

THE MEANING OF COORDINATION IN THE ARRANGEMENT OF WATER RESOURCE MANAGEMENT STRATEGIC PLAN IN INDONESIA

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Abstract

Several activities related to water resource management of a river basin are conducted by several institutions, each of which tends to do it in sectorial scope to implement their duties and functions. They even contradict to each other. Consequently, the water resource management of a river basin becomes a very complex matter. In order to make all parties related to water resource management work collaboratively and synergetically in accordance to their duties and functions, the strategic plan of water resource management is arranged. The arrangement is conducted by integrating and adjusting the interests of several sectors, regions, and stakeholders. The formal coordinating forum in arranging the strategic plan is Community Consultation Meeting 1 and Community Consultation Meeting 2. The coordination of the arrangement of water resource management strategic plan is categorized as interrelated horizontal coordination. Therefore, the effectiveness of the coordination depends on the reciprocal respect, loyalty, and coordinator competence.

Keywords: stakeholders, river basin, water resource management, strategic plan, integration, coordination

INTRODUCTION

Indonesia is an archipelagic nation consisting of 17,508 islands with 6,000 among which are inhabited. The Indonesian islands are spread along one-eighth of the equator, namely 8 million km², with the total area of 1.92 million km². The width of Indonesian sea is 3 million km², with the total length of coastal areas of around 84,000 km.

In 2013, the Indonesian population reaches 250 millions, with the growth rate 1.66%, so in 2020 the population is predicted to be 280 millions. The densest island is Java with the population 58% of Indonesian total population, while the width of the island is only 6.58% of the total area of Indonesia.

In general, Indonesia has abundant water resource. It is recently recorded that the potential reserve of Indonesian water resource reaches $\pm 3,906$ billion m³/year spreading around the nation through 8,007 river basins and 521 lakes, with reliable volume to be utilized ± 690 milyar m³/year. However, the water resource potentials in Indonesia are not evenly distributed, observed both from the geographical location of each island and from the precipitation distribution rate. The surface water resources decrease during dry season, but during the rainy season, some areas suffer from flood. The national average of precipitation rate is more than 2,500 mm/year, however, there is large difference in some particular areas. Nusa Tenggara, Maluku and Sulawesi are the arid areas with the precipitation rate less than 1,000 mm/year. Some districts in Papua, Jawa, and Sumatra are very wet areas with the precipitation rate more than 5,000 mm/tahun.

Since 2004, Indonesia has owned a law to regulate the water resource management, namely Law of the Republic of Indonesia Number-7 of 2004 on Water Resources. In the law, the water resource management is defined as an attempt to design, conduct, monitor, and evaluate the implementation of water resource conservation, the utilization of the water resources, and the control of water destructive force. Article 4 of Government Regulation of the Republic of Indonesia Number 42 of 2008 on Water Resource Management states that the water resource management is conducted based on the policy on water resource of river basin management and water resource management strategic plan.

Policy on Water Resource Management

The policy on water resource management is the strategic guidance in water resource management which consists of the stages containing indicative programs to realize the vision and mission in the water resource management. The vision of the water resource management is “National Water Resources are Comprehensively and Integratedly Managed and Environmentally Sound for the Justice and Prosperity of all Indonesian People”, referring to the seven foundations of the management as stipulated in Law Number 7 of 2004 on Water Resources, those are: preservation, balance, public utility, integration and harmony, justice, independence, transparency and accountability. To realize that vision, the national policy on water resource management in the next 20 (twenty years) will be implemented through five missions, namely 1) To increase the water resource conservation continuously; 2) To utilize the water resources for the justice and prosperity of the society; 3) To control and reduce the water destructive force; 4) To increase the society and business world participation in water resource management; and 5) To build an integrated national water resource information system among sectors and regions.

The policy on water resource management is arranged and formulated by the board of water resource. The board of water resource is a coordinating body of water resource management. The policy of water resource management at the national level is arranged and formulated by the national board of water resource appointed by the president. The policy of water resource management at the provincial level is arranged and formulated by the provincial board of water resource or using other name and appointed by the governor. The policy of water resource management at the regent/municipal level is arranged and formulated by the regent/municipal board of water resource or using other name appointed by the head of regency/head of municipal region.

River Basin

River basin is a united area of water resource management in one or more Catchment Area and/or small islands with the width less than or equal with 2,000 km². The number of river basins in Indonesia based on the Regulation of Minister of Public Works Number: 11A/PRT/M/2006 was 133. Based on the Decree of President of the Republic of Indonesia Number 12 of 2012 on Decision on River Basin, the number of river basins in Indonesia has been revised to 131 with the calculation as follows: 5 cross-country river basins, 29 cross-province river basins, 29 nationally strategic river basins, 53 cross-regency/municipal area river basins, and 15 regent/municipal river basins.

Moreover, based on the Regulation of Minister of Public Works No: 26/PRT/M/2006, 30 *River Basin Organization* (RBO) have been established. The institutions are the management institutions of water resources of river basins, which are juridically under the central government. In the development, their number reaches 33 RBOs. There are also other 57 RBOs established which work together with and under the provincial governments.

Water Resource Management Strategic Plan

Water resource management strategic plan is a basic framework in designing, implementing, monitoring, and evaluating the activities of water resource conservation, water resource utilization, and water destructive force control in every river basin based on the principle of integration between surface water and ground water.

Water resource management strategic plan includes at least objectives and basic considerations of water resource management, scenario of future water basin condition, water resource management strategies, and operational policy to implement the water resource management strategies. Water resource management strategic plan is determined based on the design of water resource management strategic plan. The design of water resource management strategic plan is formulated for 20 (twenty) year time period. The established water resource management strategic plan can be reviewed and evaluated at least every 5 (five) years. The result of the review and evaluation becomes the basic consideration for the perfection of the water resource management strategic plan.

DISCUSSION

The Complexity of Water Resource Management

Water is naturally dynamic, flowing to the lower places and knowing no administrative area boundaries. Natural water resources can be found in the hydrological area called Catchment Area. A Catchment Area

can be located in a regency/municipal area, cross-province area, or cross-country area. The availability of water resources in each Catchment Area is highly influenced by the local weather and hydrogeological conditions which result in the existence of one Catchment Area with abundant water availability and another one with water shortage. The Catchment Area with the water shortage needs to be supplied with the water from neighboring wetter Catchment Area, thus, the inhabitants of the dry Catchment Area have the equal opportunity to grow. The integration of several Catchment Areas into one water resource management area has introduced the terms river basin which is further used as the area basis of water resource management. However, the development of water resource management of river basin turns to be more difficult because there are several activities related to water resource management conducted by several institutions. To implement their duties and functions, those institutions tend to work in sectoral scope. Each institution follows the authority, policy, and funding scheme of its founding ministry/institution. They have different priorities of interests which often contradict to each other. Each institution also has different approach both in the planning stage and in the implementation stage. Hence, the water resource management of a river basin can be said as a very complex matter considered from the number of parties involved and related to the problem of cross-sector and cross area.

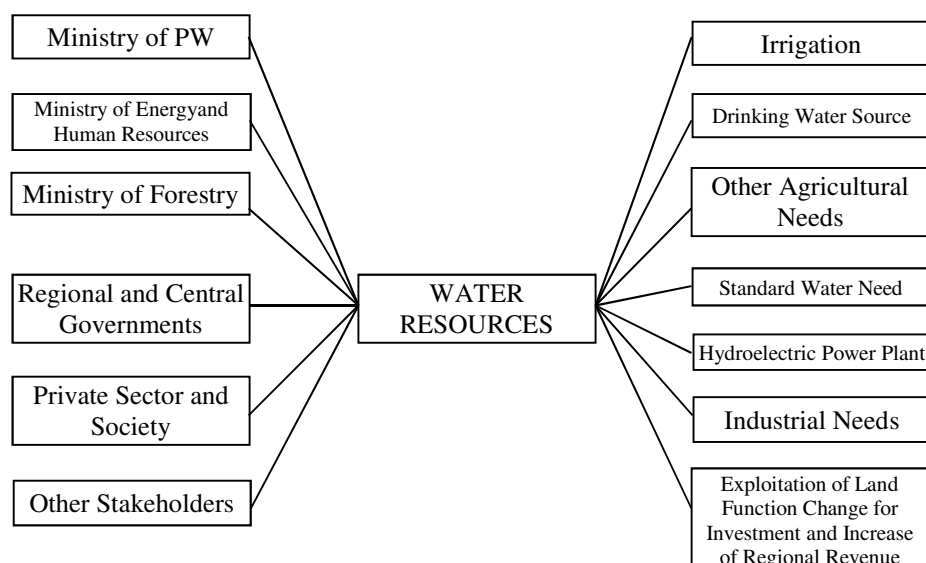


Figure 1 Complexity of Water Resource Management

Therefore, in order that all parties related to water resource management can play their roles collaboratively and sinergetically based on their duties and functions, a document is arranged as a guidance or direction in designing programs and activities between sectors and between administration areas. The document is water resource management strategic plan. Consequently, a coordinating body, namely Water Resource Management Coordinating Team (TKPSDA) of river basin, which functions to formulate and arrange the water resource management strategic plan of river basin, is established. The membership of TKPSDA of river basin consists of the governmental and non-governmental elements in an equal number based on representativeness. TKPSDA of river basin functions to receive, absorb, and channel all stakeholders' aspirations and complaints.

The Stages of Water Resource Management Strategic Plan Arrangement

Based on the Regulation of Minister of Public Works Number Nomor 22/Prt/M/2009 on Technical Guides and Procedures of the Arrangement of Water Resource Management Strategic Plan, the stages of the arrangement of water resource management strategic plan of river basin in general include the stages of preparation, composition, and establishment. The activities conducted in the preparation stage are studying the policy on the water resource management, inventorying data, identifying environment conditions and the problem, and conducting Society Consultation Meeting (PKM) 1. (PKM) 1 is conducted to get inputs, responses, and corrections from the stakeholders, especially on the general conditions of water resources of river basin. The activities conducted during the stage of strategic plan composition are revising the problem formulation and the possibility of water resource potential development, formulating the river basin

condition scenario, analyzing some basic considerations in deciding the direction of the water resource management, constructing some alternative strategies for each scenario to reach the goal of water resource management and operational policy concepts, and conducting Society Consultation Meeting (PKM) 2. (PKM) 2 is conducted to get inputs, responses, and corrections from the stakeholders, especially on the river basin condition scenario to further conduct the revision on the design of the water resource management strategic plan. Next, the revised design of the water resource management strategic plan is submitted to the minister, governor, or regency/municipal head in accordance to their authorities on the established river basin management

Coordination

Etymologically, “coordination” means things related to organizing an organization or activity so that the regulation and activity that will be implemented will not contradict to each other or be inordered. In management terms, coordination means a process to integrate the objectives and activities to separated units (departments or functional units) in an organization to reach the goal efficiently and effectively. Coordination can be divided into two types, namely vertical coordination and horizontal coordination. Vertical coordination is the activities of unification and briefing by the superior to the acting units and the working units under his authority and responsibility. In vertical coordination, the superior coordinates all apparatus under his direct responsibility. Horizontal coordination is to coordinate actions or activities of unification and briefing for the activities at the equal oraganizational level. This horizontal coordination is divided into *interdisciplinary* and *interrelated*. *Interdisciplinary* is a coordination to direct, unite the actions, realize, and build discipline among units both internally and externally in the units with the same tasks. *Interrelated* is inter-institution coordination or with other units with different functions, but each unit depends on one another or it has internal or external relation with another unit at equal level.

The coordination in the arrangement of water resource management strategic plan aims at integrating and harmonizing the interest of various sectors, areas, and stakeholders in the field of water resource of river basin. Formal coordination forum in arranging the strategic plan is Society Consultation Meeting (PKM) 1 and Society Consultation Meeting (PKM) 2. The objects coordinated in the Society Consultation Meeting (PKM) 1 are the general conditions of water resource of a river basin, consisting of the inventory result of environmental conditions, the identification result of environmental conditions, the water resource potential, the current water resource problems, and the future potential problems of water resource. The objects coordinated in the Society Consultation Meeting (PKM) 2 are the scenario of river basin conditions, the alternative strategy options, and the operational policy concept of water resource management. Since in one river basin there are many parties involved with their own interests, authorities, tasks, and responsibilities which are different from one another, the coordination cannot be controlled by one command line. Therefore, the developed coordination is based on the functional relation through integration approach. Among the involved parties, there must be principles of trust, openness, responsibility, and reciprocal need to grow. Hence, in the implementation of integrating and harmonizing the interests of many sectors, areas, and stakeholders, there is a clear picture of authority and responsibility of each party (who, doing what, when, where, and how)

The coordination implementer of the arrangement of water resource management strategic plan is Coordinating Team of Water Resource Management (TKPSDA) of river basin together with all stakeholders. Stakeholders are a community or individual or organization that permanently receives the effects of activities or policies of water resource management of a river basin, and they have concern on the results of those activities or policies. Therefore, the first step to do in the coordination of the arrangement of water resource management strategic plan is identifying all the existing stakeholders of the corresponding river basin. Generally, the stakeholders of water resource management can be categorized into three groups, those are primary stakeholder, secondary stakeholder, and key stakeholder. Primary stakeholders are the stakeholders that are directly related to a policy, program, and target of water resource management activity. They have to be positioned as one of the decision makers. One of the primary stakeholders is society related to a policy, program, and activity target that is identified to benefit from and get the impact of the activity, such as losing land and the possibility of losing job. The supporting stakeholders are the ones that do not have direct interest on a policy, program, and target of water resource management activities, but they have attention and concern on the matter that make them sonant and influencing to the society attitude and legal decision of the government, like government institution, related businessman

(business entity), industry utilizing water, Regional Drinking Water Company, Hydroelectric Power Project, water transportation, tourism, fishery, and other more. The key stakeholders are the stakeholders that own legal authority in decision making, such as executive and legislative elements. Some examples of the elements are central government and regional government related to water resource management, *Balai Besar Wilayah Sungai* (River Basin Main Station), *Balai Wilayah Sungai* (River Basin Station), and *Dinas Pengelolaan Sumber Daya Air* (Water Resource Management Office).

Table 1 Stakeholders Invited as Coordination Participants in PKM 1 and PKM 2

No.	Stakeholders
1	Directorate General of Water Resource
2	Water Resource Management Coordinating Body
3	River Basin Station/Main Station
4	BPDAS
5	Provincial Regional Development Planning Board
6	Provincial Environmental Impact Management Agency
7	Provincial Office of Public Works
8	Provincial Station of Water Resource Management
9	Provincial Office of Forestry
10	Provincial Office of Agriculture
11	Provincial Office of Plantation
12	Provincial Office of Transportation
13	Provincial Office of Mining
14	Provincial Office related to Water Resources
15	Regency/Municipal Regional Development Planning Board
16	Regency/Municipal Environmental Impact Management Agency
17	Regency/Municipal Office of Public Works
18	Regency/Municipal Office of Forestry
19	Regency/Municipal Office of Agriculture
20	Regency/Municipal Office of Plantation
22	Regency/Municipal Office of Transportation
23	Regency/Municipal Office of Mining
24	Regency/Municipal Office related to Water Resources
25	Water Resource Management Experts
26	Universities
27	Water Utilizing Mass Organizations
28	Water Utilizing Industrial Business Organizations
29	Non-governmental Organization
30	Indigenous Institutions
31	Other institutions related to water resources at provincial and regency/municipal levels

Data source: Regulation of Minister of Public Works of the Republic of Indonesia Number 22/PRT/M/2009 on Technical Guide and Procedures of Arrangement of Water Resource Management Strategic Plan

The coordination implementers of the arrangement of water resource management strategic plan are the institutions or units with different functions and equal level. Therefore, coordination in the arrangement of water resource management strategic plan can be categorized as the horizontal interrelated coordination. This interrelated horizontal coordination is relatively difficult to conduct because the coordinator cannot give sanction to the officer who is not discipline due to equal position. As a result, the effectiveness of coordination highly depends on the reciprocal respect to each party's authority, loyalty, and coordinator competence.

Table 2 Status of Water Resource Management Strategic Plan Arrangement

No.	NAME OF RBMS/RBS /PROVINCIAL WR STRATEGIC PLAN ARRANGER	NAME OF RIVER BASIN	RIVER BASIN STATUS	STRATEGIC PLAN ESTABLISHMENT
1	RBS SUMATERA II	1 Belawan-Ular-Padang	National Strategic	March 2012
		2 Toba-Asahan	National Strategic	April 2013
2	RBS SUMATERA VI	3 Batanghari	Cross-Province	March 2012
3	RBS SUMATERA VII	4 Teramang-Muar	Cross-Province	December 2012
		5 Nasal-Padang Guci	Cross-Province	December 2012
4	RBMS MESUJI- SEKAMPUNG	6 Mesuji-Tulang Bawang	Cross-Province	April 2013
		7 Seputih-Sekampung	National Strategic	December 2010
5	RBMS CIMANUK- CISANGGARUNG	8 Cimanuk-Cisanggarung	Cross-Province	March 2010
6	RBMS PEMALI-JUANA	9 Jratunseluna	National Strategic	December 2010
7	RBMS BENGAWAN SOLO	10 Bengawan Solo	Cross-Province	March 2010
8	RBMS SERAYU-OPAK	11 Serayu Bogowonto	National Strategic	February 2013
		12 Progo - Opak - Serang	Cross-Province	December 2010
9	RBMS BRANTAS	13 Brantas	National Strategic	March 2010
10	RBS KALIMANTAN I	14 Kapuas	National Strategic	October 2012
11	RBS SULAWESI II	15 Limboto Bolango Bone	Cross-Province	December 2010
12	RBS SULAWESI III	16 Parigi Poso	National Strategic	March 2012
13	RBS SULAWESI IV	17 Lasolo-Konawehea	Cross-Province	March 2012
14	RBS MALUKU	18 Ambon-Seram	National Strategic	November 2012
15	RBS NUSA TENGGARA I	19 Lombok	National Strategic	December 2010
16	JAWA TENGAH	19 Bodri - Kuto	Cross Regency	2011
17	SULAWESI TENGAH	21 Lambunu-Buol	Cross Regency	2012
		22 Bongka - Mentawa	Cross Regency	2012

Data source: Sub-Directorate of River Basin Planning, Directorate for Water Resources Management, Directorate General of Water Resource, Ministry of Public Works

CONCLUSION

Coordination in the arrangement of water resource management strategic plan can be categorized as interrelated horizontal coordination

Formal coordination forum in the arrangement of water resource management strategic plan is Society Consultation Meeting 1 and Society Consultation Meeting 2.

The objects coordinated in the arrangement of water resource management strategic plan are the inventory result of environmental conditions, the identification result of environmental conditions, the water resource potential, the current water resource problems, the future potential problems of water resource, the scenario of river basin conditions, the alternative strategy options and operational policy concept of water resource management.

The coordination implementer of the arrangement of water resource management strategic plan is Coordinating Team of Water Resource Management (TKPSDA) of river basin together with all stakeholders.

The aim of coordination in the arrangement of water resource management strategic plan is integrating and harmonizing the interests of various sectors, areas, and stakeholders in the field of water resource of river basin.

The effectiveness of coordination of the arrangement of water resource management strategic plan highly depends on the reciprocal respect to each party's authority, loyalty, and coordinator competence.

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REFERENCES

- Anshori, I. 2010. *Konsepsi Pengelolaan Sumber Daya Air Menyeluruh dan Terpadu*. www.dsdan.go.id.
- Deputy of Cabinet Secretary of Law. 2008. *Peraturan Presiden Republik Indonesia Nomor 12 Tahun 2008 Tentang Dewan Sumber Daya Air*. Jakarta: Deputy of Cabinet Secretary of Law
- Minister of Public Works of the Republic of Indonesia. 2009. *Peraturan Menteri Pekerjaan Umum Nomor 22/Prt/M/2009 Tentang Pedoman Teknis Dan Tatacara Penyusunan Pola Pengelolaan Sumber Daya Air*.
- Minister of Public Works of the Republic of Indonesia. 2013. *Peraturan Menteri Pekerjaan Umum Republik Indonesia Nomor 02/Prt/M/2013 Tentang Pedoman Penyusunan Rencana Pengelolaan Sumber Daya Air*.
- Minister of Law and Human Rights of the Republic of Indonesia. 2008. *Peraturan Pemerintah Republik Indonesia Nomor 42 Tahun 2008 Tentang Pengelolaan Sumber Daya Air*. State Gazette of the Republic of Indonesia Number 82 of 2008. Jakarta
- Minister of Public Works of the Republic of Indonesia. 2008. *Peraturan Menteri Pekerjaan Umum Nomor 04 /PRT/M/2008 Tentang Pedoman Pembentukan Wadah Koordinasi Pengelolaan Sumber Daya Air Pada Tingkat Provinsi, Kabupaten/Kota, dan Wilayah Sungai*.
- State Secretary of the Republic of Indonesia. 2004. *Undang-Undang Republik Indonesia Nomor 7 Tahun 2004 Tentang Sumber Daya Air*, State Gazette of the Republic of Indonesia Number 32 of 2004. Jakarta: State Secretariat.
- Handoko, T.H. 2003. *Manajemen*, 2nd ed. Yogyakarta.
- Widotomo, H. 2011. *Identifikasi Peran Pemangku Kepentingan*. hendri-wd.blogspot.com.