

LOCAL INSTITUTIONAL CHANGE OF COLLECTIVE WATER MANAGEMENT:

A Lesson from *Pamsimas* Program Implementation in Tajuk Village

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Abstract

In recent years *Pamsimas* (*Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat / Community-Based Water Supply and Sanitation*) program has been promoted with a view to respond to the challenge of water shortages and sanitation in rural areas of Indonesia. Improved drinking water and sanitation facilities are presumed to enhance access to water resources and improve hygiene. In the meantime, the delegation of authority from the central to local governments in providing for people's basic needs (including water supply) became a condition of participation in the program. This paper presents the results of a case study of *Pamsimas* program as it was implemented in Tajuk Village, Semarang Regency. This paper is an extension of the previous study on the dynamic of water management in decentralization era. This update paper uses political economic and power analysis to understand farmers' decision in responding to the program. It is found that *Pamsimas* changed a set of institutional rules governing the use of water resources that are the adoption of water pricing mechanism and the establishment of a new collective choice body. It is argued that farmers' decisions to implement *Pamsimas* is not because of the hygienic practices and the importance of participation as narrated by the policy makers, but is entirely centered in the benefits of redistribution.

Keywords: political economy, power, institutions, discourses, local institutional change, *Pamsimas*, collective action, common-pool resource, water management.

Introduction

Policy trend in various countries on natural resources today tends to delegate authority and control from the state to natural resources users (see Vermillion 1991). This delegation is usually concurrent with a policy of decentralization and transfer of state authority from central to local governments. The form of the programs varies from only increasing users' participation in management giving them representation as one of 'the government's arms', to fully transferring responsibilities and control over the resources. In Indonesia, policy on water management used to employ the so-called technocratic approaches, then this has also gradually given way to participatory approaches (see Vermillion et.al 2000, Arif and Murtiningrum 2003, Pasandaran 2004). Since 1990s, the Government has supported the construction of water infrastructure to be managed by users through community-based water organizations. The programs take various names, such as community-based management of drinking and sanitation, community-based management of groundwater and irrigation, etc.

One community-based program in water management at the village level is *Pamsimas* (*Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat / Community-Based Water Supply and Sanitation*). It is facilitated by both the central and local governments of Indonesia, and supported by The World Bank. The main objective of the program is to provide drinking water and sanitation as a basic service to communities in rural and suburban areas. The scope of the program covers various activities, for example community empowerment and local institutional development to mention just a few. Based on the information on its website, *Pamsimas* I began in 2008 and ran till 2012, and was applied in 6,845 villages. These villages spread over 110 regencies/cities with 6,303,468 drinking water users and 6,334,426 sanitation beneficiaries. The government continued with *Pamsimas* II program that ran from 2013 to 2016. It was planned that *Pamsimas* II was to be conducted in approximately 5,000 villages, 32 provinces, and 220 regencies/cities (*pamsimas.org*). Achieving this was regarded as the government's success in implementing the program.

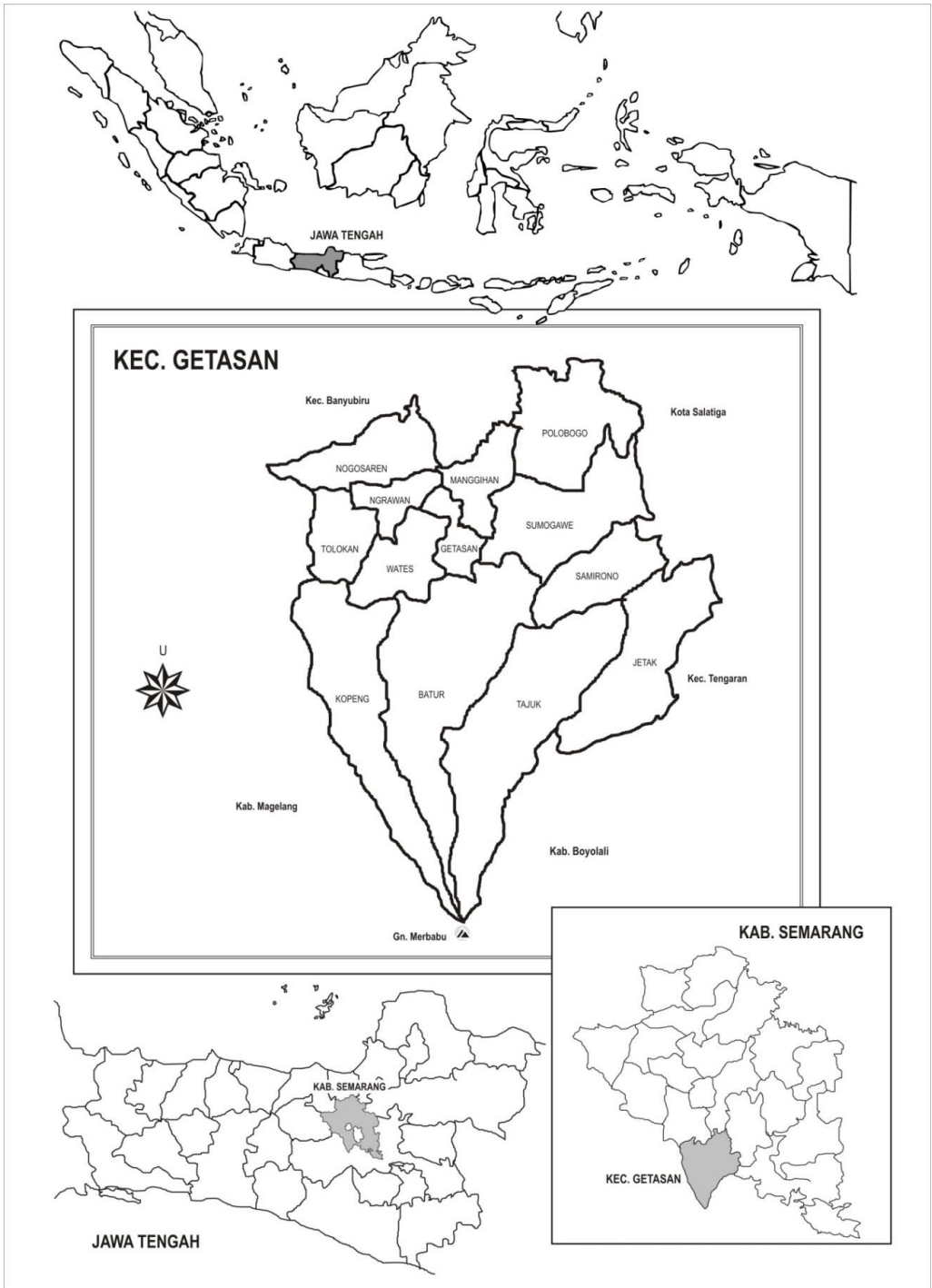
This study takes the village of Tajuk in Getasan Sub-district, Semarang Regency (see Figure 1 overleap) as a case-study which since 2013 has implemented *Pamsimas*. With a mountain climate and a fertile highland, Getasan Sub-district is highly suited to the production of vegetables and tobacco. With up to 3997.54 ha area of non-rice field agricultural land,

vegetable production in Getasan is the largest in Semarang Regency. In addition to agricultural crops, Getasan is home to animal husbandry. Dairy cows can produce milk that exceeds 20 million liters per year. Furthermore, the amount of livestock manure in Getasan is more than 200 tons per year, which is used as fertilizer (BPS, 2015). So water use not only must meet the need of domestic users but also forms one of inputs of agricultural production. For many years most farming communities in Getasan have been self-governing in their water resources with barely any intervention from either government or non-governmental organizations. So, the dynamics of farmers in decision making in response to the implementation of *Pamsimas* is very interesting. Analyzing actions and decisions that have taken place, this study attempts to answer the question how farmers have responded to *Pamsimas*.

This study used a qualitative approach in the perspectives of political economy and power. Political economy is as an economic methodology used to analyse institutions and political behavior (Weingast and Wittman, 2006). Meanwhile, power analysis is “approaches used by development and social change actors to better understand the ways in which different dimensions of power act to reinforce poverty and marginalisation and to identify actors, entry points and positive forms of power that can be mobilised in favour of desired changes” (Acosta and Pettit, 2013).

The next section will cover the conceptual frameworks used in this paper. The following section will then discuss historical development affecting water use and management in the study area. Thereafter, collective water management in the study area will be discussed to understand the initial structure of the action arena. Subsequently, identifying the discourse and rules that have changed from traditional self-governing water system into *Pamsimas* will be reviewed. The next section discusses how farmer’s debate in the decision making arena. Finally, the last section will present conclusions.

Figure 1. Map of Indonesia, Central Java, Semarang Regency, Getasan Sub-district, and Tajuk Village



The Conceptual Frameworks

Institutions and Institutional Change

The most commonly used definition of institutions is proposed by North (1990) who gives us “the ‘rules of game’ that affect social behavior and are the humanly devised constraints that shape human interaction. They can be both formal and informal; and can be both created -like a constitution- or evolve over time -like common law- (North 1990, p.4). This thesis will use North’s definition of institutions as the starting point that is a set of rules; but keep in mind that they are not simply constraints but also “incentives” shaping human interaction (see Bromley, 2006). Thus, in this study, institutions encompass the rules governing access to and use of water resources.

Broadly speaking, institutional change occurs when outcomes of activities no longer correspond to expectations. North (1990) argues that institutional change occurs when current institutions are inefficient. Bromley (2006) places “volitional pragmatism” as the driver of institutional change whereby individuals imagine the outcomes of the future. In the context of resources, Ostrom (1990) argues that resource depletion may lead to institutional change. More specific in the field of irrigation system management, Tang (1992) argues that institutional change happens when individuals in a group are aware of the impact of the others’ actions.

In the debate over institutional change, it has been noted that institutions are interrelated and structured in several levels (Ostrom 1992, Wegerich 2001). Ostrom (1992, p.44) distinguishes between:

- (1) Constitutional rules: determining collective choice and operational choice procedures (including legitimizing who can join and what rules can be used);
- (2) Collective rules: constructing institution and making policy decision which affect operational choice; and,
- (3) Operational rules: implementing practical decisions as the consequences of collective rules.

Discourses in Institutional Change

Within the policy sciences, *discourse* has become increasingly important in the conceptualization of power in the political economy of

resources (see Escobar 1995, Hajer 1995, Wagerich 2001, Clement et.al 2007, Bixter et.al 2015). Hajer (2002) defines discourse as “an ensemble of ideas, concepts, and categories through which meaning is given to phenomena; meaning is thus produced and reproduced through an identifiable set of practices” (p.63). It can be operated in the levels of global, national, and local by socially and culturally defined groups (Bixler et.al, 2015).

Coming to an understanding of broader process and meaning of institutional change, it is worth considering discourse in the analysis (Wegerich, 2001). As Hajer (1995) argues when hidden meaning of terms within communication alter then the rules will change. Acosta and Pettit (2013) give an example that to streamline social change through laws, it is needed to equip them with internalised norms, attitudes and values.

Common-pool Resources: a Case of Water

The term of common-pool resources can be easily understood when we compare the types of goods using two independent attributes: (1) “Exclusion”, and (2) “Subtractability/rivalry” (V. Ostrom and E. Ostrom 1977). *Exclusion* means: goods/services (both provided by nature or individuals) differ in term of how easy or expensive it is to exclude other potential users. *Subtractability* means: goods/services valued by individuals also differ in terms of the degree of reduction of the goods availability. Based on those two attributes, goods/services can be classified into four types as figured in Tabel 1.

Tabel 1 General Classification of Goods

		<i>Subtractability/rivalry</i>	
		<i>Low</i>	<i>High</i>
<i>Exclusion</i> <i>n</i>	<i>Easy</i>	<i>Toll goods</i> i.e: TV cable, yoga group, etc.	<i>Private goods</i> i.e: tree, bread, etc.
	<i>Difficult/ Expensive</i>	<i>Pure public goods</i> i.e: public health service, street-lighting, TV non-cable, etc.	<i>Common-pool resources</i> i.e: forest, grassland, irrigation system, etc.

Source: adapted from V. Ostrom dan E. Ostrom, 1977.

We can see that toll goods are low in rivalry and easy to exclude them from other users. Private goods are high in rivalry and easy to exclude from other potential beneficiaries. Common-pool resources share the same characteristics with public goods, in terms of the difficulty to exclude

potential users. However, common-pool resources differ to pure public goods because when a public good is produced, a user does not compete with other potential users. For example, when someone benefits from using non-cable TV, it will not subtract the availability of the goods. Meanwhile, when common-pool resources produced, one user can subtract the good availability from other users. Water used jointly in agricultural community has the characteristic of common-pool resources. For example, when a farmer uses a large amount of water from an irrigation system, he has subtracted the availability of water from other farmers. Hence, the characteristic of common-pool resources may pose management problems, and institutional arrangements play an important role (see Ostrom 1990, Tang 1992, Ostrom et.al 1994).

Institutional Arrangements for the Management of Common-Pool Resources

“Coordination” and “property rights” are two important institutions for common-pool resources (Meinzen-dick, 2014: 3). The management of common-pool resources needs a coordinating mechanism which can be provided by *state*, *collective action*, and *market* (p.3). The state, for instance, can provide a public tank which supplies water for many houses. A group of farmers in collective action institution, for example, allows the distribution of water for the group. The example of coordinating mechanism provided by market is farmer selling/buying or trading water for agricultural purposes.

Meanwhile, property right institution is defined “the benefit stream of resources to certain parties” (Bromley, 1992). Many resources are held under regimes which may combine the characteristics of two or more of these types: *open-access regime*, *private property*, *state property*, and *communal/common property* (see Berkes & Kislalioglu 1989, Bromley 2006). *Open access regime* or *res nullius* means there is no defined group of users or owners, so the asset is available to anyone. Meanwhile, *private property* means individual members of the political community have recognized rights to a benefit from the asset, subject to legislative mediation and judicial review. Another institutional arrangement is *state property*, and this refers to the management of resources exclusively controlled by the central governments of nation states. Lastly, *common-property* refers to situations in which the resource is held or controlled by an identifiable community of users, including the rights to exclude non-owners (Bromley 1992, 2006, Berkes & Kislalioglu, 1989).

Collective Action and the Prisoner's Dilemma

An ideal management of common-pool resources usually happens when users in the community work in a coordinated way to set operational rules, rather than act individually (see Ostrom 1990, Tang 1992, Wade 1994). However, in collective action, individuals may face some problems (see Marewell and Oliver, 1993). Collective action problems are caused by the basic reason that “individuals will not act voluntarily that for common or group interests” (Olson, 1965).

In the context of collective common-pool resources management, the *prisoner's dilemma* is often discussed. The prisoner's dilemma is a paradox in decision analysis in which individuals acting in their own self-interest pursue a course of action that does not result in the ideal outcome (Hardin, 1982). Prisoner's dilemma is embodied in the choice as being either to cooperate or not to cooperate with others in rule of restrained access. Four arguments that each individual has, include: “(i) everyone else abides by the rule while the individual enjoys unrestrained access (he ‘free rides’ or ‘shirks’); (ii) everyone, including himself, follows the rule (‘cooperates’); (iii) no one follows the rule; (iv) he follows the rule while no one else does (he is ‘suckered’)” (Wade, 1994, p.201). Hardin (1968) calls the third outcome as a *tragedy of the commons*, whereby many individuals are involved and when they encounter difficulties in communication and then enforce rules among themselves. It is therefore collective decisions may produce outcomes harmful to the group as a whole without crafting endured principles for collective action (Ostrom, 1992).

Historical Development Affecting Water Use and Management in the Study Area

Land reform

In post-independence era, land reform in Indonesia can be traced back in 1960, when President Soekarno enacted *Law No. 5 on Basic Rules of Agrarian Principles* (Wiradi, 2000). The main purposes of the land reform were: (1) distributing land to farmers who did not own land, aiming to raise the production; and (2) creating better prerequisites and conditions for farmers who cultivated lands owned by landlords, aiming to increase their income (Mubyarto, 1982). This law has been regarded as the important leap

for agrarian equality in Indonesia eventhough it could not be realized ideally as its purposes intended for.

Based on the 2013 agricultural census, the average of agricultural land holding in Getasan Sub-district is 3178.26 m² per household. The acreage has decreased by 257.98 m² from 2003, which then only amounted to 2920.28 m² (BPS, 2015). Land in the study area, Tajuk itself, is almost entirely held by local people, and only a very small portion is owned by people outside the village. The total area of the village is 1235.86 ha and it is utilised for both agricultural and non-agricultural purposes. Non-agricultural land is 734.33 ha; with 50.06 ha for houses/buildings; 37.17 ha of streams/cemetery/etc.; and 647.10 ha of state forest. Meanwhile, agricultural land is 501.53 ha in which the villagers highly depend on. In this context, water rights in Tajuk depend on the asset endowment, including land tenure.

Economic policies encouraging commercialization of agriculture

With the launch of the *Bimbingan Massal (Binmas – the Mass Guidance)* and *Instruksi Massal (Inmas – the Mass Instructions)* Programs of the New Order era, and the implementation of the *Green Revolution*, the rural economy of Java experienced a new commercialization (Hüsken, 1989). At the macro or national level, the government viewed agricultural problems in economic terms (Mubyarto, 1982). If domestic food production is not sufficient for the minimum needs nationally, the government will set up programs to increase production. During the New Order era, such programs could be viewed through some general objectives of the Five-Year Development Plan (*Repelita*) in the agricultural sector. In *Repelita* I, II, and III (1969-1984) for example, agricultural development objectives were, among others, to promote the growth of food production, exports, and other industrial commodities; and specifically to increase labor productivity by enhancing land productivity.

These days, agricultural production in the study area is the highest in the regency as has been highlighted earlier. Therefore, water use must not only meet the needs of domestic use but also one of inputs for agricultural production. Farmers use water to feed livestock and clean up the stables. Despite the fact that agricultural crops do not particularly need water as they usually cultivated in the rainy season, agricultural crops are supplied by 'virtual water' through the livestock manure used as fertilizers.

Policies of irrigation and water resources

In the context of irrigation in Indonesia, Act No.11 of 1974 concerning irrigation has had a huge impact on economic and social life. Various water infrastructures were built for the needs of the population. The infrastructure development culminated in commercialization of agriculture, aiming at achieving food sufficiency. In the early 1980s, for example, Tajuk Village received support from the Presidential Aid Program (*Banpres*) in the form of tubes to transfer water from springs to people's settlements in the village.

In 2004, the government enacted Act No.7 of 2004 on Water Resources in efforts to solve problems on water supply. In fact, the enactment of the law provoked a variety of responses both pro and cons parties. The cons side hostile to the provisions of some articles that were considered promoting water privatization. They argued that the law altered, mostly for the worse, Indonesian society's welfare and rights as embodied in Act No.11 / 1974. Responding to this argument, in 2015 the Constitutional Court annulled the later law. Following the cancellation, the government is currently preparing the draft regulation which refers to Law No. 11/1974 on Irrigation, as the new reference replacing the Water Resources Act (*Kompas*, March 2, 2015).

Changes in Institutional Control of Forest Resources and Access to Water

Changes in the status of forest can mean changes in the institutional arrangement of the forest. When the status of forest is changed into a national park, then access, use, and control over agrarian resources in forest areas, which previously was a relationship of customary rights and culture, is replaced by the relationships of rights that are framed by modern conservation activities (study, research, visit, business tourism, etc.). In this context, there is a transformation of the *de-facto* customary property into a *de jure* state property, and the management and administration changes accordingly (Adiwibowo et.al, 2009). Hence, changes in institutional control over forest has an impact on the livelihood of communities living near or in the forest.

Most of the people in Tajuk village have strong social and spiritual ties to the forests of Mount Merbabu because they have lived around the forest for generations. They are dependent on the forest resources, such as grass for fodder and water from springs which are often located in the forest

areas. In 1963, the government declared many Merbabu forests as protected forests and nature reserves. Most of these areas are also managed by *Perhutani* Ltd. and functioned as productive forest. Then since 2004 the central government, through the Ministry of Forestry, has taken over the management by setting the forest area as *Taman Nasional Gunung Merbabu* (Mount Merbabu National Park), which only strengthens the state-property regime.

Decentralization / Local Autonomy Policy

The political changes in Indonesia, along with the collapse of the centralized New Order government, have encouraged significant changes at all levels of government, including village administration. The changes were embodied in the regional autonomy policy, as mandated by Law 22 / 1999, and was later revised by Law 32 / 2004. Authority was granted to the local level government to organize and manage the concerns of society through their own initiatives based on community participation. The decentralization law was then reinforced by Law 33/2004 on Financial Balance between the Central Government and Local Government. The law grants full responsibility to regencies to provide basic services for the people in their respective regions, including drinking water and sanitation. Now village level authorities are getting stronger with the publication of Law 6/2014 on Villages that allows villages to manage their assets and resources, including springs located in the village area.

The Initial Collective Water Management in Tajuk Village

Land Tenure and Water Rights

Water rights are not written laws and there is no formal membership for accessing water. However rights to water in Tajuk are determined by, among others, land tenure and location of the source of water (usually springs). Water supply for each hamlet in Tajuk comes from mountain springs which permeates through soil surface or emerges on rocky layers. Springs occur haphazardly in Tajuk. They occur on:

(1) land owned by individuals (private property). The owner has a right to determine who can access the water, whether it will be accessed by individuals or groups. In Tajuk Hamlet, for instance, there are springs

located on land owned by individuals, but the water can be accessed by other hamlets following lobbies and negotiations with the owner.

(2) *tanah bengkok*, land owned by the local government or village (state property), which are controlled by the village apparatus as part of their remuneration. The water can be made used by the community in each hamlet, provided that the leader of the hamlet holding this *bengkok* gives conditional permission. An example of this can be found in Kaliajeng Hamlet of Tajuk Village.

(3) forest area of Mount Merbabu National Park (MMNP state property). The water can be exploited by the hamlet community living close to the forest. Even though the institutional arrangements for Mount Merbabu's forests have changed several times, the Tajuk continue to regard it as an enduring right to access water from these springs.

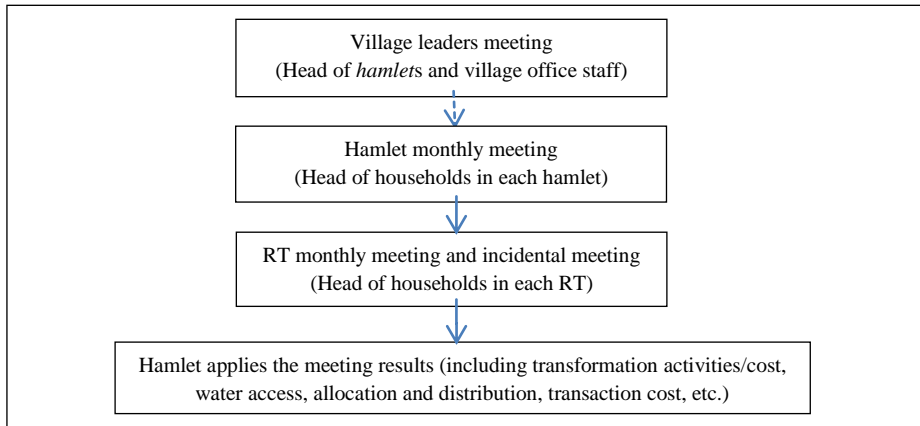
Organization: 'Hamlet Republic'

Collective action concerning water resource management occurs independently in each *dusun* (hamlet / sub-village). Usually there is only one water supply system in each hamlet. With regard to water access and allocation, each hamlet will give priority to its own hamlet rather than to other hamlets. The independent management itself is formed according to physical features and administrative boundaries corresponding to the social identity of each hamlet. Physical boundaries that separate hamlets are rivers, farm land, and forests. The identity of hamlets is stronger than of village even though all these hamlets constitute the same village. The phrases such as *Wong Pulihan* or *Wong Kaliajeng* (Pulihan Hamlet residents or Kaliajeng Hamlet residents), show that social identity is embedded in their collective memory. Other forms of social identity are embedded in their belief in origins and traditions which are unique, for example each hamlet celebrates *saparan* (a hamlet communal event) that is arranged and organized differently according Javanese calendar to respect their *danyang* (the hamlet's ancestor or the divine).

Hamlets have their own characteristics in managing water resources. Some for example, utilize structural position such as the leaders of *RT* (*Rukun Tetangga*, literally neighborhood association or sub-hamlet level) and *RW* (*Rukun Warga*, literally community association or sub-village level) as water resources management organizations. Meanwhile, some others have formed a special team to manage water resources. In the decision making

related to water resource management, each hamlet uses almost the same mechanism that is through meetings in the *RT* and or *RW*. There are also several hamlets that utilize religious activities as a forum for decision-making. Figure 2 shows sample of the structures of decision-making in water management in Tajuk.

Figure 2. Collective Decision-making for Water Resource Management, Sample model from Pulihan Hamlet



Source: discussion with villagers

The organization of water management is also affected by other social capitals existing in each hamlet, for example leadership and other organizations (e.g. farmer unions/cooperatives) at the hamlet level. Influential leaders usually have more information, and are more skilled at water management, and therefore affect the outcome of decisions. Pulihan Hamlet, for instance, has a resident who works for MMNP so that he often gets information earlier than the others about all things pertaining to MMNP programs, such as forest or water conservation.

Operation and Maintenance

1) Water Allocation and Distribution

Generally, there is only one water supply system in each hamlet, except in Sokowolu and Kaliajeng which have more than one system due to different geographic landscape of the settlements. The water systems in the village are characterized by simple technology which relies on gravity and does not require electric engine for water pump because water will automatically run to water tanks before the water is distributed to

households through pipes. The disadvantage of the system is that it depends on the springs location which should be on higher area than the settlement. Ngroto Hamlet for instance, has springs located in its area but the community can not use the water since the springs location is lower than the location of the settlements and therefore the residents have to find water from other hamlet.

Seasons affect the availability of water supply in the village, which in turn disturbs water allocation. In the rainy season people get an abundant water supply but they have less in dry season. Although there are no written rules, it is suggested not to use water for watering plants in the dry season as it can reduce water availability for household use. The unwritten rules, however, bring about 'tail end problem' –water is used up in the higher areas before reaching the lower areas.

2) *Duties and Participation*

Unwritten rules concerning the duties and participation in the management of water resources vary from one hamlet to another.

- a. All water users collectively contribute to the initial investments to develop a water system. The amount of money contributed to the initial investment varies among users depending on their capability to afford it (*usuk anda*).
- b. All households joint collective labor (*gotong royong*) which is organized either at the RT or hamlet level. Some hamlets also apply sanctions for those who are absent from *gotong royong*. In Cengklok Hamlet, for instance, there is a mutual agreement that those who are absent in *gotong royong* without any permission will have to pay a fine at the amount of IDR 10,000.
- c. All hamlets except Macanan Hamlet apply regular payment scheme for water management. The schemes vary. Some hamlets apply flat charges for all water users no matter how much water they use. Other hamlets apply progressive payment –the more water the users use the more money they pay. In Gedong Hamlet, the community, for example agreed to pay IDR 1,000 per month and additional IDR 1,000 per head of livestock.

All household heads may participate in the decision making process which is usually done at *RT* or hamlet meetings. However, not all people are able to express their opinions. In the cultural context, the major barrier to

participation is that only certain people, especially public figures, have the 'courage' to give their opinions. Others are too 'shy' to do this. The involvement of women in the decision-making in the meetings is also very little because the *RT* meetings are usually attended by men who are regarded as the leader of households.

In the meetings, problems about any damage of the water system can be reported. The response to the reports varies depending on the degree of the damage. For instance, if it is a slight damage, only a few people, especially those who live near to the damage are appointed to fix it. On the contrary, if the damage is greater, then almost the whole hamlet's residents will carry out *gotong royong*. At the meeting, financial report of water management is also presented.

General Outcomes: Water Availability and Collective Lobbying Activities

Broadly speaking, the bio-physical condition of water resources and the simple technology of water system result in problem. For example, farmers in all hamlets living in the higher area and close to the springs use water inefficiently as highlighted earlier. In such circumstances water for lower area users is barely adequate in dry seasons. This is worsen by the lack of monitoring of infrastructur scheme in all hamlets which then brings the free-rider phenomenon into play.

Eventually access to water is also affected by transactional or lobbying activities done collectively between hamlets, or between individuals and hamlets. These can be achieved in the form of contractual agreement, compensation – ie payments, or some form of political transaction. The nature of these political transactions can be seen in the case of Macanan hamlet which does not have enough water. They voted a candidate of village leader from Pulihan Hamlet because he promised to give water access to the community of Macanan. Similar to the above agreement, the right for water access can be through lobbying and giving compensation to the land owner possessing springs. The community of Banaran hamlet, for instance, access water from Tajuk hamlet and pay a compensation every year.

From 'Traditional' Collective Management to *Pamsimas*

There are three options offered to villages and hamlets under *Pamsimas* program: 1) An expansion of development activities of new Water Supply and Sanitation (WSS) for villages that haven't had them before; 2)

Optimization i.e. WSS maintenance and improvement activities to increase the number of beneficiaries; 3) capacity development activities of the villages that already have WSS but aim to increase the number of beneficiaries. The budget allocation for the construction of the three options varies from one village to another, but it is constrained by a maximum budget of IDR 250 million per village.

The following are the discourses and rules used in the policy implementation:

Discourses

The narrative of *Pamsimas* in Tajuk can be traced back to the national government's ambitions with regard to clean drinking water supply and sanitation. From the government's side, *Pamsimas* is based on the Indonesian Government's commitment to the Millennium Development Goals for the Water and Sanitation Sector (WSS-MDG) which are developed by the United Nations. The program also refers to Law No.32/2004 of the Local Government and Law No.33/2004 of Financial Balance between Central and Local Governments. The former stipulates that the local government is fully responsible for providing basic services to their communities, including drinking water and sanitation. Thus the delegation of authority from the central to local government (the local authorities) becomes a discourse –driving *Pamsimas*.

Pamsimas is also an effort to respond to water and sanitation challenges in Indonesia in this case is lack of access toward water supply and unhygienic sanitation behavior. One of the conclusions drawn by the policy makers was that many of the Government's efforts to improve the country's sanitation failed simply because of the government's ignorant dealing with the complexities of human behavior. Moreover, these programs focussed almost exclusively on the supply side of infrastructure, without considering the demand side (the World Bank, 2014). Hence, a community-based program which emphasises people's participation at the village level, both in decision making and implementation, could have the panacea to the numerous problems that occurred.

Since 1990s the Government has been supporting the construction of water infrastructure to be managed by the users through community-based water organizations (MPW, 2011). In 1997, an ad hoc working group (*Pokja*) of drinking water and sanitation (*Air Minum dan Penyehatan Lingkungan /*

AMPL) was established under the Second Water Supply and Sanitation for Low Income Community (WSSLIC) program, and created a communication and coordination forum to develop better drinking water and sanitation. The working group consisted of 8 Ministries and was supported by international donor agencies like the World Bank and the Australian DFAT (previously named Aus-AID). The programs coordinated by *Pokja AMPL* are mostly community-based programs, including *Pamsimas*, and they emphasize the importance of a participatory approach.

Such institutional change implemented by the government of developing countries worldwide, including Indonesia, is connected with transnational donor agencies such as the World Bank and the Asia Development Bank to mention just a few (Vermillion et.al 2000, Li 2009, Suhardiman 2013). In Indonesia, the World Bank was instrumental in promoting participatory approaches in 1987 and they were reasserted in 1999. Suhardiman (2013) noted that the policy was initially practiced under the Irrigation Operation and Maintenance Project (IOMP) 1987, which was essentially an agreement between the irrigation agency in the Ministry of Public Works and the World Bank as the major donor. Today the Bank supports not only the irrigation sector, but also the improvement of the supply of drinking water and sanitation. This happens both in urban and rural areas including the Third WSSLIC Project.

Transnational donor agencies like the World Bank recognize that water resource management programs for economic growth and poverty reduction can not be achieved without 'good governance' (see The World Bank, 1992). However, the Bank of course can not regulate the law of a sovereign nation such as Indonesia when promoting its programs. Li (2009) argues that "the Bank, however can use project rules, or what some have called *the law of the project*, as a tactic to educate and reform the practices of the target population and by adhering to them, project planners expect participants to learn new and better ways of living, and make them their own." (Li, 2009:237).

Institutional change in water management, which is supported by international donors, is questioned by some authors. Hadipuro (2010) for instance, argues that these changes in water program are undertaken by the Government of Indonesia to gain financial support from donors. Thus, water is utilized to attain funding. And water management is framed by foreign

intentions. Moreover, his study of five regions in Indonesia shows that 51-98% of water resource budget is dominated by the Ministry of Public Works (Hadipuro, 2010). Meanwhile Siregar et.al (2004), argue that the loans provided by the Bank do, in fact, influence policy in Indonesia, and in the process promoting open-market solutions. Indeed, the Government of Indonesia has been receiving loans from the World Bank to the amount of US \$ 258.03 million, and this just for WSLIC Program (*worldbank.org*).

Rules: Ex-post and Ex-ante

The discourses of *Pamsimas* are embedded in ‘the rules of the project’ of the program implementation, both *ex-ante* (prior to the implementation) and *ex-post* (after the implementation). In *ex-ante*, the targeted villages are required to follow rules which encourage hygienic sanitation, as these are the prerequisites of the grant. While in *ex-post*, the major discourse entrenches the impetus to the efficient use of water, now only conceived as a commercial approach to cost recovery and water pricing.

In order to get a grant of *Pamsimas*, the targeted villages have to fulfill all sorts of “rules of the project”. The criteria in pre-selection stage are: 1) villages cannot get another *Pamsimas* grant; 2) access to safe drinking water is still poor (which is below 68.87%); 3) access to safe sanitation is still poor (which is below 62.41%); 4) The prevalence of diarrheal disease (or diseases transmitted through water and the environment) is high based on data from Puskesmas (the health center); 5) the cost per beneficiary is effective and efficient; 6) provide a Letter of Intent from the community to: (a) provide cadres of Community Empowerment (*Kader Pemberdayaan Masyarakat*) in the field of WSS; (b) provide a contribution of at least 20% of the cost requirements, consisting of 4% *in cash* and 16% *in kind*, and (c) eliminate the habits of unhealthy sanitation (like improper toilet).

The implementation of *Pamsimas* in Tajuk Village went thus: the Ministry of Public Works issued a Decree (SK) dated March 25, 2013 which announced a list of districts/cities which would become the targets of the *Pamsimas* Program. Semarang District Government offered Tajuk Village the opportunity to submit a proposal to obtain grants of *Pamsimas*. A team from the village then formed to work out a proposal. On July 2, 2013 Tajuk officially submitted the proposal to be included in the assessment of program grant recipients. The socialization was then conducted by village officers through meetings at the Village Hall, mosque, church, village chief's house, and the houses of citizens at events such as Bible or Koran studies.

In the assessment of optimization programs, Tajuk got the highest score. Subsequently, Semarang District Government responded to the Decree of MPW with a letter dated July 16, 2013, and this letter short listed the villages which were to be the target of *Pamsimas*. Tajuk was one of the villages that was listed as a recipient of a grant, that was to be funded within APBN (the state budget) at the value of Rp 216 million. However, this fund is only sufficient for 207 houses, whereas Tajuk itself has around 969 houses. Thus, the fund can only cover all Pulihan hamlet (140 houses) and partly Kaliajeng Hamlet (67 houses) with a water supply project. In addition healthy sanitation for schools is provided under the program for three elementary schools in Tajuk namely.

The major rules with regard the programs under *Pamsimas* are: (1) the adoption of cost recovery measures and a water pricing mechanism; and (2) the establishment of a new collective-choice body.

1) The adoption of cost recovery and a water pricing mechanism

The narrative spreading in the targeted hamlets is that reducing water demand can be enforced by setting prices and introducing new technology so that water users will use it efficiently. As stated on the proposal of *Pamsimas* in Tajuk, it is important to enact a rule on distribution of cost recovery among water users in order to sustain the system. The rule should be supported by water pricing for efficiency and equity. A volumetric water price is decided in which the water charge is based on the amount of water used. Water meters are installed in each house to measure it, thus technology with the requisite support at the same time encompasses rule who can access water. Eventually, all water users have to pay IDR 1,000 per month, plus the price of water used which is IDR 200 per cubic meter of water. The imposition of the water charges started on April 1, 2014. The rules to be obeyed is that: if there is abundant water and farmers' water need has been fulfilled, other parties (outside village) may join *Pamsimas* and get water access. With this proviso: the rate for the business sector is IDR 1,000 per cubic meter of water.

2) The establishment of a new collective-choice body

Pamsimas has introduced new water management rules, with a transfer of control changes from leaders of RTs to *Badan Pengelola Sistem Penyediaan Air Minum dan Sanitasi* (BPSPAMS – The Management Agency of Water Supply and Sanitation System). This is the new collective decision-making

body. The members of the body constitute from selected local villagers. They attended training organized by the government among which: 1) Training of Construction Engineering of WSS, 2) Administrative Training, and 3) Training of Management Board. Therefore, the body becomes sort of 'link' between village and the regency level government, and the members of the body are given earlier all information about the development of the program than the general public. They have authority over the day-to-day management, including operations and monitoring.

Farmers' Debate in the Decision Making Process

Local authorities promoted water sanitation, efficiency and community-based approach to justify the implementation of *Pamsimas* and to encourage villagers to accept the water management program. For instance, villagers were told that the water management program was being implemented for hygienic purposes and the introduction of public participation as stated by two local authorities:

"Not all villagers have improper toilets. With Pamsimas, people want to build them. And the Health Center will provide the certificate of free BABS (Buang Air Besar Sembarangan / free careless defecation) for the village." (Nur Azis, member of BPD, member of KKM Dharma Thirta).

"The program is for the community and by the community. Even women will be involved in a participatory manner in the program." (Samingan, Pulihan hamlet resident, working for MMNP).

It was also claimed that there would be benefits by managing cost recovery through water pricing. In short, consumers must pay. The income would, allegedly, be used for the community's needs as stated by the chief of Pulihan hamlet:

"With Pamsimas, the village would have an independent income that comes from the water" (Sugiyanto, chief of Pulihan hamlet).

However the farmers' debate on the implementation in Tajuk was a classic prisoners' dilemma. The decisions among them were flavoured with disputes among water users groups, especially on issues affecting farmers' self-interest. Hence, there arose a split of opinions among farmers as to the efficacy of the policy. The interviews with farmers suggested that water users' interests differ depending on endowments they have (see table.6).

Also, farmers' decisions with regard to *Pamsimas* were influenced by constraints in terms of time and their own feelings as to overturning structures built up by tradition and their forefathers.

Table 6. Group Composition of Water Users

Endowment Category	Water Users Group	Note
Residency locations (altitude and spring locations)	Higher and lower areas	Farmers living in higher areas have better water access since they are close to water tanks.
Number of livestock	Having relatively a few livestock (1-3) and many livestock (more than 3)	Farmers having many livestock will use more water
Political position and access to information	Village elites (/officials), ordinary farmers, MMNP staff, rent seekers	Hamlets having residents who have important positions get more information
Identity	Inside and outside village / hamlet (other users)	Residents of certain hamlets or villages get priority with water supply

Source: interviews with farmers

The decision, as to which hamlets the program targets, was influenced by the assets owned by each hamlet: water resources, political positions, access to information, etc. On the surface, the reason for deciding Pulihan hamlet was the abundance of spring water, and so technically the program will be more productive and more easily organized; and only those who were willing to accept *Pamsimas*' rules with regard to cost recovery and water pricing were eligible. However, it turns out other reasons related to political interests were involved. Local officials described *Pamsimas* as a positive change to a more modern system of water management. Interviews with all hamlet chiefs suggested that the decision was supported by village officials who are mostly from Pulihan. Most obviously the village chief and village secretary live in Pulihan, thus almost all decisions by the higher levels of government are known first by the village elites, and they are Pulihan residents.

Objections to *Pamsimas* came from several user groups i.e.: (1) farmers/households who live in higher area of settlement, (2) farmers who have relatively many livestock, and, (3) some farmers who were favoured by the earlier system. In the decision making forum, most of them argued that

water from the MMNP forest already belonged to the village, and so they shouldn't have to pay for their own water. Farmers living in the upper area have comparatively easier water access. This was due to the fact that they benefit from the biophysical condition of the resource and technology. They argued that there was no need to change the management since water was available to everyone. Some of them also argued that water was abundant, thus it was the fault of people living in lower area if they didn't have sufficient water. Moreover, farmers living many livestock disagreed with the program because they worried about higher water cost. It also appears that objections came from several people and organizations who previously got benefits from outside water users, like Salib Putih Foundation and 'big' livestock industry.

Meanwhile, those who supported *Pamsimas* implementation had their own concerns. Farmers in the lower area hoped to get more reliable and sufficient water as stated in the aim of the program. It is believed that water pricing and water meter technology as the structure employed supporting institutions should lead to more efficient water use, and therefore every household will save water and increase its availability. The new collective choice body was also hoped to minimize rent-seeking behaviour since the financial reports will be made public by the body; besides the disputes among farmers with regard to equality of water supply can be resolved.

Eventually although some parties resisted the implementation of *Pamsimas*, they had to accept the program because of the constraints they faced. As the program assumed, the water use will be more equitable in distribution. It is thus, farmers who did not agree with the program could not resist (openly) because of moral considerations toward their fellow farmers who were seeking water equality. Meanwhile, in terms of timing the early socialization of *Pamsimas* occurred only after the team submitted proposals to the district government. Further socialization was only conducted intensively after Tajuk village was confirmed to be one of the villages listed in the program. Thus, pressed by the urgency of the situation, farmers could not do anything else but agreed to it. They had to participate in the trial program and finally accepted the program on condition that water pricing would be decided participatorily by farmers, and not by outsiders, especially the upper level government.

Conclusion

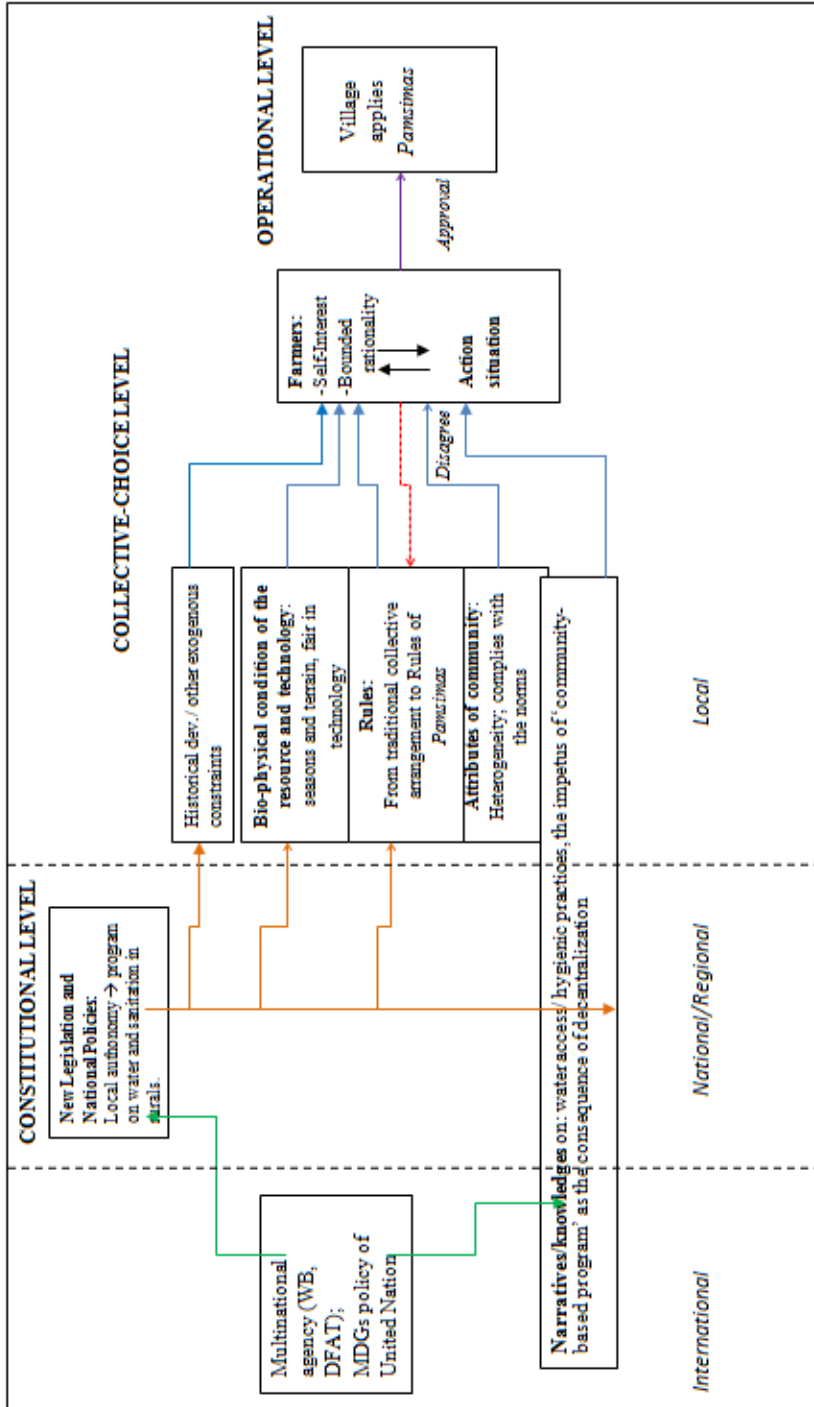
The perspectives of political economy and power have demonstrated that the relative success of the implementation of *Pamsimas* in the study area was due to various determinants (see figure 3). Although *Pamsimas* uses participatory approach and calls itself a community-based program, *Pamsimas* with its ‘rules of the project’ can be regarded as ‘top-down’ program. The study shows that the power of multinational donors is driving changes in institutions and altering the discourse at the local level regarding access to water resources. Within this case, the World Bank and United Nations have an important role in influencing national policy.

We can identify that “changing institutions are being shaped by, and at the same time shaping, the discourses being used” (Bixter et.al, 2015). There are two discourses driving *Pamsimas*: (1) the realization of decentralization, and (2) response to the problem of water supply and sanitation. Meanwhile, two major rule changes have resulted from its implementation. They are: 1) the adoption of water pricing mechanism and the installation of new technology, and 2) the establishment of a new collective-choice body. These rules have guided water availability within the system. Hence, in achieving water access for all *Pamsimas* has introduced a ‘market-like institution’ within collective water management, where buyers and sellers undertake transactions over water (see Cummings, 1992).

At the operational level, farmers’ debates in the decision making forums with regard *Pamsimas* show a classic prisoners’ dilemma. It can be seen that farmers’ responses in approving or disapproving the policy depend on “individual motivation and constrained by bounded rationality” (Tang, 1992). Farmers’ decision to implement *Pamsimas* did not occur because of a willing to improve water access/hygienic practices, nor was there an impetus to a fairer ‘community-based program’, rather the debate in the decision-making forum was centered mostly on the personal benefits of a redistribution.

Eventually, it is possible to see that a majority, seeking regularity of supply and a distribution of benefit, outvoted entrenched and traditional interests. These votes took place with one side having vast resources and government support. It appears unlikely the participants in the new program are aware of commercial and cultural consequences of this ‘equality’ in the market for water.

Figure 3. Understanding local institutional change of water management in Tajuk. Source: figure modified by authors.



References

- Acosta, Andres Mejia & Jethro Pettit. (2013). Practice Guide: A Combined Approach to Political Economy and Power Analysis (Discussion Note Prepared for the Swiss Development Cooperation). East Sussex, UK: Institute of Development Studies.
- Adiwibowo, Soeryo, dkk. 2009. Analisis Isu Pemukiman di Tiga Taman Nasional Indonesia. Sajogyo Institute.
- Arif, Sigit Supadmo and Murtiningrum. 2003. Survey on Irrigation Modernization: Sidorejo Irrigation System. Food Agricultural Organization (FAO).
- Berkes, F. and M. Kislalioglu. 1989. "Community-based management and sustainable development." *La Recherche Face a la Peche Artisanale*, (J.R. Durand, J. Lemoalle, J. Weber, eds.). Editions de l'ORSTOM, Paris, pp. 567-574.
- Bixler, R. Patrick, et.al. 2015. "The political Ecology of Participatory Conservation: Institutions and Discourse" in *Journal of Political Ecology* Vol.22, 2015, 164-182.
- Bromley, Daniel W. 1992. "The Commons, Property, and Common-Property Regimes." In Bromley, Daniel W (ed.), *Making the Commons Work: Theory, Practice, and Policy*. San Fransisco: Institute for Contemporary Studies Press, hlm. 3-15.
- . 2006. "Economic Institutions and Governance of the Commons". In Marcello Basili, Maurizio Franzini and Alessandro Vercelli (Eds.), *Environment, Inequality and Colletive Action*. London and New York: Routledge.
- Badan Pusat Statistik (BPS). 2015. Kabupaten Semarang Dalam Angka. Semarang Regency: BPS Government of Semarang Regency.
- Clement, Floriane, Jaime M. Amezaga, Didier Orange and Tran Duc Toan. 2007. The Impact of Government Policies on Land Use in Nothern Vietnam. Research Report 112, International Water Management Institute.
- Cummings, Ronald G. and Vahram Nercissiantz. 1992. "The Use of Water Pricing as a Means for Enhancing Water Use Efficiency in Irrigation: Case Studies in Mexico and the United States." In *Natural Resources Journal* Vol.32, Fall 1995 pp.731-755.
- Escobar, Arturo. 1995. Encountering Development: The Making and Unmaking of the Third World. Princeton, New Jersey: Princeton University Press.

- Hadipuro, Wijanto. 2010. "Air di Era Otonomi Daerah: Bentuk Liberalisasi Alam?", makalah, Seminar Internasional Dinamika Politik Lokal di Indonesia ke-11: Ada Apa Dengan 10 Tahun Otonomi Daerah, PERCIK Institute, Salatiga, 21-23 Juli 2010
- Hajer, Maarten. 1995. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Oxford: Clarendon Press.
- . 2002. "Discourse Analysis and the Study of Policy Making" in *European Political Science (EPS) 2.1*, European Consortium for Political Research.
- Hardin, Garret. 1968. "The Tragedy of the Commons." In *Science* 162: 1243-48.
- Hardin, Russell. 1982. *Collective Action*. Baltimore, MD: John Hopkins University Press.
- Hüsken, Frans. 1989. "Cycles of Commercialization and Accumulation in a Central Javanese Village." In Gillian Hart, Andrew Turton, and Benjamin White (Eds.), *Agrarian Transformation: Local Processes and the State in Southeast Asia*. Berkeley, Los Angeles, London: University of California Press.
- Li, Murray Tania. 2009. "The Law of the Project: Government and 'Good Governance' at the World Bank in Indonesia" in Franz von Benda-Beckmann, Keebet von Benda-Beckmann, Julia Eckert (eds.), *Rules of Law and Laws of Ruling: on the Governance of Law*. Farnham: Ashgate
- Marwell, G. and Oliver. P. E. 1993. *The Critical Mass in Collective Action: A Micro-Social Theory*. New York: Cambridge University Press.
- Meinzein-Dick, Ruth. 2014. "Property Rights and Sustainable Irrigation: a Developing Country Perspective". In *Agricultural Water Management*, 145 (2014), p. 23-31. Great Britain: Elsevier Science Ltd.
- Mubyarto. 1982. *Introduction of Agricultural Economy*. Institute of Research of Education and Socio-Economic Information. Jakarta.
- North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- Ostrom, Elinor, Roy Gardner, dan James Walker. 1994. *Rules, Games, and Common-Pool Resources*. Ann Arbor: University of Michigan Press.
- Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.
- . 1992. *Crafting Institutions: Self-Governing Irrigation Systems*. San Fransisco-California: Center for Self-Governance.

- Ostrom, Vincent dan Elinor Ostrom. 1977. "Public Goods and Public Choices." in *Alternatives for Delivering Public Services: Toward Improved Performance*, ed. E.S. Savas, 7-49. Boulder, Colo: Westview Press.
- Pasandaran, Effendi. 2004. "Consequences of Policy Changes on Indonesia Irrigation System Management." In *Jurnal Litbang Pertanian*, 23 (3) 2004.
- Siregar, Raja P., Adam Mahfud, Hening Parlan, Adi Nugroho. 2004. *Politik Air: Penguasaan Air Melalui Hutang*. Jakarta: WALHI dan KAU.
- Tang, Shui Yan. 1992. *Institutions and Collective Action: Self-Governance in Irrigation*. San Fransisco: Institute for Contemporary Studies Press.
- Vermillion, Douglas L. 1991. *The Turnover and Self-Management of Irrigation Institutions in Developing Countries. A Discussion Paper for a New Program of the International Irrigation Management Institute*.
- Vermillion, Douglas L.; Samad, M.; Pusposutardjo, S.; Arif, S.S.; Rochdyanto, S. 2000. *An Assessment of the Small-Scale Irrigation Management Turnover Program in Indonesia. Research Report 38*. Colombo Sri Lanka: International Water Management Institute.
- Wade, Robert. 1994. *Village Republics: Economic Conditions for Collective Action in South India*. San Fransisco California: Institute for Contemporary Studies Press.
- Wegerich, Kai. 2001. *Determining Factors of Local Institutional Change in Countries in Transition. Occasional Paper No.38*. Water Issues Study Group: School of Oriental and African Studies, University London.
- Weingast, Barry R. and Donald A. Wittman. 2006. *Handbook of Political Economy*. Oxford: Oxford University Press
- Wiradi, Gunawan. 2000. *Reforma Agraria: Perjalanan yang Belum Berakhir*. Yogyakarta: Insist Press, Konsorsium Pembaharuan Agraria, Pustaka Pelajar.
- World Bank. 1992. *Governance and Development*. Washington: The World Bank.
- , 2014. *PAMSIMAS: Responding to the Water and Sanitation Challenge in Rural Indonesia*. Jakarta: The World Bank.

Newspaper:

- Kompas*, 2 Maret 2015. *Ketersediaan Air Minum Terancam: Kehadiran Negara Belum Memenuhi Hak Rakyat*.

Website:

www.worldbank.org

www.Pamsimas.org