

**DRINKING WATER FOR THE PEOPLE: PUBLIC-PRIVATE PARTNERSHIPS FOR ESTABLISHING DRINKING WATER SUPPLY SYSTEM IN JAWA TIMUR PROVINCE, INDONESIA**

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**ABSTRACT:**

*The increase of the number of inhabitants has been a major cause of several problems, one of which is the lack of drinking water resource, as it happens in Jawa Timur Province, Indonesia. Coping with the problem, the government of the province attempts to establish Drinking Water Supply System (or called SPAM) which involves five cities/regencies, such as Pasuruan Regency, Pasuruan City, Gresik Regency, Sidoarjo Regency, and Surabaya City. However, to achieve the goal, a great deal of money is in urgent need. Therefore, the government invites the private sector, in this case PT. Sarana Multi Infrastruktur (or SMI) through a Public-Private Partnerships (PPP) scheme. The present study aims to analyze the model and process of the PPP as well as the support and role of the government in the Umbulan SPAM project development. The study employs descriptive-qualitative research. The result of the study shows that the model of cooperation within the project is Build, Operate, and Transfer (BOT) model. Moreover, the process of the partnerships include project selection and prioritization, feasibility study and due diligence, and a general auction in order to select the company responsible with the project. The government provides both fiscal and non-fiscal supports to the project in the form of partial investment, land provision to build off takes, and assurance through PII, Indonesia's infrastructure assurance.*

**Keywords:** *public-private partnerships, development planning, drinking water supply system*

## 1. INTRODUCTION

Water is widely seen as one of essential natural resources in the life of human and humanity as well as an important key in establishing people's welfare, thus the very basic and key factor of development of the nation (Ministry of Environment, 2010). In accordance with that postulation, the government, in this context the local government within the Republic of Indonesia, must ensure water supply for the people as mandated by Government Regulation number 16 of 2005 on Development of Drinking Water Supply System. In Chapter 40 of the regulation, it is mentioned that "the government is responsible to provide the people's need on drinking water upon its respective administrative area in accordance with the predetermined minimum standards of service".

Following the increasing number of Indonesia's inhabitants as well as the continuous development of the nation, the need on drinking water increases as well. Nevertheless, the drinking water resource is getting limited as the time goes by. *Badan Pusat Statistik* (the Central Bureau of Statistics) has projected that the number of Indonesia's inhabitants is increasing from 238.5 millions in 2010 to 305.6 millions by 2035 (Badan Pusat Statistik, 2011). Breaking down the numbers to Indonesia's provinces, the biggest number of inhabitants live in Jawa Barat Province, then followed by Jawa Timur Province. However, the increase of inhabitants in the later province is more rapid as, according to the projection, the number of people living in the province will rise up as many as 41,127.7 millions by 2035 from the current number of inhabitants in 2010, which is, 37,565.8 millions. This rapid development of inhabitants cannot be followed by improvement of drinking water service quality, a performance assessment by *Badan Pemeriksa Keuangan* or Financial Supervisory Board has reported (Kominfo Jatim, 2015). The assessment was made under several aspects of consideration, such as financial, management, and controlling technique. The result was that, of the 38 *Perusahaan Daerah Air Minum* (Local Water Supply Company, hence shortened as PDAM) in Jawa Timur Province, nine were labelled as "very poor performance", while the other 14 were "good", and the rest 15 were in "excellent" condition. The report indicates a downgrade in the performance of those PDAMs as compared with the same report back in 2010, stating that there were 14 of them with "very poor performance", 13 of them with "good performance", and 11 of them with "excellent performance".

In order to deal with the poor service of facilities the companies have provided, a better system is desperately needed. Developing such a system, however, needs a great deal of fund for advancing the methods and techniques of supplying drinking through the initiation of *Sistem Penyediaan Air Minum* (Drinking Water Supply System, hence called as SPAM) development project by the Government of Jawa Timur Province. The development of SPAM has been regulated through Government Regulation number 16 of 2005 on Development of Drinking Water Supply System. Chapter 1 of this regulation mentions "the development of SPAM is an integrated activity which aims to establish, widen, and/or improve the physical (techniques) and non-physical (in terms of governance, management, finance, role of the society, and legal) systems for the sake of providing drinking water to the society toward a better life." This provision of drinking water is inevitable as the need of drinking water source by the people of Jawa Timur Province is rising.

It has been planned that the SPAM project will involve five cities and regencies within Jawa Timur Province, such as Pasuruan Regency, Pasuruan City, Gresik Regency, Sidoarjo Regency, and Surabaya City. The five cities/regencies were chosen due to a report by *Badan Pendukung Pengembangan Sistem Penyediaan Air Minum* (Supporting Board of the Development of Drinking Water Supply System, hence called BPPSPAM), mentioning that the high level of water pollution in Kali Surabaya River will degrade the quality of water. On the other side, the water from the river is main source of drinking water, managed by PDAM, being mostly distributed to Surabaya City and Gresik Regency. As consequence, in the last few years, PDAMs of the two cities received many complaints from their clients concerning the quality degradation of the water. Therefore, a new, high quality water source is needed by the people of both cities.

Meanwhile, the reason behind the involvement of PDAM of Sidoarjo Regency in the SPAM project is because it wants to increase the number of water source from Umbulan. This is so as the need of water in Sidoarjo is increasing, while the water supply currently available is no longer able to meet the need. Furthermore, Pasuruan City and Pasuruan Regency were involved in the project as between these two cities lies a water source which is primarily exploited for the SPAM project, located exactly in Umbulan Village, Winongan District, Pasuruan Regency. Above all, Umbulan is prioritized at the first place for the development of SPAM for the people of the five cities (Bappeda Jatim, 2015).

The Umbulan SPAM project is a high-budget project; an estimate of IDR 2.2 Trillions is the fund that becomes the responsibility of the central government and local government of Jawa Timur Province and the five cities/regencies to provide for the sake of the people's benefit, yet with as lower price as possible that the people have to spend. In order to accomplish the goal, the government invited private sector to participate in the project. The private companies are hoped to support the project both financially and technically. One pattern of cooperation that is seen as a solution in involving private sector in a government-based infrastructure project is through Public-Private Partnerships (PPP) scheme.

The private company involved in the Umbulan SPAM project is PT. Sarana Multi Infrastructure (Persero) (hence called as SMI). SMI was established in 2009 as one of state-owned corporations which work in the area of infrastructure development, as regulated by Ministry of Treasury's Decree number 100/PMK.010/2009 on Infrastructure Funding Company. In the project, SMI will serve as a facilitator of the project preparation with the Government of Jawa Timur Province. This PPP is regulated through President's Decree number 66 or 2013 on Public and Private Partnerships on Infrastructure Development.

Based on the above situation, this study aims to investigate (1) the flow of PPP in the development planning of Umbulan SPAM in Pasuruan Regency, (2) the work process of PPP in the development planning of Umbulan SPAM in Pasuruan Regency, and (3) government's support in the development planning of the SPAM.

## 2. REVIEW OF RELATED LITERATURE

In order to achieve an objective within an organization, a well-established plan is the initial step toward the objective. Dror (in Kunarjo, 2002:14) asserts that planning is "...a process of preparing a set of decisions to be executed sometime in the future toward a certain objective". Drawing from that definition, there are four basic elements of planning as follow. First, to plan is to select; second, planning is the tool to allocate source; third, planning is the tool to achieve an objective; and four, planning is for the future.

Furthermore, development is an activity the result of which is to be distributed across the nation where all people in different layers of society can take advantage from in the form of increased life quality. Development, according to Suryono (2004), is "...a conscious and continuous improvement toward advancement of life" (p.4). Therefore, a development needs to take the following elements into account: (1) Change, referring to a change toward something which is better than before; (2) Objective, referring to certain objectives from, by, and toward the people for accomplishing welfare and happiness; and (3) Potential, referring to exploiting the people's potential in order to support the implementation of a development planning (Suryono, 2014). In other words, development refers to a process of establishing a nation by locating the right elements in the right place as a way to support the development itself toward a determined objective.

From the definition, it can be said that development planning in general is a way or technique of accomplishing an objective under a clear guidance with regard to the condition of a specific place or region. According to Lewis (in Sjafrizal, 2009), development planning is "...a collection of policies and development programs in order to stimulate the people as well as private parties to utilize their available resources in a more productive manner" (p.15). The stimulus can be in the forms of micro- and macroeconomic incentives (Sjafrizal, 2009).

In relation with development activity, a project will always be in need of a great deal of fund. Therefore, a careful plan in the very beginning should precede the decision on how possible the plan can be executed. In a more detailed explanation, Kunarjo states as follows:

"There are certain questions that people involved in a development planning activity must bear in mind, such as 'Do we need that project? Does it have to be started now? How much will it cost?' These questions have to be answered prior to executing the plan. If they have come with the answers, then the plan can be initiated with regard to the real needs" (2002:84).

One advantage of project planning, according to Kunarjo (2002), is to increase the degree of efficiency in the operatio of the plan. Furthermore, Kunarjo (2002) explains that a good planning phase will help "(1) to increase efficiency, (2) to systematically plan the objectives of the project, and (3) to create a careful controlling system toward the project" (p.84). The following points need to be taken into account when

dealing with project planning: (1) determining the objective of the project, (2) scheduling, (3) budgeting and determining sources of fund, (4) selecting the organization which will act as the project executor, and (5) determining related policies and procedures (Kunarjo, 2014:84).

In most of the time, government projects find obstacles in terms of the great number of need fund. In order to cope with the problems, there is other possibility than inviting private parties to participate in the projects, one of which is the Umbulan SPAM project. The private sector is hoped to support the project both financially and technically. One solution to realize this idea is through the Public-Private Partnerships (PPP) scheme.

Savas (2004) defines PPP as "...any arrangement between government and the private sector in which partially or traditionally public activities are performed by the private sector" (p.4). In other words, the private sector is handed half responsibility of the government under certain regulations. Furthermore, Parente (2006) defines PPP as follow:

"An agreement or contract, between a public entity and a private party, under which : (a) private party undertakes government function for specified period of time, (b) the private party receives compensation for performing the function, directly or indirectly, (c) the private party is liable for the risks arising from performing the function and, (d) the public facilities, land or other resources may be transferred or made available to the private party".

One form of cooperation under the PPP scheme is the Build, Operate, Transfer (BOT) or Build, Transfer, Operate (BTO). Both are forms of cooperation in which, according to NCPPP (2013), the private sector builds a certain facility according to the agreement made with the government, then operate the facility in a certain period of time under the contract, and finally return the asset back to the government at the end of the period. In most cases, the private sector provides partial or full source of the project funding, so that the contract period has to be in accordance with calculation of return of investment through the utilization of the facility. At the end of the contract period, the government has the rights to evaluate the operational activities during the contract, renew the contract with the same party, or seek another private party as a new partner in operating or managing the facility. BTO is similar to BOT; the difference lies only at the period of returning the asset. In the BTO scheme, the private sector returns the asset after possessing the right to manage the asset in a certain period of time, while in the BOT the private sector hands in the asset to the government right after the project development is accomplished.

### 3. RESEARCH METHOD

The present study employs descriptive-qualitative research. Two major focuses of the study are:

- 1.The flow of PPP scheme in the development planning of the Umbulan SPAM at Pasuruan Regency, which includes the development planning of the Umbulan SPAM and the partnership flow between the Government of Jawa Timur Province and SMI in the development planning of the Umbulan SPAM;
- 2.The PPP work process in the development planning of the Umbulan SPAM project, which includes: (1) selecting and prioritizing the project under the legal agreement by considering the needs analysis, identification and determination of project priorities, and budgeting and its source of fund; (2) feasibility study and due diligence, which includes feasibility study, risk analysis, and due diligence; and (3) the general auction process.

The locus of the current study is on the Government of Jawa Timur Province and SMI. SMI is the chosen company by the government for its long experience in facilitating the government's projects. In this PPP agreement, SMI is willing to support the project not only in terms of equipments, but also finance with the number of fund reaching approximately IDR 2.2 Trillions.

In order to gain data, the writer conducts interviews, observation, and documentation. The collected data are, then, analyzed by employing Spradley's method (1980) which is aimed at obtaining a general and holistic picture of the research object and social situation. Finally, a conclusion is drawn based on the findings.

#### 4. RESULT AND DISCUSSION

The Flow of PPP Scheme in the Development Planning of the Umbulan SPAM at Pasuruan Regency  
*The Development Planning of the Umbulan SPAM Project*

The provision of drinking water to the society is one of mandated responsibilities to the local government to accomplish. In order to meet the demand, a high quality water resource is needed. Umbulan Water Springs is selected in the project as it contains high quality water that it will be best use for drinking water. However, to distribute the water from its resource to the people, a well-planned system is needed, and this system is called as the SPAM. It is established by building long transmission pipes, at every point of which an off take (or clear water storage managed by the PDAM) will be placed. Figure 1 shows the whole plan of establishing the SPAM project.

Figure 1. Map of Transmission Pipes for the Umbulan SPAM Project (Source: PT. Sarana Multi Infrastructure (Persero), 2012)

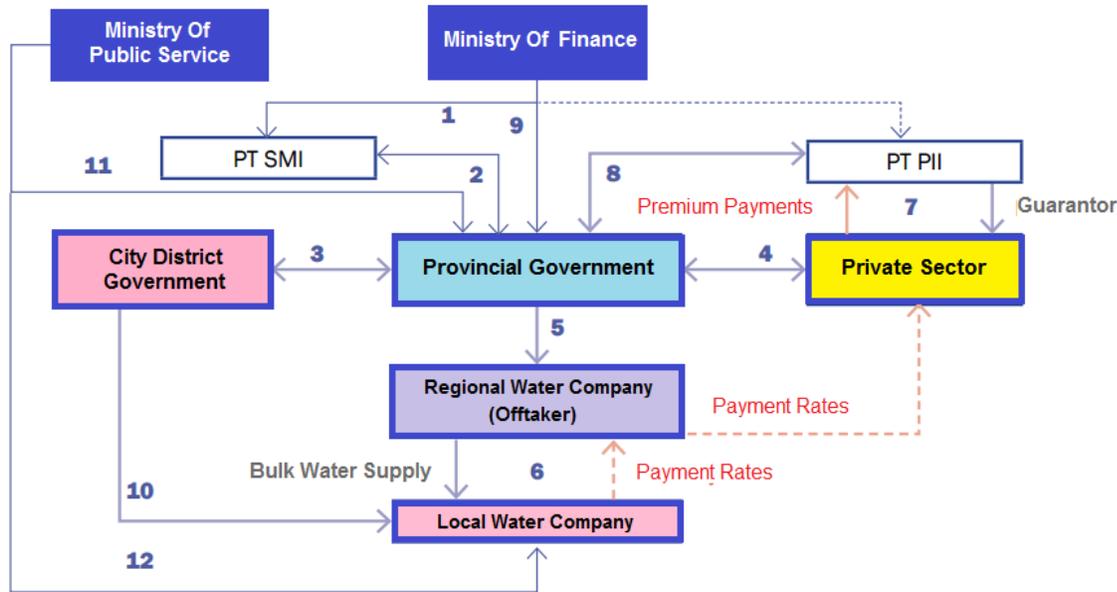


Crossing the five cities/regencies, lying from Pasuruan Regency to Pasuruan City, Sidoarjo Regency, Surabaya City, and finally ended in Gresik Regency, it is planned that as many as 16 off takes are built. The off takes function as a storage place of the water from Umbulan Water Springs prior to distributing to each PDAM's customer. The location and capacity of the off takes is the PDAM to decide.

*The Partnership Flow between the Government of Jawa Timur Province and SMI*

As has been mentioned, five cities/regencies participate in the project, that is, Pasuruan Regency, Pasuruan City, Sidoarjo Regency, Surabaya City, and Gresik Regency. It has been estimated that there is 260,000 water channels across the five cities/regencies, meaning that a huge number of fund is needed to realize the project. It is estimated that as much as IDR 2.2 trillions is the total amount of money in order to build the system. From that number, the government along with a state-owned corporation can only provide IDR 1.250 trillions, leaving the rest IDR 688 trillions for any private sector interested to participate in the project. Thus, the government, through the PPP scheme, invites the private sector to participate in the project, and SMI is the private corporation that has been willing to join with the project. Figure 2 shows the partnership flow of the project.

Figure 2. The Partnership Flow between the Government of Jawa Timur Province and SMI (Source: PT. Sarana Multi Infrastruktur (Persero), 2012)



The form of partnership between the two parties is the BOT scheme. It is an agreement between parties participating in a government's project which needs a great deal of money. The funding cannot be fulfilled entirely by the government, thus inviting the private sector to fund the project.

*The PPP Work Process in the Development Planning of the Umbulan SPAM Project*

*Selecting and Prioritizing the Project*

In selecting and prioritizing a project, which is carried out under a legal agreement, it has to be preceded by a needs analysis, identification and determination of project priorities, and budgeting and its source of fund.

*Needs Analysis*

The need of drinking water in the five cities/regencies is urgent as most of the PDAMs in the respective city do not possess a quality water resource as the main source of water production. First, in Surabaya City, the number of inhabitants is drastically increasing in every year. An average of 10,000 people is added to the

list of Surabaya's inhabitants every year. However, the effort of providing drinking water facility is not equal to the rapid increase as the quality of water in Kali Surabaya River is decreasing due to pollution.

Second, similar as in Surabaya City, the available water springs in Sidoarjo Regency is decreasing due to pollution, particularly that of domestic and industries. Then, Gresik Regency can be said the most suffering city of the five and has been a severe problem for most household in the city. This is due to intrusion of sea water which gives big impact to the the city's ground water. This leads to the poor performance of the local PDAM as it often fails to distribute clean water to the people.

Meanwhile, Pasuruan City needs approximately 502,664 liter of clean water per second for the households. However, the city is currently allowed to merely use 165 liter per second of water from the Umbulan Water Springs as the closest water resource from its geographical location. Therefore, the need of water supply to the city is of urgency.

Finally, Pasuruan Regency is suffering from lack of water in most of its villages. This is ironic as the Umbulan Water Springs is located very close to the regency. Therefore, an improvement to this situation is in urgent need.

#### *Identification and Determination of Project Priorities*

Currently, Indonesia only has as many as nine millions of water pipe connection across the country. If one pipe connection can serve five people, then there are only 45 millions of Indonesia's citizens who have a good access to clean water. Based on this fact, and looking at the problems occurring in the five cities/regencies, the Government of Jawa Timur Province has decided to take the Umbulan SPAM Project into a project of priority.

#### *Budgeting and Its Source of Fund*

The source of fund for the Umbulan SPAM project is provided by the private sector through an auction process. The government also takes a part in the funding through the process of Viability Gap Fund (VGF) by Indonesia's Ministry of Treasury. The financial management of the project fund is the responsibility of the Operating Company. Meanwhile, the Governor of Jawa Timur Province supports the project by ensuring the land for building the pipes and off takes is available to use.

#### *Feasibility Study and Due Diligence*

This phase consists of feasibility study, risk analysis, and due diligence.

#### *Feasibility Study*

The result of the feasibility study concludes that there are certain points to take into account, including the range of activities within the project. The first is in what manner or method the project is to be executed. The second is the evaluation toward aspects that may determine the success of the entire project, including the transactional structure and the project assurance, the need or demand of water from the Umbulan SPAM project, the structure of the tariffs, and obedience to the environmental and social standards.

#### *Risk Analysis*

The risk analysis is carried out and managed by certain factors of consideration regarding the source of risk, the positive and negative impacts, and the source of each impact. In other words, the risk analysis for the Umbulan SPAM project is aimed at avoiding possible problems or mistakes during the execution of the project, while each identified risk is to be related with its risk mitigation. As many as 11 possible risks may occur during the implementation of the Umbulan SPAM project, including (1) risks in designing, constructing, and commissioning, (2) risks of funding, (3) risks of network connectivity, (4) risks of force majeure, (5) risks of asset claiming, (6) risks of location, (7) risks of income, (8) risks of operations, (9) risks of political intervention, (10) risks of sponsorships, and (11) risks of interface.

The mitigation plan of each of the risk needs to be prepared. This is in accordance with the Act number 24 of 2007 on Disaster Management which states that "mitigation is a series of efforts aimed at reducing risk of disaster through physical establishment and building awareness and ability to face any possible disasters ahead". With the optimum risk allocation in mind, the project will be able to reduce risk potential that may occur or impact the project partly or entirely. This action will also help to reduce cost of the project as it has been budgeted before the project is started. Eventually, the reduced cost of water for future Umbulan's customer is expected to increase other credibilities in order to mitigate a certain risk through investment and to ensure the financial feasibility of the project.

#### *Due Diligence*

The due diligence in the Umbulan SPAM project is conducted in order to assess the performance of the corporation or company being involved in the project. This assessment belongs to one of standardized actions in doing the PPP scheme, in this case the Umbulan SPAM project. Accomplishment of the activity indicates that the entire work of the project has been in accordance with the law. This due diligence is mandatory for all auctionees in order to ease them during composing the action document. From the assessment, the government will obtain information regarding the performance of a company, so that risks in building partnership with the company can be estimated.

#### *The General Auction Process*

The general auction is carried out by the government in a careful manner in order to meet the principals of fairness, openness, transparency, competitiveness, and accountability as well as to attempt to not cause any unwanted disadvantages to the customer and the PDAMs themselves who take benefits from the Umbulan Water Springs. The auction consists of several steps, beginning from planning to establish a corporation, determining the schedule of the auction, market sounding, preparing pre-qualification document and auction document, to the establishment of the corporation, including legal agreement making with the corporation.

### **5. CONCLUSION**

The implementation of the PPP scheme for the Umbulan SPAM project is inevitable following increasing needs of drinking water in Jawa Timur Province, particularly in Pasuruan City, Pasuruan Regency, Sidoarjo Regency, Surabaya City, and Gresik Regency. The five cities/regencies are planned to participate in the project with the benefit of having the pipes of water from Umbulan Water Springs to go across the cities/regencies. It is estimated as much as IDR 2.2 trillions is needed to fund the entire project. From that number, the government along with a state-owned corporation can only provide IDR 1.250 trillions coming from the process of Viability Gap Fund (VGF) by Indonesia's Ministry of Treasury. Meanwhile, the rest IDR 688 trillions are offered to any private sector interested to participate in the project.

The Government of Jawa Timur Province has put the Umbulan SPAM project as one showcase project, meaning that the project is included in the list of top national project to accomplish. In order to ensure the success of the project, the government through Minister of Treasury has selected SMI to guide and facilitate the Government of Jawa Timur Province as the head committee of preparing the transaction of the project. The government also provides guarantee of funding through *PT. Penjaminan Infrastruktur Indonesia* (Indonesia's Infrastructure Assurance Company or PII). It is the responsibility of PII to provide assurance for the project by working together with private-owned companies with regard to the agreement.

Once everything is conducted as planned, and the project has been accomplished, the people will enjoy 24-hour-a-day quality drinking water provided by PDAMs in each city/regency that is now able to distribute the water in a sustainable manner.

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