WATER GOVERNANCE MODEL IN SMALL CITY: REVIEW AT DISTRIC BEKASI - INDONESIA

Ninin GUSDINI

Department of Natural Resource and Environmental Management, Bogor Indonesia
ninin.gusdini@yahoo.com

M.Yanuar J PURWANTO

Department of Civil and Environmental Engineering, Bogor Agricultural University, Bogor Indonesia
yanuar.tta@gmail.com

Kukuh MURTILAKSONO

Department of Soil Science and Land Resources, Bogor Agricultural University, Bogor Indonesia
kmurtilaksono@yahoo.com

KHOLIL

Department Environmental Engineering, Sahid University, South Jakarta Indonesia
Kholil2005@yahoo.com

Abstract

Clean water is a vital necessity for all living creatures, especially humans, whose existence can affect the level of health and welfare of society. Many parties either directly or indirectly get involved in the process of fulfilling the water needs of the community, however, the guarantee that every single member of the community is entitled to receive water services that meet the standards of quality, quantity, continuity and affordability is still limited to a few of them. This study aims to determine key players who play a strategic role in the clean water supply system in a sustainable manner and the contextual relationship between the stakeholders. The analysis was undertaken using the method of Intepretative Structural Modeling (ISM). The results suggest that the Regional Development Planning Agency (hereinafter referred to as 'Bappeda') and the Regional House of Representatives (hereinafter referred to as 'DPRD') of Bekasi Regency are the key players in attempts to meet the need for clean water in Bekasi Regency. Key players, in water supply system, will play a strategic role in the fulfillment of the community's basic rights and act as the central of coordination of any efforts to fulfill the needs for sustainable water supply.

Keywords: clean water, interpretive structural modelling (ISM), key players, sustainability, water supply system.

1. INTRODUCTION

The enactment of the regional autonomy policy has caused a shift in stakeholders' roles in fulfilling the community's need for clean water. Prior to this regional autonomy era, through the enactment of the Law No. 5 of 1974, the central government has always played a more dominant role in many aspects, including in fulfilling the community's need for clean water. However, since the regional autonomy era, strengthened by the Law No. 23 of 2014, greater authority and responsibilities to manage and ensure the welfare of the people within their respective administrative area are assigned to regional governments. Regional governments as the party in authority are responsible for making any efforts to meet the need for clean water of the community within their own administrative area. On the other hand, the central government serve as both the facilitator and manager of water resources and they are responsible for the development of systems to supply clean water both at the national level and in the strategic areas of this nation. This is certainly encouraging a shift in the stakeholders/key players in efforts to achieve the target water-need fulfillment.

Such a shift in the stakeholders/ key players in efforts to meet the need for clean water has posed new challenges, including the overlap between the parties, less sensitivity to the issue of limited clean water which the community are experiencing and the unpreparedness of these stakeholders to undertake these responsibilities. Therefore, it is imperative to describe clearly the structure and contextual relationship between stakeholders in relation to the management of clean water. Thus, their expected role and responsibilities in sustainable clean-water fulfillment attempts can be defined clearly.

The availability of clean water in a sustainable manner is the priority of the Government, urban planners and those housing developers in order to guarantee the basic needs of the public, protect their health and improve their life standards (Hewett 2001);(WHO/UNICEF 2014), (Rimi 2016). The limited availability of clean water is getting increasingly obvious. As the socio-economic aspects and human civilization develop, the need for clean water is increasing as well, however it is not in line with the availability of clean water resources which continue to decrease as a result of climate change and pollution of surface water sources. Kodikara, Perara & Kularathana (2010) state that conflicts between key players/ stakeholders are one of the factors that worsen the performance of fulfillment of the public need for clean water. The complexity of interactions between stakeholders both in terms of their classes, sector/ area of authority or interests has triggered conflicts among these stakeholders relating to clean-water procurement attempts (Kenis 1991), (Lienert, J et al. 2013). Another study finds out that conflicts between stakeholders may arise as the preference of these stakeholders is not accommodated in the decisions or policy taken (Tompkins 2008).

Those multi-faceted problems relating to clean-water need fulfillment require a holistic approach. Traditional clean-water management approaches, which merely focus on efforts to seek new water sources have failed to resolve the current problem of clean-water unavailability so that the community's need cannot be met (Rogers 2004). Modern approaches to clean-water management to meet the community's water need are required. In these approaches, various efforts should be made such as increasing public awareness of their environment, controlling water use, improving/modifying new water sources, and minimizing conflicts among water management stakeholders (Himes 2007).

Bekasi is one of the regencies which can provide description of the complexity of stakeholders/key players in fulfilling the community's water need. The presence of PDAM as the representation of the government in attempts to meet the clean-water need in Bekasi Regency, private drinking-water supply companies (locally known as 'PAM'), the community either as individuals or in groups, and a variety of technical agencies in Bekasi Regency such as the Housing and Spatial Planning Service, the Health Service, the Highways and Water Resources Service, and Bappeda as the parties with authority over the rules and development plans of Bekasi Regency as well as other various groups are still unable to effectively meet the clean-water need of the community safely. This is evident from the low level of pipeline services provided by PDAM, i.e. approximately 15.69% of the whole community in the administrative area of Bekasi Regency (BPS, 2014), and lack of water in some areas such as Muaragembong and Bojongmangu and Subdistricts and a number of villages in other subdistricts.

This research aims to identify the role of each stakeholder/key person as well as the contextual relationship between stakeholders in relation to managing the fulfillment of the community's clean-water requirement. Moreover, this research will identify the key players/ stakeholders in attempts to fulfill the community's need for clean water. These key players/ stakeholders refer to stakeholders with a significant role to influence the target achievement of clean-water need fulfillment (Brugha 2000; Reed, 2009). This will minimize the situation where the demand for clean water is unable to meet as a result of conflicts between stakeholders due to an overlap of their roles and responsibilities. Those will assist the government, especially the regional government in fulfilling the basic rights of the community.

2. METHODOLOGY

Among the methods employed to identify the contextual relationship between the components of a system and to determine components playing a major role is the method of Interpretive Structural Modeling (ISM) (Attri 2013). This method is used to identify and analyze key players involved in various efforts to meet the need for clean water of the community in Bekasi Regency. It is a technique for structuring a direct contextual relationship between sub-elements of a system (Eriyatno 2012). Its

methodology is divided into two parts, namely establishing the hierarchy and classifying the sub-elements (Eriyatno, 2012). According to Saxena, there are 9 elements that can be analyze using this method (Marimin 2004). The elements to analyze include the key players/ stakeholders involved in attempts to meet the need for clean water on an ongoing basis. The successful achievement of particular predetermined objectives/ interests highly depends on the fplayers of key players/ stakeholders (Aaltone 2008). The involvement of these key players/ stakeholders with their own interests needs to be defined in terms of their contextual relationship so that they role they play will not overlap and in turn the target can be achieved optimally. In general, the analysis stages are presented in Figure 1 below:
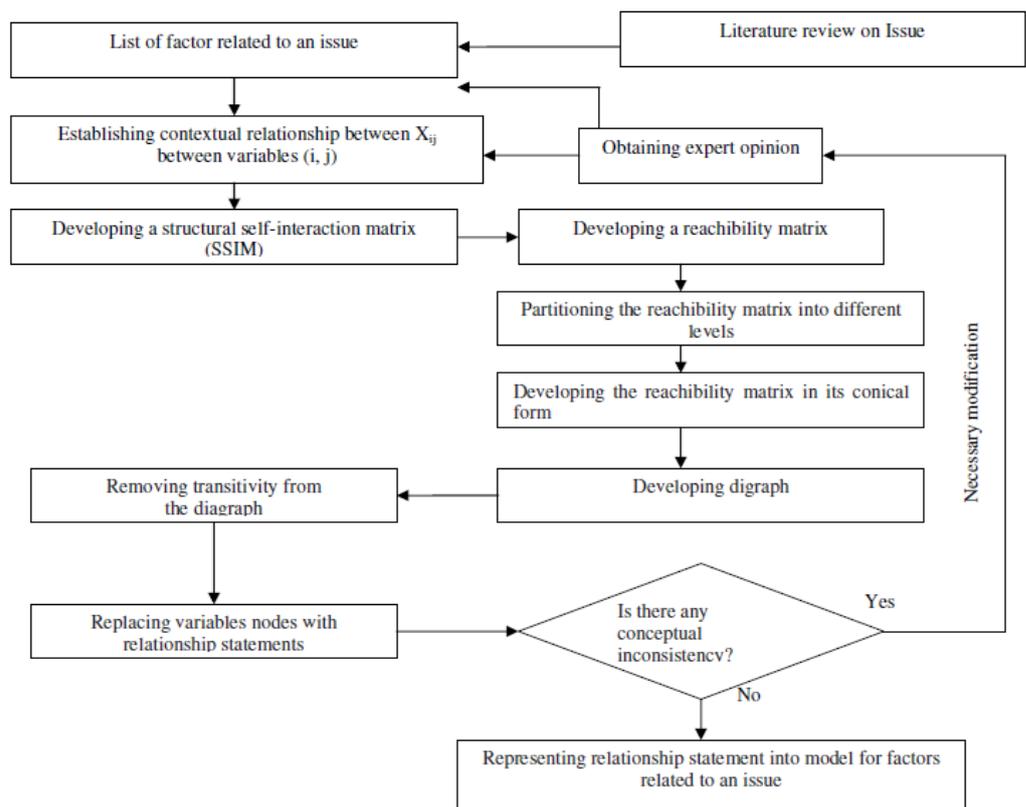

FIGURE 1 - THE STAGES OF THE ISM ANALYSIS
Source: Attri R, Dev N and Sharma V 2013

Determination of stakeholders' sub-elements and identification of the contextual relationship between stakeholders is based on expert opinions and data obtained using the snowball technique with the initial information coming from the Regent as the head of the region holding the highest authority in the regency. At the final stage of the analysis, the Driver Power (DP) and Dependence (D) to classify stakeholders' sub-elements and to identify stakeholders/ key players will be revealed.

3. FINDINGS AND DISCUSSION

Clean-Water Services in Bekasi Regency

Clean-water services for the community in Bekasi Regency are provided using the pipeline nd non-pipeline systems. The first is organized by the government through PDAM and several private companies, while the latter is organized by the community independently, either independently or in groups. The non-pipeline service utilizes pumps, protected wells, and unprotected wells. The proportion of the community utilizing water from the pipeline service provided by PDAM is approximately 15.69% (BPS, 2014), which covers a number of subdistricts, namely Tarumajaya, Tambun and Setu, Cikarang Utara, Cikarang Selatan, Cabangbungin, Bojongmangu, Kedungwaringin, Babelan, Sukatani, Lemahabang, Tembelang, Tambun Utara, Cibarusah, and Cikarang Barat. The proportion of the community using water from the non-pipeline service is approximately 33.05% (Bappeda, 2014), which covers 23 Districts in Bekasi Regency. As for the rest, they use water from the pipeline service provided by private companies, bulk water, and bottled water. The water service provided by private companies is limited only to a few well-planned settlement.

Identification of Stakeholders as a Sub-element

Stakeholders as a sub-element in this research were determined based on the information obtained using the snowball technique. The initial information was obtained from the Regent as the regional head responsible for meeting the need for clean water in its jurisdiction. The information obtained was dug deeper so as to obtain a description ofthe stakeholders and their own role in attempts to meet the community's need for clean water. The obtained information was also consulted with experts composed of practitioners and academicians, in order to verify the information relating to the determination of stakeholders as a sub-elementin this research. It was this confirmation result which was used as a basis for determining stakeholders whose role was analyzed, the contextual relationship between these stakeholders and the structure of these stakeholders in attempts to meet the need for clean water, especially in Bekasi Regency.

Several research has described the key players/ stakeholders involved in clean water procurement. Research into the clean water supply system in Melbourne city categorized key players/ stakeholders into 3 groups, namely the management of water resources, water users and groups concerned about the environment (Kodikara 2010). Another research classifies clean water procurement stakeholders based on decisional levels (local, regional and national), sectors (administrative, practitioners, politicians, communities, associations) (Lienert 2013). In the present research, the experts agreed to classify key players/ stakeholders based on their role in connection with the policy, namely their role as

policy makers and implementers as well as parties affected by such policy. Based on the foregoing, the ISM analysis used 15 sub-elements of stakeholders of clean-water need fulfillment, they are:

a) the sub-elements representing national and regional policy makers, which consisted of (1) the Ministry of Public Works and People's Housing (PUPR)/ P1 and (2) the Ministry of Health/ P2 at the national level, and (3) Bappeda of Bekasi Regency at the regional level;

b) the sub-elements representing the national and regional policy implementers, which consisted of (1) the Provincial Service of Housing and Spatial Planning/ P3 at the Regional Level, (2) the Regency Service of Housing and Spatial Planning/ P5, (3) the Health Service at the Regency Level/ P6, (4) the Highways and Water Resources Sevice/ P7, and (5) BPLHD/ P15;

c) sub-elements consisting of operators that included (1) PDAM/ P8, (2) private water management/ P9, and (3) the public company Perum Jasatirta 2/ P10. The sub-element PDAM is a regional government-owned company in charge of providing clean water to the community. The sub-element the private water management is comprised of private companies which undertake business in clean-water procurement. As for Perum Jasatirta, it is a government agency authorized to supply raw water for the following requirements such as drinking, irrigation, industries, and the public need.

d)   the sub-elements that perform supervisory functions, namely (1) Perpamsi/ P11, (2) the Community/ P12, (3) NGOs/ P13, and (4) DPRD/ P14. The sub-element Perpamsi is the benefactor of drinking-water supply companies. The sub-element NGOs is non-profit organizations concerned with drinking-water development. Lastly, DPRD is a legislative body with supervisory functions over the performance and programs of the government, including in the sectors of clean water and regional budgeting.

The Definition of the Contextual Relationship between Stakeholders

The contextual relationship between the sub-elements of key players/ stakeholders described by the experts were quantified so as to obtain the scores of the driver power (DP) and dependence (D). These scores were used to put into those sub-elements clusters and arrange the structure of key players/ stakeholders involved. Results of the analysis of the various sub-elements are presented in Table 1.

Based on the analysis results obtained as presented in Table 1, the highest score for Driver Power (DP) and the lowest score for dependence are found in sub-element P4, namely Bappeda and DPRD. This indicates that both parameters have the ability to influence the system (the driver power) significantly and both of these institutions are not easily affected by the changes made by the other sub-elements in

the system. Furthermore, the classification for the sub-elements of stakeholders based on the analysis results can be seen in Figure 2.

TABLE 1 - THE REACHABILITY MATRIX FOR THE SUB-ELEMENTS OF KEY PLAYERS

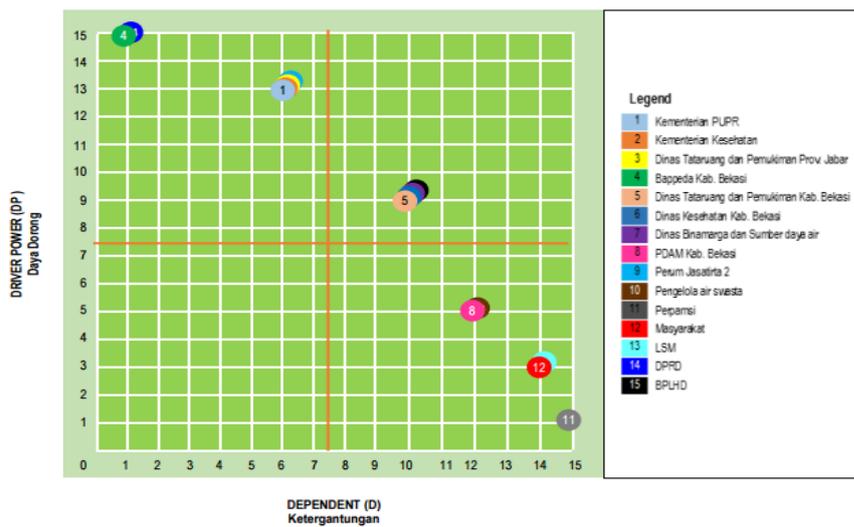| Sub-Elements of Players	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	DP	EK
P1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	13	2
P2	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	13	2
P3	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	13	2
P4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	1
P5	0	0	0	0	1	1	1	1	0	1	1	1	1	0	1	9	3
P6	0	0	0	0	1	1	1	1	0	1	1	1	1	0	1	9	3
P7	0	0	0	0	1	1	1	1	0	1	1	1	1	0	1	9	3
P8	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	5	4
P9	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	13	2
P10	0	0	0	0	0	0	1	0	1	1	1	0	0	0	5	4
P11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	6
P12	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	3	5
P13	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	3	5
P14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	1
P15	0	0	0	0	1	1	1	1	0	1	1	1	1	0	1	9	3
D	6	6	6	2	10	10	10	12	6	12	15	14	14	2	10		
Level	5	5	5	6	4	4	4	3	5	3	1	2	2	6	4		

Source: Analysis Results, 2016

FIGURE 2 - CLASSIFICATION FOR THE SUB-ELEMENTS OF STAKEHOLDERS

Note:
1. Ministry of Public Works and People's Housing
2. Ministry of Health
3. Housing and Spatial Planning Service of West Java Province
4. Bappeda of Bekasi Regency
5. Housing and Spatial Planning Service of Bekasi Regency
6. Health Service of Bekasi Regency

7. Water Resources and Highways Service
8. PDAM of Bekasi Regency
9. Public Company of 'Jasatirta 2'
10. Private Water Companies
11. Perpamsi
12. Communities
13. NGOs
14. DPRD
15. BPLHD

By looking at Figure 1, the analysis results indicate that the the Regional Development Planning Agency (Bappeda) of Bekasi Regency and the Regional House of Representatives (DPRD) occupy the 4th quadrant. The position of these Bappeda and DPRD as an independent sub-element (Quadrant 4) shows that both institutions have strategic abilities because they can affect the other sub-elements in attempts to achieve the target of clean-water need fulfillment on an ongoing basis. Bappeda as part of the executive (the regional government) is responsible for planning, coordinating and controlling all the activities ofregional policy formulation and implementation. Regional planning documents such as RPJMD (i.e. the regional medium-term development plan) and RISPAM (i.e. the master plan for the water supply system) are part of the planning documents with a strategic function, i.e. as guidelines for implementing various attempts to meet the need for clean water. Therefore, the position of Bappeda may affect the attained fulfillment of the need for clean water set by the Regional Head (i.e. the Regent). As for DPRD, it s the legislative body whose function is to make regional rules related to the fulfillment of the need for clean water (legislation) and to supervise the performance of the regional government, particularly in relation to the fulfillment of the community's need for clean water, and thus the position of DPRD affects various policies the regional government will take. Moreover, DPRD also play a role in the approval of the regional budget proposed by the regency government. If the programs the regency government have planned do not obtain approval in terms of the budget, therefore those programs cannot be implemented by the regency government. The synergy between these two institutions will have a major impact on the attempts to fulfill the community's need for water supply. The relationship between the Regency Government, which in this regard is represented by Bappeda, and DPRD in the attempts to fulfill the community's need for water supply can be seen in Figure 3.

Figure 3 shows that Bappeda and DPRD have a significant role in attempts to fulfill the community's need for clean water. Both of these institutions must work in a synergy formulating the implementation strategy for realizing the target of clean-water need fullfilment. They have the same position in promoting efforts to meet the need for clean water. On the other hand, Technical Services and PDAM execute the activities which both Bappeda and DPRD have agreed.
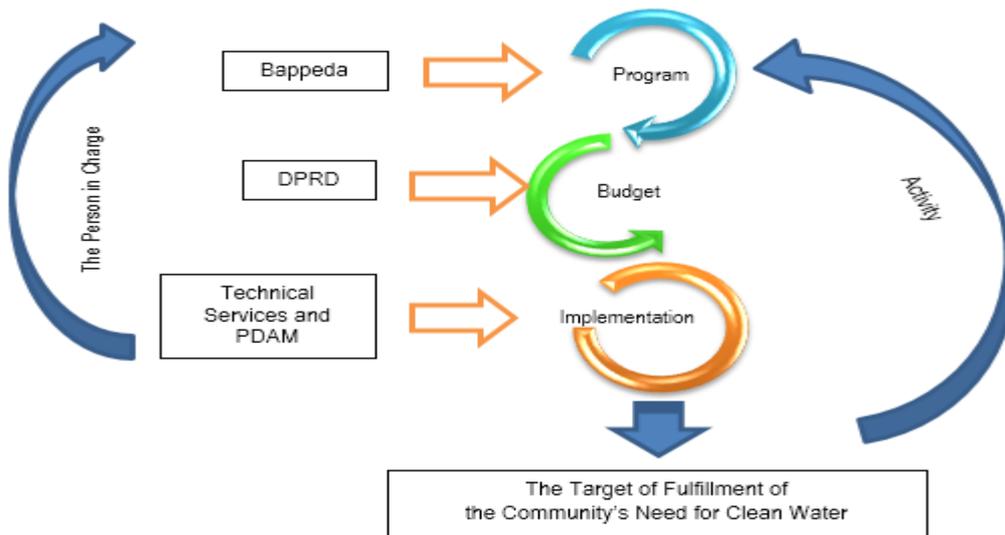
FIGURE 3 - THE RELATIONSHIP BETWEEN KEY SUB-ELEMENTS IN BEKASI REGENCY IN AN ATTEMPT TO MEET THE NEED FOR CLEAN WATER

The other sub-elements which also occupy Quadrant 4 are the Ministry of Public Works and People's Housing, the Ministry of Health and the Housing and Spatial Planning Service of West Java Province which are in charge of the procurement of physical facilities for clean water supply at the provincial level and Jasatirta II as well as the provider of raw water. These four sub-elements have a relatively high score of Driver Power (DP), but their scores are lower than those of Bappeda and DPRD. Because these institutions are not in the territory of Bekasi Regency, they cannot meddle directly in the programs of technical services and PDAM to implement clean-water procurement programs at the regency level. In relation to the implementation of the clean-water procurement programs at the regency level, these institutions must proceed such programs via the Regional Head. This is in line with the Law No. 23 of 2014 concerning Regional Governance and the spirit of regional autonomy. In addition, those four sub-elements obtain a higher score for dependence than Bappeda and DPRD, as to fulfill the need for clean water at the regency level is the responsibility and authority of the Government of a Level-II Region (i.e. the Regent), the central government and the provincial government are merely in charge of providing support and facilities for the successful implementation of the programs planned by the regency government. This is consistent with the Law No. 23 of 2014 concerning Regional Governance, which stipulates that fulfillment of the need for clean water/drinking water is part of the responsibilities in the Public Works area associated with basic public services, if the location, benefits and impacts perceived are found in the regency, therefore any matters of the concerned government shall be under the responsibility and authority of the regency government. The Provincial Government are responsible for and have authority overcross-regency/ city matters, while the Central Government are responsible for and have authority overcross-province matters or those strategic matters of the nation.

This refutes the growing phenomenon in the region, which often puts PDAM as the main players in efforts to meet the need for clean water. This returns the position and role of PDAM as water providers. PDAM are technically responsible for procurement of clean water, PDAM perform their functions in compliance with policies set by the Regent (the regional government). The performance of PDAM can be influenced very easily by the role of other institutions, especially the influence of key stakeholders, which are Bappeda and DPRD.

The sub-elements such as the Housing and Spatial Planning Service, the Highways and Water Resources Service, the Health Service and the Regional Environmental Agency of Bekasi Regency occupy the Linkage sector (Quadrant III), meaning that attention should be given to these institutions carefully and cautiously because they may change into dependent or independent ones. The role of these services refer to the policies established by the regional government and the existing need among the community, and thus in order that the existence of these services provides support to attempts to fulfill the need for clean water in a sustainable manner, then the roles of Bappeda as the regional planning agency and the Ministry of Public Works and People's Housing, the Ministry of Health and Jasatirta II should be stronger in order that the policies and the planned target to meet the need for clean water can be achieved.

Based on the description above, it can be concluded that in order to meet the need for clean water on an ongoing basis, government agencies at both the regional level and the central level have the ability to affect the target of clean-water need fulfillment. This is in line with both the national and international policy that water is the basic right of the people that must be met/ facilitated by the government. If viewed more deeper, it is illustrated that the institutions in Bekasi Regency play a greater role and influence than the institutions at the central level (provincial and national levels). Such a condition implies that the division of authority at the regional level to meet the basic needs of their people has complied with the mandate of regional autonomy.

In the context of sustainable fulfillment of the need for clean water in Bekasi Regency, PDAM, private drinking-water supply companies, communities, non-governmental organizations (NGOs) and the Association of Indonesian Private Drinking-Water Supply Companies (Perpamsi) are dependent stakeholders. Their role is highly vulnerable to the influence of the other sub-elements and does not have any no significant effect on the system. The roles of those sub-elements are easily influenced by the role and policy of both regional and central governments. PDAM is one of locally-owned companies which always comply with the policy of the Regency Government whilst making every development step, therefore the performance of this PDAM can be intervened by the regency government. Another condition occurs to private drinking-water supply companies, these institutions are also influenced by

the policy of the regency government, but the regency government do not intervene directly in the operational activities of these companies. The existence of private drinking-water supply companies relies heavily on the support of the regional government policy. They can work in conjunction with PDAM in attempts to meet the basic rights of communities in the form of clean water which is the responsibility of the government. In carrying out their activities, private drinking-water supply companies require support from the regional government in terms of licensing and attempts to minimize the high economic practices. On the other hand, the regional government can make efforts to control the rates of clean water services set by private drinking-water supply companies, so that the community can afford it. This aims to prevent commercialization of water, which violates the Constitution.

On the other hand, communities are often put as an object of fulfilling of the need for clean water. This makes their role weak and tends to only play a minor role in attempts to meet their own and family's need for water. The actual conditions in Bekasi Regency show that the joint role of the community can help efforts to meet the need for clean water. There are some stimulating activities carried out by the government for community-based water procurement, which have proved effective in overcoming the shortage of clean water, such as in Rawabinong, Jaya Mukti and Pasir Tanjung Villages and many more, each of which serve 100 to 200 families. Efforts to empower the community to meet the need for clean water may be supported by the presence of non-government organizations (NGOs). The synergy between components of the community and operators who supply clean water can support the government in meeting the community's need for clean water. This is largely determined by the policy issued by the regency government.

Model for Clean-Water Need Fulfillment Attempts

The management model for clean-water need fulfillment attempts related to the roles and positions of the stakeholders based on the expert judgment can be seen in Figure 4.

Based on Figure 4, the sub-elements which occupy the highest level, i.e. the key sub-elements, are Bappeda and DPRD of Bekasi Regency. These institutions play a strategic role in attempts to meet the need for water in a sustainable manner starting from planning until monitoring. The analysis shows that the main role players/ controllers in fulfilling the need for clean water in Bekasi Regency are the executive and legislative bodies. This is in line with the Law No. 23 of 2014 concerning Regional Governance, which sets out that the fields of public works and spatial planning among of which relate to the drinking-water sub-sector shall be the responsibility of the government with regard to basic services. In the Law, it is stipulated that management and development of drinking-water supply systems (hereinafter referred to as 'SPAM') in Bekasi Regency shall entirely be the responsibility of the Regency Government. The provincial government plays a role in developing SPAM across regions (regency/city),

while the central government plays a role in determination of the national development of this SPAM, the management and development of SPAM across provinces, and SPAM for the strategic interests of the nation. These findings are consistent with those of the research conducted in Nigeria that key players/ stakeholders play a major role in five aspects, namely: (1) they have the ability to meddle directly in the government's affairs, (2) they are an organization or institution engaging in planning activities, (3) they use economic instruments as a basis, (4) they are policy makers, and (5) they play a role in the socio-cultural aspect (Okeola 2012). The analysis reveals that Bappeda and DPRD are key players/ stakeholders and in carrying out their functions and responsibilities they have the authority to intervene in the regency policy. They are an institution that can create rules/ policies that bind at the regency level and get involved in regional planning, including planning to develop clean-water procurement systems for example, as a coordinator in the preparation of the Master Plan for the Water Supply System which is one of the planning documents of Bekasi Regency.
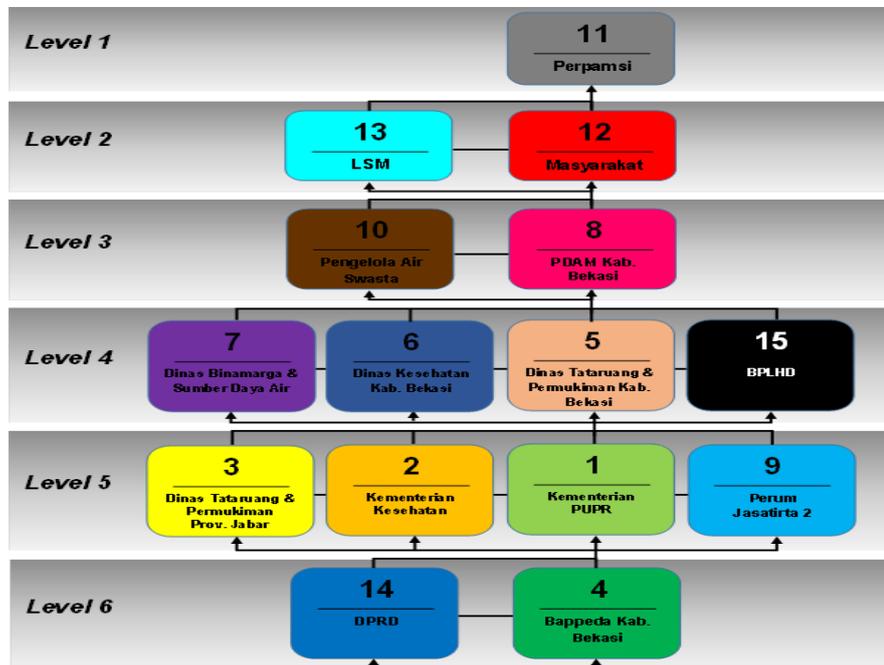

FIGURE 4 - THE STRUCTURE OF SUB-ELEMENTS STAKEHOLDERS WITH REGARD TO THE FULFILLMENT OF SUSTAINABLE THE NEED FOR WATER SUPPLY

Note:
Level 1: Perpamsi
Level 2: NGOs, Communities
Level 3: Private Water Companies, PDAM of Bekasi Regency
Level4: Water Resources and Highways Service, Health Service of Bekasi Regency, Housing and Spatial Planning Service of Bekasi Regency, BPLHD
Level 5: Housing and Spatial Planning Service of West Java Province, Ministry of Health, Ministry of Public Works and People's Housing, Public Company of 'Jasatirta 2'
Level 6: DPRD, Bappeda of Bekasi Regency

Based on the previous analysis, it is revealed that key players/ stakeholders have a fundamental role in fulfilling the need for clean water in a sustainable manner at the regency level. The criteria of key players/ stakeholders at the regency level include: (a) playing a significant role in formulating or intervening in the regional policy/regulations, (b) taking part in the process of planning regional development, (c) having authority over regional financial arrangements. Based on the foregoing, the brief description of the role of each stakeholder in order to meet the need for clean water in Bekasi Regency can be seen in Table 2.

TABLE 2 - STAKEHOLDERS' ROLE IN AN ATTEMPT TO MEET THE NEED FOR CLEAN WATER IN BEKASI REGENCY

Sub-elements of Stakeholder	Stakeholder's Role				
	Policy Formulation	Planning	Budget	Operations	Monitoring
Bappeda	●	●	●		●
DPRD	●	●	●		●
Ministry of Public Works and People's Housing	●		●		●
Ministry of Health	●		●		●
Housing and Spatial Planning Service of West Java Province	●		●		●
Housing and Spatial Planning Service of Bekasi Regency		●		●	●
Health Service of Bekasi Regency		●		●	●
Water Resources and Highways Service		●		●	●
Regional Environmental Body		●		●	●
Jasatirta II		●		●	
Communities				●	
PDAM				●	
Private Drinking-Water Supply Companies				●	
NGOs					●
Association of Indonesian Private Drinking-Water Supply Companies					●

4. CONCLUSIONS

For the community, fulfillment ofthe need for clean water is thejoint responsibility of the government (central and regional), the private sector and the community themselves. Each party plays their ownrole and function in accordance with their duty and authority. Bappeda and DPRD of Bekasi Regency is an institution that holds the most decisive role relating to the fulfillment of the need for clean water in Bekasi Regency on an ongoing basis. Both institutions have their own role in policy-making in the clean-water sector, i.e. planning the development of clean-water supply systems, providing the budget required for such development and monitoring achievement of the target of clean water fulfillment. The Ministry of Public Works, the Ministry of Health, the Housing and Spatial Planning Service of West Java

Province, all services and institutions in charge of clean water supply in Bekasi Regency, PDAM, private drinking-water supply companies as well as the community and relevant organizations serve as parties that carry out and monitor the various efforts to meet the need for clean water.

Findings of this research suggest that PDAM and private drinking-water supply companies play the same role, namely as an institution which supplies clean water to communities. Their performance is strongly influenced by the commitment of the Regional Government and DPRD. Implementation of the commitment of both the Regional Government and DPRD in relation to both of these institutions is manifested in different manners. PDAM require a commitment in terms of policies and budget while private drinking-water supply companies require ease of licensing and various policies to prevent high economic practices. Nevertheless, the regional government should control the tariffs for water and types of water utilities allowed so as to prevent commercialization of water resources.

REFERENCES

Aaltone, K. Jaako, K. Toumas, O. 2008. "Stakeholder Salience in Global Projects." *International Journal Project Management 26(5)*: 509-516.

Attri, R. Nikhil, D. Sharma, V. 2013. "Intepretative Structural Modelling." *Research Journal of Management Science 2(2)* : 3-9.

Brugha, R. Varvasovszky, Z. "Stakeholder Analysis: a review . 2000. " *Health Policy Plan 15(3)*: 239-246.

Eriyatno. 2012. *Ilmu Sistem: Meningkatkan Mutu dan Efektifitas Manajemen.* Bogor-Indonesia: Guna Widya.

Hartley, TW. 2006. "Public Perception and Participation in Water Use." *Desalination 187*: 115-126.

Hewett, PC. Montogomery, MR. 2001. *Poverty and Public Service in Developing Country Cities.* Policy Research Devision Working Paper, New York: The Population Council Newyork.

Himes, AH. 2007. "Performance Indicators in MPA Management: Using Quistionnaires to Analyze Stakeholder Preference ." *Ocean and Coastal Management 50(5)*: 329-351.

Kenis, P. Scheider, V. 1991. "Policy Networks and Policy Analysis: Scuitinizing a new analitical Toolbox." In *Policy Networks: Empirical Evidence and Theoretical Considerations* , by B. Mayntz, R Marin, 25-59. Westview Press.

Kodikara, PN. Perera, BJC. Kularathana, MDUP. 2010."Stakeholder Preference Elicitation and Modelling in Multi-Criteria Decesion Analysis-A Case Study on Urban Water Supply." *European Journal of Operational Research 206*: 209-220.

Lienert, J. Schnetzer, F. Ingold, K. 2013. "Stakeholder Analysis Combined with Social Network Analysis Provides Fine-Grained Insights into Water Infrastructure Planning Process." *Journal of Environmental Management 125*: 134-148.

Marimin. 2004. *Teori dan Aplikasi Pengambilan Keputusan dengan Multi Kriteria.* Jakartar- Indonesia: Widyasarana.

Okeola, OG. Sule, BF. 2012."Evaluation of Management Alternatives for Urban Water Supply System Using Multi-Criteria Decision Analysis ." *Journal of King Soud University - Engineering Science 24*: 19-24.

Reed, MS. Graves, A. Dandy, N Posthumus, H. Morris,J. Prell, C. Quinn, CH. Striger, LC. 2009. "Who's in and Why? A thypology of Stakeholder Analysis Method of Natural Resource Management." *Jurnal Environmental Management 90(5)*: 1933-1949.

Rimi, IA. 2016. "Quality Dimensions of Public Water Service in Abuja, Nigeria." *Utilities Policy 38*: 43-51.

Rogers, SH. Seager, TP. Gardner, KH. 2004. "Combining Expert Judgement and Stakeholder Value with Promethee:A Case Study in Contaminated Sediment Management ." In *Comparative Risk Assessment and Environmental Design Making*, by I. Ramadan, AB Linkov, 305-322. Boston: Massachussetts.

Tompkins, EI. Few, R. Brown, K. 2008. "Scenario-Based Stakeholder Engagement: Incorporating Stakeholders Preference into Costal Planning for Climate Change." *Journal of Environmental Management 88(4)*: 1580-1592.

WHO/UNICEF. 2014. *Progress on Drinking Water and Sanitation .* Joint Monitoring Programme for Water Supply and Sanitation , WHO/UNICEF.