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Contestation of Actors in Regulatory Settings Irrigation Water

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Abstract: This study examines the contestation of actors by using constructivism paradigm. The type of research was qualitative with case study approach. This research conducted at Kampili irrigation area of South Sulawesi Province in 2016-2018. The data source used in the form of primary data. It obtained by in-depth interviews with informants and researchers as the main instrument. Research activities did through interviews with key and supporting actors. The researcher also participated to observe the distribution arrangement activities both at a primary, secondary and tertiary level as well as commission meeting activities, farmer institution activities. Secondary data were obtained from statistical offices, agencies related to this study and previous research results. The results showed the contestation of actors took place divided into three patterns, namely coexistence, hybridization and zero-sum game. The dominant performance of the dominant policy domain is the pattern of hybridization contestation, although, there is still coexistence contestation and zero-sum game and the contestation pattern which contribute to the operational sphere performance at the secondary to secondary level is the hybridization contestation pattern while at the tertiary level (farming) is coexistence contestation, zero-sum game and hybridization.

Key words: Contestation, actors, water resources, irrigation, statistical, hybridization

INTRODUCTION

Kampili Dam was built in 1930. The dam is used for the community of Gowa, Takalar and Makassar for drinking and agricultural purposes. The Kampili Dam is the source of its water coming from the Jeneberang River which is the legendary river in Gowa Regency. Jeneberang is one of 15 major rivers in Gowa. Its high is derived from Mount Bawakaraeng, flowing through the area of Gowa Regency and empties between Barombong and Tanjung Bayang. Jeneberang River which has a length of 75 km with the extent 727 km^2. This river often overflows during the rainy season that occurs in December to January. The most severe condition occurred in 1976 almost 2/3 city of Ujung Pandang (Makassar) was inundated. This puddle water comes from the overflowing of the Jeneberang River in the downstream area of the Sungguminasa bridge and drainage channels like Sinrijala, Jongala and Panampu are inadequate in catching water on another hand during the dry season unable to meet the needs of irrigation and drinking water.

Irrigation became a supporter of agricultural development success and is a very strategic government policy in the growth of the national economy in order to maintain rice self-sufficiency production. To drain the water to the area of rice fields required irrigation networks and irrigation water is needed to irrigate the rice fields, therefore agricultural activities cannot be separated from irrigation water as a way of taking water from the source for agricultural purposes by draining and distributing water regularly in the business utilization of water to irrigate crops. Water shortage is a chronic problem where agriculture cannot exist without irrigation (Jiang *et al*., 2016).

Water resources or irrigation is a resource that enters the common property (shared resources) in the management of common resources faced with the problem of the emergence of competition among its users caused by the characteristics of resources freely exploited by anyone but the benefits of resources will be reduced. The implications of the problem give rise to a phenomenon called commons dilemma. This phenomenon occurs when the management of shared resources and the consequences therein is faced with the weak institutional aspect. This phenomenon also occurs in the object of research that has been done by Indriastuti and Muktiali (2015), namely in Kapilaler irrigation area where it happened that is the emergence of water conflicts between farmers along the irrigation channel. The problem has a history and transformation of management is quite complex with the involvement of many parties both of government, farmers and private in fighting for resources

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that exist. The weak cooperation between the parties causes the problem to be prolonged, the condition of adequate resources does not guarantee the overall success of resource management as long as the institutional aspect is still weak (Indriastuti and Muktiali, 2015; Trawick, 2002), conducts research in Andean Peru), (irrigation water) controlled by the powerful, so that, the cause of the conflict and the absence of awareness in contributing to improvements for the sustainability of irrigation resources.

According to Rachman and Kariyasa (2016), irrigation management is an effort to distribute water equitably and equitably but in its mechanism is often faced with several fundamental problems, namely) the number of areas in the water group increases uncontrollably) the location of the rice field relative from the channel is not taken into account in the water distribution and technological recommendations that are in the tail end) wild water tapping on the road continues without sanction and) the productivity of rice varies greatly between the upstream and downstream sections. If we look at this issue, it cannot be separated from the institutional elements and policy tools that have not functioned effectively in an effort to awaken the public about the importance of water management. The presumption that irrigation water is a public good (public good), causing people to tend to be less efficient in using water. Economically, uncertainty about water rights and water management obligations causes water user association organizations to be less effective and institutional mechanisms in water resource allocations do not work, resulting in inefficiencies in water use.

The desire of certain farmers use the existing water resources, sometimes they can fulfill even though they are not determinant but because they have a relationship with the actors who can change the existing agreement than, the farmer can fulfill his desire in accordance with Febryano *et al.* (2014) the result of research that the politics of the interaction of actors to environmental resources and the acknowledgment that even the weakest actor has the power to act to get his interests (Bryant and Bailey, 1997). The use of the actor-oriented approach is primarily motivated by a concern for promoting politics and beliefs related to an understanding of political interests and acts of political actors in which the acknowledgment that even a weak actor has the power to act in his favor the need for the realm of global (and regional or local) understanding processes in the appreciation of the roles of certain actors in their development, thus, making processes more real and meaningful simultaneously in politics.

A person can fulfill his interests, not only because they have high positions as in irrigation resource user actors, ordinary farmers who know how to repair irrigation channels, know how to share a good water, then he will be respected by society even though society it is not the government, this is in line with Foucault (2012) opinion which states that man, knowledge and truth are the production of the inherent relations of domination in the plurality of power relations. According to him the subject does not emerge from the void but arises from the relation of dominance around him. These different and different discourse or knowledge not only reflect or present the entities and social relations but also construct or shape them. It is further argued that the formation of discourses and knowledge sourced from within the community or outside the community can be presented through the dissemination of discourses or knowledge distributing the selection, control and exclusion processes that preserve the truth regime including the institutional level of knowledge.

In the context of irrigation institutions, there are three important aspects: jurisdiction boundary (i.e., jurisdiction boundary) is the authority limit of an institution in regulating water resources, generally based on hydrological boundaries such as secondary channels and primary channels ("Property rights") that is the right of each individual farmer to obtain water services in accordance with the obligations imposed and) the rule of representation is an agreed rule with the aim of ensuring a balance between the right to a water service obtained by the number of liabilities charged. For this rule to be enforced, there needs to be a consistent implementation of sanctions. Meanwhile, the technical aspect basically involves the allocation of water ("water allocation") and operation and maintenance ("maintenance"). The integration of technical aspects and the institutional system in irrigation management will affect the outcomes, efficiency and optimization of water resource allocation (Rachman *et al.*, 2002). The phenomenon of the management and distribution of irrigation water for agricultural land in the Kampili irrigation area where there are many stakeholders, so that, many interests exist, making the management and distribution of irrigation water uneven, there is plenty of water available from the primary, secondary or tertiary channels there are still rice fields that do not well water while in other rice fields water is wasted uselessly. The existing planting schedule is decided based on the results of the shrimp scavengers between stakeholders for certain areas of planting schedule can be implemented but in other areas cannot run in accordance with the planting schedule.

The pattern of contestation between local knowledge constructed by day-to-day experience and modern knowledge constructed on the basis of the scientific method is complex. The complexity spawned three alternatives of knowledge reconstruction described by Salman and Noguchi (2012) as a patterned reconstruction of zero-sum game taking place when mutual negation in contestation between narratives, hybridization takes place when mixing and then gives birth to new features of knowledge in contestation narration; patterned reconstruction coexistence takes place when there is a common presence without mutual influence in contestation between narratives.

The capacity of Kampili irrigation area is 10, 545 ha while the amount of land which is the area of DI Kampili consists of 131 P3A which is incorporated in 11 GP3A with the land that must be irrigated that is for the year 2015 which is 9, 106.30 ha. Under existing conditions, all land in the Kampaki irrigation area should be able to use irrigation in accordance with the existing schedule where the capacity of Kampili Dam is greater than the amount of irrigated fields.

Based on this matter, it can be said that the existing water resources in the area of irrigation Kampili are still enough but the water distribution system is still not optimal, there is a difference in production between hulu and hilir caused by contestation between actor or institution and institutional irrigation that is not yet optimal. This study aims to analyze the contestation of actors in regulating the distribution of irrigation water in Kampili irrigation area.

MATERIALS AND METHODS

Research methods: This research used constructivism paradigm. This research conducted by Kampili irrigation area in South Sulawesi Province of Indonesia. The research divided into pre-study conducted in June-August 2016 and field research conducted October 2016-April 2018. This research used primary data and secondary data where primary data data obtained through in-depth interview with previously made a list of key questions, the question could be developed in the field and in addition to direct observation. The pattern of distribution of irrigation water, institutions, stakeholders involved from the dam to the lowest level of irrigation water user farmers The data collected derived from the results interviews with a number of informants where the informants interviewed were from BBWS (Great Hall of River Region) namely Bili-bili Dam Officer Bili-bili 2 persons, head of planning 1 person, PSDA (Management of water resources) consists of Irrigation Officer consisting of 1 Person Observer, POB (Dam operation officer) 2 person, primary interpreter 1 person secondary interpreter 4 person, watergate officer 17 people, Chairman of IP3 A (head of water user's organization or FWUA) 1 person, Chairman of Federation of GP3A (Federation of Water User's Organization or FWUA)11 member, Chairman of P3A (Water User's Organization or FWUA) 11 members, P3A members 55 person, Non-Kampili Farmers 10 person, Head of Food Crops District Gowa, village government 5 member, members of irrigation commissions, researchers and secondary data is data that become supporting in this research which obtained from research result in the form of book, journal of national and international. Sources from BBWS, PU (Public works service), NGO (Non Governmental Organization), Department of Resources, Agriculture Agency, district and village government in the form of map data, irrigation land area, Jeneberang watershed data, dam existence, water debt, irrigation area, irrigation and all the related data in this study.

RESULTS AND DISCUSSION

Actor contestation in irrigation water distribution arrangement: The contestation of actors in irrigation management is the contestation of the policy and operational shutter, the policy shutter and the operational shutter each will have an arena that will be contested by the actor, so, the resulting contestation is contestation of co-existed, hybridization and zero-sum game.

Contestation of the actors in the policy shutter: The first pattern of actor contestation is the coexistence contestation that takes place on the policy actors BBWS with DSDACKTR (Departement of Copyright Water Resources and Space) in the arena of the use of operation and maintenance costs) DSDACKTR with the agriculture service on the water utilization area in the third season. The pattern of coexistent contestation will lead to ineffective irrigation arrangements as each stakeholder will execute their respective policies and not coordinate, so that, the pattern is negative in the efficient and effective arrangement and distribution of irrigation.

The pattern of hybridization contestation that took place on the policy actors in) BBWS and DSDCKTR in the arena of assignment of labor) DSDACKTR with PU/ PSDA District in the arena of financing operation and maintenance) UPTD Jeneberang with DSDACKTR in the arena of water distribution schedule) UPTD Jeneberang with irrigation commission/Bappeda in the arena of water distribution schedule) UPTD Jeneberang with dams management unit in water drainage based on basic

Table 1: Actors, contestation and contest results in the sphere of policy on the regulation of Irrigation water distribution in Kampili irrigation area

Actors	Concestation	Areas	Concestation results
BBWS	DSDACKTR Province	Assignment of irrigation operation personnel-operation and maintenance costs of irrigation networks	Hybridization coexistence
Dam management unit	Agency for the development of irrigation commissions the	Schedule of the opening of the dam door	Hybridization
DSDACKTR	Departement of Agriculture	Planting pattern (third planting season)	Zero sum game
		Rendeng and Gadu I season (overcoming water shortage)	Hybridization
	PSDA/PU of District	Maintenance	
UPTD PSDACKTR	DSDACKTR	Schedule of water distribution requests for basic water	Hybridization
Jeneberang	Operational dam unit	flow discharge	Hybridization
Dinas pertanian	IP3A	Third planting season	Zero sum game
	PU of District	Coaching of P3A	Hybridization
		Provision of assistance	Hybridization
	Farmers association	Saprodi and Alsintan	
	P3A	Maintenance of tertiary network	Hybridization
Agency for the IP3A development of irrigation commissions		Implementation of water drainage at the dam	Zero sum game
		Decisions on the establishment of planting and drainage schedules in irrigation commission meetings	Hybridization

discharge) agriculture service with PU/PSDA Regency in P3A development arena) agriculture service with farmer group in relief arena Saprodi and Alsintan, agriculture service with P3A within tertiary network maintenance arena and) Bappeda/irrigation commission with IP3A in the arena of planting schedule and drainage.

The third pattern is the pattern of zero-sum game contestation in the actors of the stakeholder policy domain negating the policies of other stakeholders or stakeholders that dominate the other stakeholders. The stakeholders/actors who contribute zero-sum game are) DSDACKTR with Agriculture Department in the arena of cropping pattern or commodity difference in third planting season) Agricultural Service with IP3A in arena of cropping pattern (determination of commodity type in the third season) Commission irrigation with IP3A in the arena of water drainage at weirs. The zero-sum game contestation pattern will deliver an inefficient and effective distribution pattern, stakeholders/actors will mutually exclude or dominate the policies of other actors. The contestation pattern that contributes to the performance of the policy sphere is the hybridization contestation pattern which consists of nine areas of hybridization contest actors, then the zero-sum game contestation pattern which contains three zero-sum game actors and only in the arena of financing the operation and maintenance of BBWS actors and DSDACKTR contribute to coexistence. So, it can be said that the pattern of contestation that took place in the field of policy in regulating the distribution of irrigation water in Kampili irrigation area is hybridization contestation pattern. Hybridization contestation patterns that each stakeholder/actor will combine their policies to create new policies for effective and effective distribution arrangements.

The size of the continuity of regulation and distribution of irrigation water in Kampili irrigation area is the distribution of water evenly for both upstream, middle and downstream areas as well as fulfillment of water for seasonal rendang (rainy season) water which is assisted from the existence of rainwater but at the beginning of the planting each utilizing water from the weir and the use of pump irrigation while for the Winter season 1 100% farmers can use water for the cultivation of rice commodities sourced from the weir for the second honey season (planting to 3), this distribution can be utilized by the farmer is given by the dam only 60%, there should be no rice cultivation other than commodity crops, so that, both upstream, middle and downstream farmers can utilize the water provided. Because the number of rice commodities will use very much water or almost 50% of the water use will be cropped.

Contestation pattern of operational operating actor: The second pattern of actor contestation is the pattern of actor contestation in the operational sphere from the weir, primary and secondary levels, the contestation pattern that takes place between the operational actors is hybridization contestation

Based on the previous description and based on Table 1 and 2, it showed that in the irrigation water management arrangement in the operational realm, there are three contestation patterns, namely coexistence contestation, hybridization contestation and zero-sum game contestation.

The pattern of actor contestation in the operational sphere from the weir, primary and secondary levels, then the contestation pattern that takes place between the operational actors is hybridization contestation. Actor irrigation operators at both weir, primary, secondary levels all work together in overcoming water shortages and conflicts within irrigation water utilization. There is a zero-sum game contestation between POB actors and irrigation commission with the opening of the dam door,

Table 2: Actors, contestation arena and contestation results on operational sphere activities of irrigation water distribution arrangement in Kampili irrigation area

Actors	Contest	Arena	Total consent
Observer	POB	Distribution settings	Hybridization
	Primary interpreter	Distribution settings	Hybridization
	Secondary interpreter	Distribution settings	Hybridization
	PPA Primer	Distribution settings	Hybridization
	PPA Sekunder	Distribution settings	Hybridization
	IP3A		
POB	Irrigation commission	The opening of the weir gate	Zero sum game and Hibridisasi
	Observer and primary	The opening of the weir gate	Hibridisasi
Primary interpreter	Pengamat	Operation and maintenance of irrigation channels	Hybridization
	IP3A	Overcoming water shortage and conflict	Hybridization
	Secondary interpreter	Overcoming water shortage and conflict	Hybridization
		The opening of floodgates and conflict	Hybridization
	PPA Primer	Maintenance of irrigation channels	Hybridization
	PS Primer		
Secondary interpreter	Primary interpreter	Overcoming water shortage and conflict	Hybridization
	PPA Sekunder	The opening of floodgates and conflict	Hybridization
	PS Sekunder	Maintenance of irrigation channels	Hybridization
	GP3A	Overcoming water shortage and conflict	Hybridization
IP3A	GP3A	Schedule and arrangement of land in obtaining water	Hybridization
	Primary interpreter	Distribution and conflict	Hybridization
GP3A	P3A	Schedule and arrangement of land in obtaining water	Hybridization
		Distribution and conflict	Hybridization
Ketua P3A	Farmer	Water distribution and maintenan	Coeksistention (farmers in the upstream and middle
	Mandoro jene	The setting of water in tertiary to the paddy field	Hybridization (farmer downstream)
			Hybridization to active PA3 Zero sum game on the inactive P3A
Mandoro Jene	Farmer	Water distribution and maintenance	Coeksistention and hybridization
Members of P3A/farmers	Farmers	Maintenance	Coeksistention
	Farmers non member in irrigation water Kampili farmer	Coeksistention	Zero sum game
Farmers non-member in Irrigation water Kampili	PPAPrimary Interpreter	Water acquisition	Hybridization Hybridization

the POB prioritizes the water in the weir which should wait for the result of the decision of the irrigation committee meeting, the late irrigation commission meeting while the water demand already exists from observers and interpreters and there is water in the river, so, the policy of the irrigation commission is not working but the current POB policy.

Contestation at the tertiary level is a pattern of coexistent contestation that is P3A chairman with farmers, especially, farmers in the upstream and middle easily accessible water, they contribute to coexistence in the channel maintenance arena which as large farmers no longer want to join the research of devotion because they feel that it is the duty of the chairman of the P3A or the management) Mandoro Je'ne with the farmer in the arena of arranging the distribution and payment of contributions, the farmer does not want to pay the water fee it is assumed that the water obtained is not from the mandoro work of Je'ne, so that, mandoro je'ne also sometimes) members of P3A farmers with members of the farmer group in the arena of water acquisition and maintenance, there are farmers who are not members of the farmer group and there are farmers who do not own land, so, they do not want to join the work of devotion but the members of the group gain assistance from the agricultural service, so, they each-mas ing does not work together in maintaining tertiary channel conditions. P3A members with farmers outside P3A Kampili in the water acquisition arena, not of D.I Kampili farmers use their own way of utilizing the channels to obtain water both legally and illegally.

The second pattern at the tertiary level is hybridization contestation that is P3A with downstream farmers, hybridization contestation occurs because the P3A chairman along with the downstream farmers cooperate in overcoming the garbage which inhibits the channel to get water up to the rice field non DI farmers (outside the networking scheme) with PPA irrigation officers and primary officers, out-of-network farmers need water and ask PPA and interpreters to obtain water and PPA gives water based on orders from the primary interpreter, so that, contestation is contested

hybridisation but this contestation is actually one of the causes of the decrease in the amount of water that is the primary channel which ultimately reduces the amount of water downstream. The third pattern is the pattern of zero sum game contestation, the operational actor actors are P3A chairman with mandoro je'ne due to some P3A in the irrigation area Kampili, mandoro je'ne occupation is taken over by the P3A chairman, so, mandoro je'ne is not running and funds for payment of contributions are also used by the P3A chairperson, so that, the function of mandoro je'ne as a regulator or irrigation water division on the tertiary channel to the rice field plot no longer running. Members of P3A/farmers with other farmers contribute to the water acquisition arena, most of the farmers in the middle area use the break-in with direct tapping, either by using the pump or by using the pipe, so that, because of the many farmers who do not get the water, other farmers do not get water.

The size of the continuity of regulation and distribution of irrigation water in Kampili irrigation area is the distribution of water evenly for both upstream, middle and downstream areas as well as fulfillment of water for seasonal rendang (rainy season) water which is assisted from the existence of rainwater but at the beginning of the planting still use the water from the weir and the use of irrigation companies while for the winter season 1 100% farmers can use water for the cultivation of rice commodities sourced from the weir for the second season (planting to 3), this distribution can be utilized by the farmer given by the dam only 60%, there should be no rice cultivation other than commodity crops, so that, both upstream, middle and downstream farmers can utilize the water provided because the water requirement for rice commodity is 50% of the water used for commodity crops.

The distribution of water in the operational realm has been running well with the application of hybridization contestation pattern but at the tertiary level, the actors at the farm level are actors who utilize the existing water resources directly, resulting in different contestation of easy-to-get water growers will contribute equally coexistence but farmers who find it difficult to get water will then contribute to hybridization patterns in order to obtain the available resources. Until it can be said that the actors who easily managing water will not strengthen the institution or organization on the contrary, downstream farmers who are difficult to get water to cooperate to meet their needs in the opinion of Ambler (1992), states that the easier the farmers in obtaining water and the greater the availability water, the farmers are increasingly less inclined to form a strong organization.

The arrangement of the distribution of irrigation water during the planting season of Gadu I, did not go according to the schedule, many farmers who planted at the beginning of the scheduled schedule, this is done by farmers because they want to plant rice three times, especially, farmers in the middle region such Bajeng sub-district, Barombong, so that, farmers whose land is downstream and farmers land in altitude or upstream have delay in planting rice in honey season I. Cultivation of rendeng season that expects rainwater as a resource used is also hampered at the beginning of planting because at the beginning of the water planting does not exist from the weir, so, farmers use irrigation pul be late to plant because waiting for rain or water from the weir. While in the third planting season the Kampili irrigation area experienced many problems as well because the distributed water is slightly less than the honey season 1 and for Gadu 1 is given 100% of the temporary weir for the third growing season (Gadu 2) only 60% water which is given a weir because the water condition is dammed and to meet the needs of PDAM and PLTA.

The occurrence of ineffective distribution in the irrigation area of Kampili because of the existence of coexistence and zero-sum game contestation patterns, such as the existence of agricultural service with DSDACKTR that does not coordinate in Kampili irrigation management. So, for the effective and efficient arrangement and distribution of water in irrigation area Kampili pursued a pattern of hybridization contestation both in policy area and in the operational aspect.

CONCLUSION

The contestation of the actor is divided into three patterns, namely coexistence, hybridization and zero-sum game. The contestation of actors in the dominant policy domain is the pattern of hybridization contestation although, there is still coexistence contestation and zero-sum game and contestation pattern which contribute to operational sphere performance at the weir level until secondary is hybridization contestation pattern while at tertiary level (farming) contestation coexistence, zero-sum game and hybridization.

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