
ACQUISITION OF WATER RESOURCES IN BIMA – NUSA TENGGARA BARAT (NTB) IN REFORMATION ERA

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ABSTRACT

Actors play a bundle of power to access water resources. Contestation and networking among actors in obtaining access to water resources is interesting to study. Power that is played by state, private, and society varies in the control of water resources. This study aims to analyze: (1) the pattern of water resource acquisition in the Rontu Bima Watershed - Nusa Tenggara Barat (NTB) in the reformation era (2010-2016), and (2) the network of actors in the acquisition of the water resources. The study was conducted from March to August 2017 in the Rontu watershed area of Bima City, NTB. Data were collected through relevant document analysis techniques (archives and literature). In addition, interviews were conducted with key informants as many as three government officials, two water entrepreneurs, and 10 rice farmers. The data analysis is done descriptively to explain the relation between the actors in the water resources control. The results showed that there are four typologies of expansion of actors in the control of water resources in Bima on the reformation era, namely Direct Expansion, Indirect Expansion, Participatory Expansion, and Illegal Expansion. The change in typology is caused by a change of power played by actors in acquiring water resources. The pattern of control of water resources in Bima in the reformation era is dominated by the state by playing the authority as the main force.

Keywords: Actor, State, Water Resources, Power, Corporation.

1. INTRODUCTION

The management and control of water resources is a battleground for the interests of various parties to gain access and control over it. Various actors as stakeholders are state, private, and community. Therefore, the battle for access to water resources is interestingly assessed by looking at the role of the actor. The state must be able to become actor in favor of public interest. The state needs to do with private parties in order to increase the utilization of water resources for the development of the regional economy. Meanwhile, the community as a traditional water resources user should also not be harmed by state and private actors.

Damage to water resources arises when power inequalities occur among the parties involved in the control of shared water resources. Capital expansion supported by state politics causes direct or indirect damage to water resources, marginalization of farmers, and loosening community cohesiveness.

Conflict between various actors is a consequence of the seizure of this water resource. Hardin (1968) calls it as "The Tragedy of The Commons".

To prevent the tragedy, Hardin offers the concept of property rights over natural resources. Basically it divides the right and ownership of those natural resources over four different statuses. First, state property. Natural resources owned by the state so that the state has the right to regulate and manage it where the community is obliged to comply with the regulations issued by the government in the management of the area. Second, private property. Ownership rights of natural resources owned by individuals or companies where an individual can manage its natural resources in accordance with applicable social rules. Third, common property, shared natural resources and in its management there are rules that become mutual agreement that must be obeyed by its members. The implication of this collective ownership is the formation of community groups in the management of natural resources.

Fourth, open access. Natural resources not owned by a person or no owner. The widespread implications of the concept of open access area is the opening of opportunities for all the factors to manage them. The continuing competition in natural resource management conflicts occurs when there is a difference in meaning to this property right. For example between open access and common property or between state property and open access (Ostrom, 1990).

The context of controlling water resources has been discussed in various literatures. There are at least three themes that are central to the debate, namely approaches and theories about the control of water resources, issues and ideology of controlling water resources, and the actors concerned in it (Table 1).

Tabel 1. Similar Literature on the Controlling of Water Resources.

Context	Researchers	Focus of study
Approaches and theories	Savenije & Van der Zaag, 2008; Gizelis & Wooden, 2010; Sneddon <i>et al.</i> , 2010	Genealogy as criticism, integrative approach, institutional, socio-ecological approach
	Madani, 2010; Rodriguez-Labajos & Martinez-Alier, 2015	The debate of water control studies through game theory theorizing, political ecology
Issues and ideology	Rothman & Oliver, 1999; Lebel <i>et al.</i> , 2005; Bazargan-Lari <i>et al.</i> , 2009; Mehta <i>et al.</i> , 2012; Mianabadi <i>et al.</i> , 2014	Analysis of water resources control from political issues, social movements, to conflict resolution
Actors concerned	Hermans, 2008; Ramukhwatho <i>et al.</i> , 2016	Analysis of environmental actors in solving the case of water resources control
	Sneddon, 2002; Matthews & St. Germain, 2007; Walker, 2006; Klöpffer, 2008; Akhbari & Grigg, 2014	Analysis of actors in the natural resources control

Relations between state, corporation, and communities form a unique network in the acquisition of water resources in the reformation era in Indonesia. This paper attempts to look more deeply at the contestation between actors in the seizure of open

access water resources in Bima, NTB. Access theory from Ribot and Peluso is relevant for use in analyzing the seizure of this water resource.

Ribot and Peluso (2003) argue that access is "the ability to take advantage of a natural resource". Access is defined as a "bundle of powers" for the benefit of natural resources, not just a "bundle of rights" as Ostrom (1990) puts it, because a set of rights alone is not enough to benefit from natural resources. Ribot and Peluso suggest the use of an access analysis method (not just the right) to identify the pool of interests, relationships, and processes that enable different actors to take advantage of natural resources. Thus, Ribot and Peluso intend to facilitate fundamental analysis, who actually takes advantage of a natural resource, and through what process they can do. From this power in access theory proposed by Ribot and Peluso becomes important, because for them, this power that affects the ability of actors to take advantage of resources.

Ribot and Peluso (2003) then create categories about access. First, legal access, which is access to rights based legally, and therefore the benefits obtained through legal mechanisms. Second, illegal access, access that is not based on legal rights, and the benefits it obtains through illegal mechanisms. Third, the parallel access (structural and relational access mechanism), namely access obtained by fact addition of parallel relationship of access based on legal rights and illegal rights. This parallelity ultimately determines how profits are gained, controlled and maintained. This parallel access can be technology, capital, markets, workers, knowledge, authority, identity, and social relationships. This is what Ribot and Peluso called "a bundle of powers". If this is the case, such a definition is an extension of the property right that does not include capability, but is simply defined as "the right to take advantage of a natural resource". Thus, access to natural resources is largely determined by the inherent power of the actor. Each actor uses different bundles of powers to form relationships in the contestation of natural resources.

Based on the above explanation, the aims of this research are: (1) the pattern of water resource acquisition in the Rontu Bima Watershed - Nusa Tenggara Barat (NTB) in the reformation era (2010-2016), and (2) the network of actors in the acquisition of the water resources.

2. RESEARCH METHOD

The research was carried out in the Rontu watershed area of Bima City, NTB from March to August 2017. Rontu watershed is a source of water for agricultural and household needs, as well as raw water sources for state and corporate water companies. Data collection is done by document analysis techniques from archives or related literature. In addition, interviews were conducted with key informants as many as three government officials, two water entrepreneurs, and 10 rice farmers. The data analysis was done descriptively to explain the pattern and network of water resource acquisition in Bima.



Figure 1. Map of Rontu Watershed in Bima City.

3. RESULT AND DISCUSSION

3.1. The Role of the State and Its Influence on Access to Water Resources Control

The domination of the state in the control of water resources in Bima is facilitated by the power of authority in the regulation and management of water resources. By using its authority, the regional head as a state representation provides room for the expansion of various actors to access water resources in the Rontu Bima watershed, especially since the reformation era. This great regional head authority is due to a regulation that supports the decentralization of power since Law No. 22 of 1999 on Regional Autonomy is applied in Indonesia.

Regional autonomy caused the City Government of Bima to try to increase the economic growth of its territory which of course requires capital and technology investment. Capital and technology are owned by the government and corporations. Rontu watershed which is an open access area, initially only utilized Municipal Water Company (PDAM) Bima City to fulfill the domestic water needs of the

community before the reformation era (before the year of 2000). Meanwhile, after entering the reformation era, the corporation began to be involved to access water resources in Rontu watershed for commercial purposes due to market demand.

In the period of 2000 – 2016, Bima City Government has given permission for the construction of new installations of PDAMs in two new locations with its raw water sources from the Rontu watershed. One of the new PDAM installations located in Dodu Village was built in 2013. The problem of water resource utilization in Dodu began to occur when the water requirement for rice field farming decreased because it was used for PDAM raw water source. This is because there are 7 bottled drinking water companies that utilize the installation of PDAM in Dodu as a source of raw water. In fact, companies often take water illegally directly from Rontu watershed. As a result the installation in Dodu requires a larger amount of raw water taken from the Rontu River Basin. Bima City Government then built a dam in Dodu to increase the water volume of PDAM. This is where the problem started.

Rontu Watershed as an open water resource, in addition to being utilized by the government, is also utilized by the Dodu community for agricultural activities. The entry of corporations that indirectly access water resources in the Rontu watershed through PDAM causes the water debit for agricultural purposes to decrease. Water resource management based on technology and economic-oriented will lead to decreased availability of water resources.

The problem of shortage of water discharge for agricultural needs for this community led to protests and resistance of farmers to the state. These forms of resistance such as the destruction of PDAM pipes and demonstrations deny the presence of PDAMs in Dodu. This protest and community resistance lasted until 2016.

The City Government of Bima responds to the wishes of Dodu people in various ways. Deliberation with Dodu community figures involving various parties such as Regional People's Representative Assembly (DPRD) of Bima City and police officers conducted many times. Agreement occurs between Dodu government and society in 2017. Technical approaches to dam making functionalized for irrigation and conservation upstream of Rontu

watershed are a collaborative agreement between the actors involved.

3.2. Acquisition Pattern of Water Resources in Bima

The state has a central role in the process of water resource acquisition that also mediates corporations and communities in the control of water resources in Bima. Acquisitions that occur due to the role of the country create various types, namely direct expansion, indirect expansion, participatory expansion, and illegal expansion. The different types of water resource expansion are described as follows.

3.2.1. Direct Expansion

Direct expansion is a form of state acquisition of water resources. The Municipal Government of Bima plays its authority through regulation and licensing to PDAM to manage and utilize water resources from the Rontu watershed to meet the community's need for drinking water and other domestic needs.

Since 1981, Bima's PDAM has been in operation. To date there have been five drinking water treatment plants utilizing raw water sources from the Rontu watershed, in Nungga, Dodu, Oisii, Lelamase, and Ndonae villages. Dodu PDAM installation was built in 2016 by stemming the Dodu River which is a sub region of Rontu watershed.

The acquisition of resources by PDAM's installation in Dodu causes the availability of water for agricultural activities to decrease. The intensity of rice cultivation in Dodu since 2016 decreased from three to two planting times in a year, and some even lived once planting time. PDAM using technological and capital access and political support from the Municipal Government of Bima acquired water resources that led to the marginalization of farmers.

When giving permission to the PDAM, the Municipal Government of Bima has a dual purpose. First, for the service of basic needs for the community in the form of drinking water. Second, to increase the regional income from sharing the profit of PDAM to the local treasury. The dual role of this country often creates a dilemma of interest for the state.

For Dodu people, direct expansion by the government through PDAM is a threat to the survival

of livelihoods in wetland farming activities. As a result there was resistance by farmers to protest the existence of PDAM in Dodu.

In addition to the PDAM, the Municipal Government of Bima provides permits for drinking water management to private parties in accordance with Law no. 7 of 2004 on Water Resources Management. In Bima, there are 7 companies granted permission by the local government in the processing of water resources.

3.2.2. Indirect Expansion

Indirect expansion is a form of state collaboration with corporations in the acquisition of water resources. The Municipal Government of Bima seeks to excavate and increase local revenues from various sources in accordance with the mandate of the Regional Autonomy Law, including with the role of corporations in utilizing water resources in the Rontu watershed.

In 2017 there are 7 corporations that work on bottled drinking water products in Bima. These companies should not take their raw water source directly from the Rontu watershed, but must go through the installation built by PDAM. Therefore, the acquisition of water resources by corporations occurs indirectly. Corporations use capital and technology to acquire water resources in the Rontu watershed for their economic interests (market demand). Due to the indirect expansion of water resources in the Rontu watershed is the need for water for agriculture is decreasing, so the intensity of the community rice farming business decreases.

3.2.3. Participatory Expansion

Participatory expansion is a collaborative water resource acquisition between state and society. Bima City Government gives farmers access by building irrigation infrastructure, water reservoirs (embung), dam trenches and dam in Rontu watershed. Government support in infrastructure development provides access to water resources in the Rontu watershed to farmers. In addition to maintaining the sustainability of water catchment areas in the Rontu watershed, the Municipal Government of Bima also provides seedlings for reforestation activities conducted jointly between the government and the community.

Farmers' participation in the Rontu watershed in irrigation and reforestation is done in the form of labor-intensive and mutual assistance programs. Participation is defined as active farmer involvement in the implementation of development programs that will have an impact on them. Participation is more as a process of empowerment individuals or communities, involving the community in identifying, preparing, and implementing development programs that suit the needs of the community.

The involvement of communities in the acquisition of water resources in the Rontu watershed uses the strengths of identity and social relationships that have been developed within the community. The agricultural community in the Rontu watershed has long been familiar with the pattern of water distribution arranged by local wisdom (*Punggawa So*). *Punggawa So* is the officer responsible for distributing water to the paddy field. If there is a seizure of water among farmers that triggered conflict, then there is the role of "*Dou ma tua tua*" (customary institution) in the settlement. The government involves the role of *Punggawa So* in the participatory acquisition of water resources. The values of identity and local social relations that continue to be maintained in the Rontu watershed improve the control function so that supervision of water resource utilization can be done jointly between government and society.

3.2.4. Illegal Expansion

Illegal expansion is private-private collaboration to access water resources in the Rontu Bima watershed with illegal patterns. There are two patterns of water resource acquisition in the Rontu watershed illegally. First, using modern tools and technology, the corporation takes raw water directly in the Rontu watershed without going through the PDAM. Second, the corporation sells raw water to the bottled water companies. Though it is not allowed. The corporation shall only be allowed to sell bottled or refilled drinking water which has been processed in advance in accordance with the drinking water quality standards of the authorized institution.

Illegal expansion undertaken by the corporation is detrimental to the state revenue. The illegal acquisition of water resources in the Rontu watershed by corporations causes government losses from local revenue sources.

3.3. Actor Network in Acquisition of Water Resources in Rontu Watershed

Various actors play a role in the acquisition of water resources in the Rontu watershed. Four acquisition patterns are formed by the network of actors, namely direct expansion, indirect expansion, participatory expansion, and illegal expansion. These patterns use different bundles of powers in the era of regional autonomy (Table 2).

Table 2. Typology and bundle of powers that actors play in the acquisition of water resources in the Rontu watershed.

Typology	Actor network	Bundle of powers
Direct expansion	State + PDAM	Authority, capital, technology
Indirect expansion	State + corporation	Authority, capital, technology, market
Participatory expansion	State + community	Authority, identity, social relation
Illegal expansion	corporation + corporation	Capital, technology, market

Table 2 shows that the dominant actor in water resource acquisition in the Rontu watershed is the state. The state plays its dominant authority affecting corporations and communities in the acquisition of water resources. Corporations play the power of capital, technology, the pull of the market economy to acquire water resources. Meanwhile, communities use the power of identity and social relationships in acquiring water resources. The interesting thing is that when corporations network with corporations, there is an illegal expansion in the acquisition of water resources in the Rontu watershed (Figure 2).

Further information from Table 2 is that although Rontu Watershed is an open access natural resource, but not all actors are able to acquire water resources with equal access strength. The government is more dominant in the acquisition of water resources than corporations or the public.

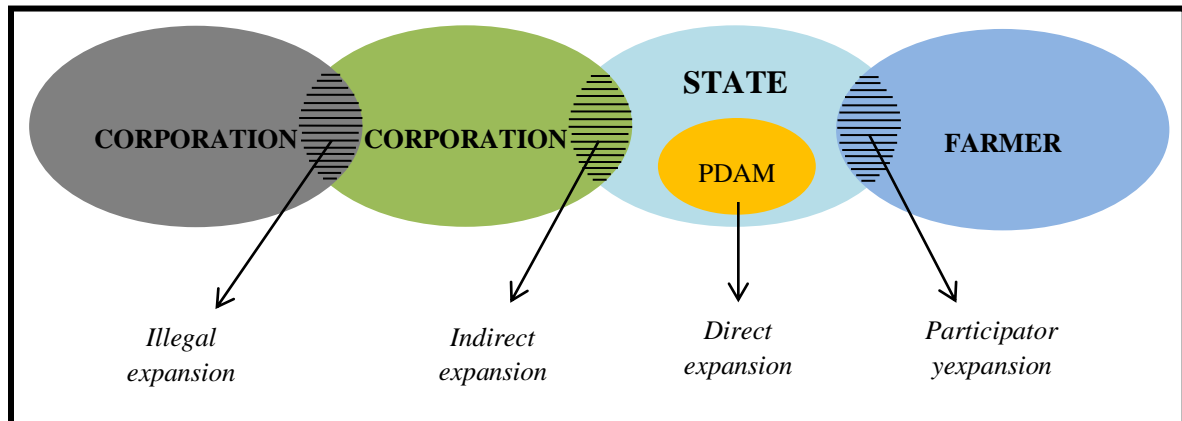


Figure 2. Actor Network in Acquisition of Water Resources in Rontu Watershed.

4. CONCLUSION

The acquisition of water resources in the watershed of Rontu Kota Bima of West Nusa Tenggara during the reformation era took place dynamically by various actors by playing different bundle of powers. There are four acquisition patterns that are created, namely direct expansion, indirect expansion, participatory expansion, and illegal expansion. The state that plays its authority is the dominant actor in the acquisition of water resources. The role of the private sector is strengthened because it is coupled with the state in the acquisition of water resources, while the state dominance causes the farmers' access to water resources to become weak.

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