are asked to indicate how much they agree or disagree with each of designated statement in the inventory question for each of study chosen location. The scale of a 5-point ranging from strongly disagree (scale=1) to strongly agree (scale=5) is used to guide the selected respondent. Ones all statement is filled, the score for each statement is divided with the average of total statement point of the scale. This calculated factor value is treated as input data for further analysis.

Grounded theory is used to systematically code, constant comparison, rendering category, and analysis. Gap analysis, correlation analysis, and principal component analysis are the methods used to identify the pattern of partnership, the strengths, and the characteristics. Those are representing the level of successfulness of partnership, the potential correlations among collaboration factor. The factors that have a strong correlation is then used as a basis to model the social capital based partnership and to explain the mechanism on how the partnership is built sustainably.

3. Result and Analysis

3.1. Description of location study

3.1.1. Water supply provision

Most of water supply provision of the study location utilized spring water as water resources, except for the water supply provision for Cibangkong (CBK) is using water

hydrant from existing local water enterprise. The spring water sources is a standard system for a rural area. All the quality of water sources is generally good since there is no need to treat their water sources, except disinfection of water. The household benefited from this water supply system is ranging from 200 households up to maximum 2050 houses. This range of services depends on the population located in the service area and also the housing density

The water tariff for direct connection is IDR 5000 per household per month, whereas for public connection is IDR 1000 per unit of public relationship per month. The customer who gets water from public hydrant has to pay about IDR 100 per bucket with 10 liter capacity or IDR 200 per bucket with 20 liter capacity (based on a survey in first-year service 2003). The system is managed by a group of community and small business enterprise. The number of connection has been considered as the criteria to decide the type of management system applied in the study location. From the technical point of view, the water supply system that had been delivered and subsequently operated is considered as a simple system. Therefore, the system could easily be managed by the community.

3.1.2. Sanitation services

Most of the sanitation services provided in the study location are communal sanitation system consists of wastewater and solid waste management. The population served mainly is located within the administrative boundary of an urban area, except for Mulyoagung solid waste system which is located in the rural area. The solid waste system technology applied in Mulyoagung village are composting and an-organic recycled based system. The process of the waste management system consists of waste transporting, waste unloading and waste sorting. The sorting of solid waste produces three types of product. They are the compost product, the recycled an-organic product, and the dried rice based product. The compost product is used to fertilize plants and fish pond. The recycled product could be sold to waste dealer whereas the dried rice is sold to the pig farmer. The capacity of the composting system is about 1 ton/ day that can product compost is about 300 kg/day.

The sanitation system technology applied in the remaining four study locations is known as a bioreactor. The wastewater treatment system used at Tegalrejo and Pantura is bio contact anaerobic system. The treatment process on this system consists of pre sedimentation followed by bio contact filtration. The wastewater treatment technology applied at Karangwaru and Cimanggung is known as anaerobic and aerobic system type

of technology. The treatment process of Karangwaru wastewater system consists of Primary Sedimentation (PSD), An-aerobic Baffle Reactor (ABR), Biofilter Anaerobic Filtration (BAF), Rotation Biological Contactor (RBC) and Secondary Sedimentation (SSD). The treatment process of Cimanggung wastewater system consists of Pre Sedimentation (PSD), up flow Anaerobic Sludge Blanket (UASB), Biofilter and Hybrid Constructed Wetland (HCW). The number of households benefited from this sanitation system is about 100-120 households. The community contribution to pay wastewater services in Karangwaru and Tegalrejo is ranging from IDR 6000-10.000/household/months. The sanitation system applied at the study location is more advanced when it is compared to rural water system technology. However, the system can also be appropriately managed by the group of community.

3.2. Characteristics of partnership

The characteristics of Community Based Partnership Project (CBPP) of the selected location study is summarized in Table 1. The actors involved in this project include both central as well as local governments (Govt), Non-Government Organizations (NGO), Community Leaders (CL), Community with facilitators (Cfw) and Community without facilitators (Com).

The studied locations of water supply systems are Sekejengkol (SKJK), Cibangkong (CBK), Cibodas (CBD), Kuweron (KWRN) and Rancakalong (RCKL). The studies locations of sanitation are Karangwaru (KRWR), Mulyoagung (MYAG), Pantura (PTR), Tegalrejo (TGRJ) and Cimanggung (CMG).

3.3. Success factors of partnership

From the analysis of a set data which consist of 20 collaboration factors and 10 study locations, the principal component analysis generated two components. The eigenvalue for the first component is 4.327 and the second eigen value is 3.005. The primary components analysis is also generated the so-called factor loading and score factor components. The final calculation of collaboration factor, as well as crucial factor index that represent the level of successfulness of partnership of the 10 studied locations, are summarized in Table 2.

As can be seen from Table 2, the highest level of successfulness of partnership of the study location is the crucial factor of membership characteristic. These key factors contribute about 50.4% of the total calculated index of partnership. The successfulness

Table 1: Characteristics of Community-Based Partnership Project.

Stage & Process of Development		Study Locations									
		SKJK	CBK	CBD	KWR	RCKL	KRWR	MYAG	PTR	TGRJ	CMG
Pre Const	Initiative	Cwf	Cwf	Com	Com	Cwf	Cwf	Com	Cwf	Cwf	Cwf
	Role Sharing	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	Govt
	Decision Making	Cwf	Cwf	Cwf	Cwf	Govt	NGO	Cwf	Govt	NGO	Govt
Const	Initiative	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	CL	Cwf	Govt
	Role Sharing	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	Cwf	NGO	Govt
	Decision Making	Cwf	Govt	Cwf	Cwf	Govt	NGO	Govt	Govt	NGO	Govt
Post Const &M	Initiative	Com	Com	Com	Com	Com	NGO	Com	Cwf	Com	Com
	Role Sharing	Com	Com	Com	Com	Com	Com	Com	Com	Com	Com
	Decision Making	Com	Com	Com	Com	Com	Com	Com	Com	Com	Com
Typology		Rural	Urban	Rural	Rural	Rural	Urban	Rural	Urban	Urban	Urban
Sector		WS	WS	WS	WS	WS	WW	SW	WW	WW	WW
Source: Analysis											

of those key factors is pushed by the appropriate cross-section of the member and the ability to compromise. The index of those two collaboration factors representing the level of personal knowledge on partnership. The second higher successfulness of partnership of the study location is the key factor of process and the structure. These key factors contribute about 27.3% of the total calculated index of collaboration. The successfulness of this key factor is pushed by the multiple layers of participation and the flexibility of collaboration factor. The index of these two collaboration factors representing the level of organization knowledge on partnership. The third successfulness of alliance of the study location is the key factor of the environment. This key factor contributes about 14.3% of the total calculated index. The successfulness of this key factor is pushed by the history of collaboration in the community. The other positive driver to generate the successfulness of this crucial factor is the collaborative group seen as a legitimate leader in the community. However, this legitimating capacity development is limited by the occurring unfavorable social and political climate. The fourth successfulness of partnership of the study location is the key factor of communication. This key factor contributes about 12.3% of the total calculated index. The successfulness of the vital factor is pushed by the establishment of an informal relationship and a communication

Table 2: Level of Successfulness of Partnership.

No	Key Success Factors (KSF)	Collaboration Factors (CF)	CF Code	CF Index	KSF Index
1	Environment	History of collaboration in the community	Ev-1	1.442	1.185
		The collaborative group is seen as a legitimate leader in the Community	Ev-2	0.499	
		Favorable political and social climate	Ev-3	-0.756	
2	Membership Characteristic	Mutual respect, understanding and trust	Mc-1	0.739	4.169
		Appropriate cross-section of the member	Mc-2	1.619	
		Member see collaboration as in their self-interest	Mc-3	0.451	
		Ability to compromise	Mc-4	1.360	
3	Process and Structure	Member share a stake in both process and outcome	Ps-1	0.013	2.257
		Multiple layers of participation	Ps-2	1.240	
		Flexibility	Ps-3	0.929	
		Development of clear roles and policy guideline	Ps-4	0.442	
		Adaptability	Ps-5	-0.300	
		Appropriate pace of development	Ps-6	-0.067	
4	Communication	Open and frequent communication	Cm-1	-0.067	1.017
		Establish an Informal relationship and communication link	Cm-2	1.084	
5	Purpose	Concrete, attainable goal and objective	Pp-1	-0.067	-0.262
		Share vision	Pp-2	-0.164	
		Unique purpose	Pp-3	-0.031	
6	Resources	Sufficient funds, staff, materials and time	Rs-1	-0.045	-0.094
		Skilled leadership	Rs-2	-0.049	

Source: Analysis

link that is facilitated by the group as well as a local organization. However, this establishment is controlled by the factor of open and frequent communication.

Among the six of the partnership successfulness factors, there are the purpose and resources have a negative index of partnership. There are nine of the twenty collaborations have a negative index. The negative index is representing the limited progress of the development of partnership and hence limiting the development capacity as well as the effectiveness of the alliance. The weaknesses of collaboration factor forming the resources and the purpose key partnership factor are classified as a basic need in the development of the partnership. All types of infrastructure development need resources such as human, budget, machine, method, and material. The development of social capital partnership need also sufficient resources. Lacking resources that are allocated to investment will limit the achievement of the designated target of growth.

The development of all type of infrastructure also needs a clear objective, purpose, and target for clear direction or lacking guideline on how to invest in an efficient and effective manner. The negative index of this two key factor and another negative index of collaboration factors proved that the level of knowledge of the individual as well as an organization on the application technology and managing them in a sustainable way need to be strengthened.

3.4. Partnership model and their mechanisms

The result of the correlation analysis of collaboration factors of partnership that have a significant level <0.05 is summarized in Table 3. There are eight set collaboration factors of partnership that has a significant level <0.05. There are four sets of collaboration factors have a negative correlation and four other four sets of collaboration factors have a positive correlation factor. From the perspective of system dynamics, the negative correlation factor representing the opposite **(O)**trend of growth, whereas a positive correlation representing similarity **(S)** trend of growth of collaboration. Using this principle, the dynamic model of social capital partnership is modeled and is represented by the causal loop diagram (Figure 1). The developed social capital based partnership model consists of eight loops i.e. loop-A (+), Loop-B (-), loop-C (+), loop-D (+), loop-E (+), loop-F (+), and loop-G (-). The variables within the loop-A consist of open and frequent connection-concreteattained development and objectivepace of development. The variable within the loop-B is multiple layers of participationformal relationship and a communication linkcross-section of the member. The variables within the loop-C consist of social climate-member see collaboration as in their self-interestability to compromise.

Table 3: Correlation Coefficient Matrix of Strong Collaboration Factor.

	Ev3	Mc2	Mc3	Mc4	Ps2	Ps4	Ps5	Ps6	Cm1	Cm2	Pp1
Ev3	1	.237	**-.710**	.565	.317	.524	.578	.090	.090	-.413	.090
Mc2	.237	1	-.380	.447	**.690**	.029	.021	-.532	-.532	**-.883**	-.532
Mc3	-.710	-.380	1	**-.680**	-.452	**-.776**	-.024	.430	.430	.333	.430
Mc4	.565	.447	**-.680**	1	.567	.544	-.011	-.342	-.342	-.238	-.342
Ps2	.317	**.690**	-.452	.567	1	-.419	-.033	-.233	-.171	-.171	-.583
Ps4	.524	.029	**-.776**	.544	-.033	1	.175	-.378	-.378	.096	-.378
Ps5	.578	.021	-.024	-.011	-.233	.175	1	.279	.279	-.188	.279
Ps6	.090	-.532	.430	-.342	-.171	-.378	.279	1	**1.000**	.259	**1.000**
Cm1	.090	-.532	.430	-.342	-.171	-.378	.279	**1.000**	1	.259	**1.000**
Cm2	-.413	**-.883**	.333	-.238	-.583	.096	-.188	.259	.259	1	.259
Pp1	.090	-.532	.430	-.342	-.171	-.378	.279	**1.000**	**1.000**	.259	1

Remark: N=10, **0.710** : Correlation level with significant level<0.05

Source: Analysis

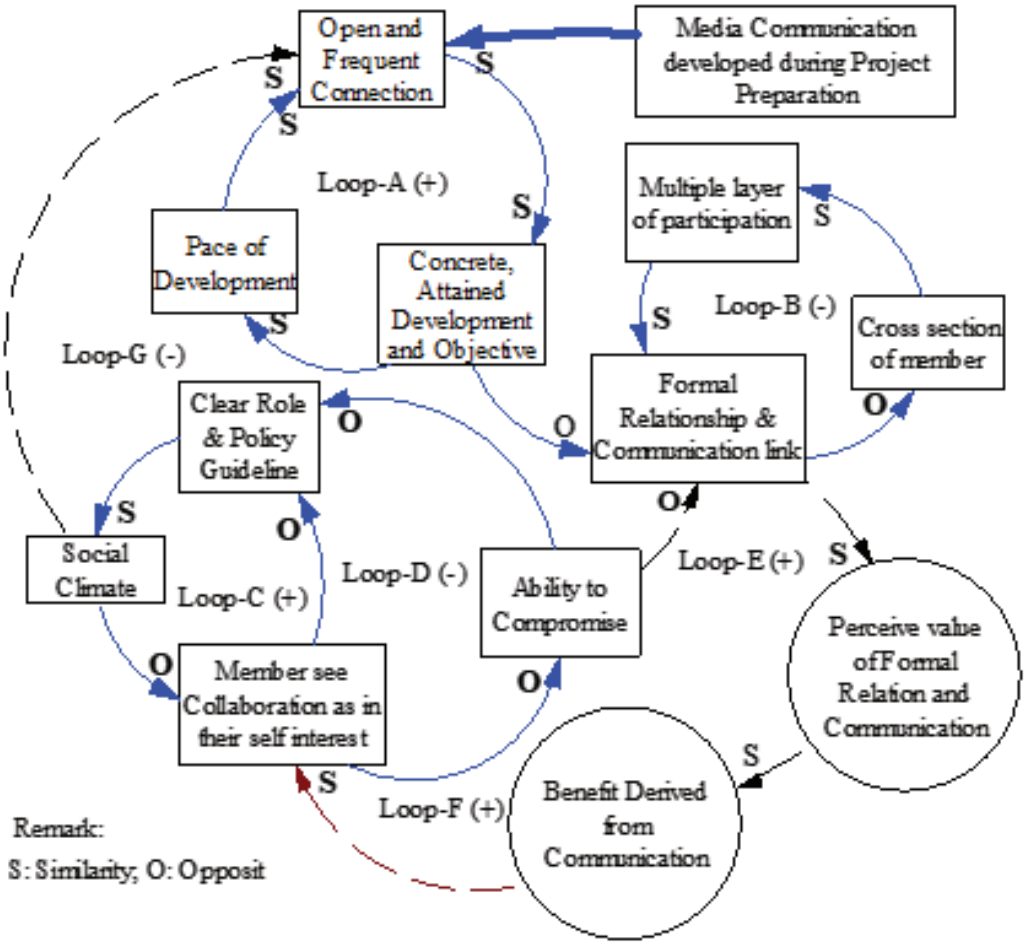

Figure 1: Developed Conceptual Dynamic Model of Social Capital Partnership. (Source: Analysis)

The variables within the loop-D consist of the ability to compromise-clear role & policy guidelinesocial climatemember see collaboration as in their self-interest. The variables within the loop-E consist of perceiving the value of formal relation and communication-benefit derived from communicationmember see collaboration as in their self-interest-ability to compromiseformal relationship & communication link. The variables within the loop-F consist open and frequent connectionconcrete, attained development and objectiveformal relationship and communication linkbenefit derived from communica-tionmember see collaboration as in their self-interestability to compromiseclear & policy guidelinesocial climateopen and frequent connection. Finally, the variables within the loop-G consist of open and frequent connectionconcrete, attained development and objective formal relationship and a communication linkbenefit derived from communi-cationmember see collaboration as in their self-interestclear & policy guidelinesocial climateopen and frequent connection. Positive loop in the system dynamic terminology is known as a snowballing loop, whereas the negative loop is balancing loop. Loop-A is

named as connection loop, loop B is named as collaboration activity loop, loop-C and loop-D is named as a memory of successfulness loop and loop-E is named as benefit loop, loop-F and loop-G is named as a social climate loop. Variables in the box are derived from the result of correlation analysis whereas variable in a circle is additional variable to fill the gap of the causal loop social capital partnership model in such way that the mechanism to build social capital can be explained.

This model diagram illustrates how social connection might build benefit derived from communication and hence raising an expectation social climate that strengthening the social connection. The model also illustrates how the relationship might generate collaboration activity, and how successful actions taken from collaboration activities in building an unforgettable memory, and how successfulness memory could built benefit. As illustrated using loop-F, increasing open and frequent connection might increase understanding of the importance of having a concrete goal, attained and development and objective. However, increasing this understanding might reduce the frequency of having a formal relationship and communication link. Decreasing the formal relationship and communication link might increase the perceived value of formal relation and communication and subsequently expanding the benefit derived from communication. The increasing benefit might increase member see collaboration as in their self-interest and hence reduce reducing clear role and policy guideline, but will increase social climate and finally the cycles back to increase open and frequent connection or reinforcing the social capital connection. Meanwhile, the open and persistent connection is only possible if there are media to make the connections to happen. Therefore, the connection media need to be provided at the early stage of project preparation and assuring that all related stakeholder get involve to initiate the project, share their role and get involve in the decision processes throughout the project development stage. The lesson learned from the successfulness of the community based rural water supply and urban sanitation and the mechanism discussed using the developed social capital based partnership model proved that the challenging target to reach 100 % access of sanitation by the year 2019 might be achieved.

4. Conclusion

The successfulness of the partnership at the study location is driven by the key success factor of membership characteristic, processes, and structure. However, the gap of knowledge occurs in both individual and organization. The individual gap of knowledge is in the aspect of defining the purpose, concrete goal, attained and objective. The

organization gap is in the aspect of allocation resources needed. There are ten out of twenty collaboration factor generating variables to structure the model social capital based partnership with six dynamic similarity trend of growth and two opposite trend of growth. This model demonstrates that the social connections that might drive the collaboration activity to generate benefit from the social connection. Therefore, the developed social capital based partnership model and the explanation of the mechanism prove that the target to reach 100% of the universal access of water and sanitation can be achieved if all stakeholder is involved through all stage of development.

References

[1] Kementerian Pekerjaan Umum dan Perumahan Rakyat (2015). *Rencana Strategis Direktorat Jenderal Cipta Karya*, 2015-2019

[2] Natsir, Muhammad (2015). *Rencana Pencapaian Akses Air Minum dan Sanitasi 2015-2019, Global Infrastructure Leaders Forum 2015,* Jakarta, 31 Maret 2015

[3] Undang-Undang Republik Indonesia nomor 32 Tahun 2009 *tentang Perlindungan dan Pelestarian Lingkungan Hidup*

[4] Johnston, E.A., Teague, J., and Graham, J.P. (2015). Challenges and opportunities associated with neglected tropical disease and water, sanitation and hygiene intersectoral integration programs. *BMC Public Health,*15:547

[5] Johannessen, A., Rosemarin, A., Thomalla, F., Swartling, A.G., Stenström, T.A., Vulturius, G. (2014) Strategies for building resilience to hazards in water, sanitation and hygiene (WASH) systems: The role of public private partnership. *International Journal of Disaster Risk Reduction,* 10 Part A (December), 102-115

[6] Tania Jordanova, Ryan Cronk, Wanda Obando, Octavio Zeledon Medina, Rinko Kinoshita and Jamie Bartram (2015). *Water Sanitation, and Hygiene in Schools in Low Socio-Economic Regions in Nicaragua: A Cross-Sectional Survey, International Journal Environmental Resources and Public Health* 12, 6197-6217

[7] Freeman MC, Ogden S, Jacobson J, Abbott D, Addiss DG, et al (2013). *Integration of Water Sanitation, and Hygiene for the Prevention and Control of Neglected Tropical Diseases: A Rationale for Inter-Sectoral Collaboration. PLoS Neglegted Tropical Disseases* 7(9): e2439

[8] Marcus, Samuel Nnamdi, A'sesan Ayodele, Iwu Hyacinth Nnaoma (2015). *Public-Private- Partnership Policy: Proposed Nigerian Reform Programme for Electricity Development*, *American Journal of Humanities and Social Sciences* Vo1. 3, No. 1, 2015:13-17

[9] Abdulhamid Ozohu-Suleiman and Lawal Abdullahi Oladimeji (2015) Public-Private Partnership and Infrastructural Development in Nigeria: The Rail Transportation Sector in Focus, *British Journal of Education, Society &Behavioural Science,* 7(4): 254-266

[10] Ida Bagus Putu Adnyana, Nadjadji Anwar, Ria A.A. Soemitro & Christiono Utomo (2015). *Critical Success Factors of Public-Private-Community Partnership in Bali Tourism Infrastructure Development,* Journal *of Sustainable Development;* Vol. 8, No.6,208-2015

[11] Geoffrey Aerts, Thies Grace, Michael Doom, Elvira Haezendonk (2014). *Public-Private Partnershipof Port Infrastructure: An Explorative Multi-Actor Perspective on Critical Duccess Factor*, The Asian Journal of Shipping and Logistic, Vol.30,No 3, 2014:273-298

[12] Christina Tsou, Emma Haynes, Wayne D Warner, Gordon Gray and Sandra C Thompson (2015). *An exploration of inter-organizational partnership assessment tools in the context of Australian Aboriginal-mainstream Partnership:* a scoping review of the literature An exploration of inter-organizational partnership assessment tools in the context of Australian Aboriginal-mainstream Partnership: a scoping review of the literature, BMC Public Health 15:416

[13] Fotios Spyridonis, Simon J E Taylor, Pamela Abbott, Roberto Barbera2, Amos Nungu, Lars L Gustafsson,Bjorn Pehrson, Omo Oaiya and Tiwonge Banda (2014) *A study on the state-of-the-art of e-Infrastructures uptake in Africa,* Palgrave Communications, 1-7

[14] Xueqing Zhang, Shu Chen (2013). *A systematic framework for infrastructure development through public private Partnership*, IATSS Research 36, 88–97

[15] Amy M. Kilbourne, Mary Spink Neumann, jeanette Waxmonsky, Mark S. Bauer, Hyungin Myra Kim, Harold Alan Pincus, Marshall Thomas (2012). *Evidence-Based Implementation: The Role of Sustained Community-Based Practice and Research*, Partnership Psychiatric Services, Vol. 63 No. 3, 205-207

[16] Marta Kindler with Vesselina Ratcheva and Maria Piechowska (2015). *Social networks, social capital and migrant integration at local level,* European literature review, Institute for Research into Superdiversity, University of Birmingham Edgbaston, B15 2TT, Birmingham UK.

[17] Denise L. Whaley and Liz Weaver (2010)., *Approach to measuring more collaboration in communities*, Tamarack – An Institute for Community Engagement Waterloo, Ontario

[18] Cath Fraser, Judith Honeyfield, Fiona Breen, Mervyn Protheroe and Victor Fester (2015).*Critical success factors in inter-institutional project collaborations,* Ako Aotearoa National Centre for Tertiary Teaching Excellence PO Box 756, Wellington 6140