



**CRBOM Small Publications Series No. 5**

**The Bengawan Solo  
Water Council -  
providing insight and directions**

**by**

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Contributions are most welcome - in English or in Bahasa Indonesia.

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## Acknowledgement

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## Summary

The '*Water Council*' of Bengawan Solo Basin (or TKPSDA Bengawan Solo) was established in February 2009 as a platform for stakeholder liaison and an advisory body for water-related, basin-level development. It has 64 members, representing agencies, organisations and bodies that are in some way involved in water resources management in the basin, at the national, province, or de-central level. Half of these - 32 - are governmental, and the other half are non-governmental. Among the members are the two river basin organisations of the Bengawan Solo Basin.

The Council identifies development needs and opportunities, provides policy guidance, and undertakes strategic development planning and implementation planning. It reports to the Minister of Public Works and to the Governors of Central Java and East Java Provinces.

Early experience indicates that the Council serves its purpose well, providing practical and useful guidance, in a functional, active collaboration with stakeholders.

## Acronyms and abbreviations

BBWS-BS:	Balai Besar Wilayah Sungai (Bengawan Solo), Bengawan Solo River Basin Development Agency
DGWR:	Directorate-General of Water Resources (under Ministry of Public Works)
DPU:	Dinas Pekerjaan Umum, Provincial Public Works Services
IWRM:	Integrated water resources management
MPW:	Ministry of Public Works
NARBO:	Network of Asian River Basin Organizations
NGO:	Non-governmental organisation
PJT1:	Perum Jasa Tirta 1, Jasa Tirta Public Corporation 1
RBO:	River basin organisation
TKPSDA:	Tim Koordinasi Pengelolaan Sumber Daya Air, or the 'Water Resources Management Coordination Team'

## Glossary

IWRM (integrated water resources management) (as defined by Global Water Partnership): A process which promotes the co-ordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems

Pola: A strategic plan, with development goals and policy, identification and scoping

River basin district (or water management district, or river basin territory): A unit for water resources management, largely comprising a river basin, but delineated in a way that is manageable, and which assures that the entire country is included. Indonesia has 133 river basin districts

Rencana: An implementation plan, or a sort of 'multisector master plan'

Stakeholder (in the context of water resources management): (i) A person or an organization with an interest in water resources management or water-related development; or (ii) a person or an organization likely to be affected, positively or negatively, by a planned development initiative, intervention or regulation

## 1 Introduction

The Water Council of Bengawan Solo Basin was established in February 2009 as a platform for stakeholder liaison and an advisory body for water-related, basin-level development<sup>1</sup>. It is one of the first such bodies in Indonesia. Early indications are that it serves its purpose well.

The present paper describes the Council and its operation.

The paper has been compiled as a greeting to the new Indonesian '*Center for River Basin Organizations and Management*', located in the Bengawan Solo Basin.

## 2 The Council and its operation

### **Context**

The Council is instituted by the Law on Water Resources (2004), while details are provided in Presidential Decree 12/2008. The Council as such was formed by Decree from the Minister of Public Works 247/2009.

#### **Indonesia's Law No.7/2004 on Water Resources**

##### **Chapter XII: Coordination**

##### **Article 85**

- (1) Water resources management covers inter-sector and inter-regional interests that require integrated actions to maintain the sustainability of the functions and benefits of water sources and resources.
- (2) Water resources management as intended under paragraph (1) should be conducted through a coordination by integrating the interests of various sectors, regions, and stakeholders in water resources.

##### **Article 86**

- (1) Coordination as intended under Article 85, paragraph (2) should be conducted by a coordination institution under the name of water resources board or by any other name.
- (2) The coordination institution as intended under paragraph (1) has the main task of preparing and formulating water resources policies and strategies.
- (3) The members of the coordination institution as intended under paragraph (1) consist of a balanced number of state and non-state elements based on the principle of representation.
- (4) The organizational structure and work procedures of the coordination institution as intended under paragraph (1) will be regulated further by a presidential decree.

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<sup>1</sup> The '*Water Council*' is a short translation of '*Tim Koordinasi Pengelolaan Sumber Daya Air*' (TKPSDA), or the '*Water Resources Management Coordination Team*'.

The Bengawan Solo Basin is in the category of '*inter-province river basins*' in the inventory of 133 river basin districts provided in Ministry Public Works Decree 11/2006.<sup>2</sup> There are two river basin organizations:

- (1) Jasa Tirta Public Corporation 1 (Perum Jasa Tirta 1, **PJT1**), operating and maintaining the basin's water infrastructure, as well as flood management, watershed management, morphological management, and water quality monitoring; and
- (2) the River Basin Development Agency (Balai Besar Wilayah Sungai Bengawan Solo, **BBWS-BS**), undertaking basin-level water resources planning and related tasks.

These bodies are located next to each other in Solo City (Surakarta)<sup>3</sup>. Both are members of the Water Council, and the Council's secretariat is hosted by BBWS-BS.

The National Friendship Movement on Water Safety Guard (Gerakan Nasional Kemitraan Penyelamatan Air, GNKPA) was established in 2005 as a water conservation movement. GNKPA operates at the central, provincial and district level and involves government and non government organizations and other stakeholders. GNKPA Bengawan Solo, established in 2007, is involved in water conservation in the upper Wonogiri drainage basin.

### **Members**

The Chairman is Chief of Planning and Development Agency of Central Java Province and the Daily Chairman is the Chief of Water Resources Service of Public Work, East Java Province. The positions are shifted between the two provinces each calendar year.

The Council has 64 members, representing agencies, organisations and bodies that are in some way involved in water resources management in the basin, at the national, province, or de-central level. Half of these - 32 - are governmental, and the other half are non-governmental.

NGO members are appointed for a 5-years period. They have been identified in various ways, including newspaper announcements, and have been selected according to the following criteria:

- Recommendation by a relevant body;
- must have been legally registered or in active operation for at least 3 years (except for irrigation committees);
- must be based in the river basin district.

The present members are listed in Appendix 2.

The Council has three committees, covering conservation; water utilization; and water destruction (such as floods and land slides). There are thematic working groups under each committee.

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<sup>2</sup> A new presidential decree about river basin territories is in preparation (by mid 2009)

<sup>3</sup> And next to CRBOM

### **Responsibilities**

The Council identifies development needs and opportunities, provides policy guidance, and undertakes strategic development planning and implementation planning. The main responsibility according to the Law on Water Resources (2004) is to formulate water resources policies and strategies. The Council reports to the Minister of Public Works and to the Governors of Central Java and East Java Provinces.

The planning tasks of the Council reflect the requirements described in the Law on Water Resources (2004).

#### **Indonesia's Law No.7/2004 on Water Resources**

##### **Chapter VI: Planning**

##### **Article 59**

- (1) Water resources management planning should be prepared to produce a plan that acts as a guideline and directive for the implementation of water resources conservation, water resources leveraging, and water damaging potentials control.
- (2) Water resources management planning should be conducted based on the principle of water resources management as intended under Article 2.
- (3) Water resources management planning should be prepared in accordance with the water resources management plan as intended under Article 11.
- (4) The water resources management plan constitutes one of the elements in the preparation, reconsideration, and/or improvement of the regional landscaping plan.



Figure 1: The TKPSDA newsletter

### **Funding**

The operation of the Council is covered by the government via the budget of BBWS-BS.

### 3 Basin-level, water-related development planning

#### *Previous water-related planning*

An overall development master plan for the Bengawan Solo Basin was formulated in 1974 with support from Japan. It covers water resources development for irrigation, flood control, and hydropower generation. Several of the projects have been realized, including the Wonogiri Multipurpose Dam, and infrastructure for irrigation and flood control.

The Comprehensive Development and Management Plan (CDMP) for Bengawan Solo River Basin was prepared in 2001 under the Lower Solo River Improvement Project (1999-2001). It was revised in 2005. It covers the entire Bengawan Solo river basin district (in line with contemporary river basin planning practices).

#### **The 2001 Comprehensive Development and Management Plan (CDMP)**

##### **Key issues:**

- 1 Inadequate water allocation
- 2 Increasing water demand, in terms of quantity and quality (safe water)
- 3 Increasing water-sharing conflicts
- 4 Environmental degradation
- 5 Topographical and geographical constraints

##### **CDMP components:**

- 1 Water resources development
- 2 Watershed management
- 3 Water quality management
- 4 Flood control management
- 5 Institutional framework of water resources management

#### **Water-related development planning**

The law defines two levels of planning:

- **The pola**, a strategic plan, with development goals and policy, identification and scoping, providing the framework for
- **the rencana**, an implementation plan, or a sort of 'multisector master plan'

The planning can span the entire range from pro-active development to maintenance and rehabilitation, as relevant in the context. It can include structural as well as non-structural initiatives.

The principles for the strategic planning are:<sup>4</sup>

1. River basin/territory is taken as the planning unit;
2. the planning should consider the integrated use of surface water and ground water;
3. a balance should be pursued between conservation and utility;
4. the planning should involve community participation.

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<sup>4</sup>

Agus Suprpto Kusmulyono, Suharto Sarwan, Hardjanto and Budhi Santoso (July 2009)

## 4 Evaluation

The Council provide a permanent platform for active participation by key public and private stakeholders:<sup>5</sup>

- Developers (public and private);
- regulators, at the national, province and district level;
- operators (PJT1 and the private sector); and
- the water users (waterworks, farmers and industries).

Hereby, the Council is expected to contribute to the relevance and usefulness of the development planning, and to facilitate the prospects for implementation of the identified priority initiatives.

The members, with their widely different background, determine the success of the Council. They must provide commitment in general and ability to make joint decisions in particular. The performance of the Council is supported by adequate information flows, in terms of quality and quantity, as well as careful confidence-building.

The Council has important responsibilities but not much authority. In this respect, the Council resembles the Thai river basin committees and the ones recently being initiated in Viet Nam. One important characteristic is that the Council is not only located '*next door*' to the regulatory and implementing bodies (BBWS-BS and PJT1)<sup>6</sup>, but that these are members of the council. BBWS-BS hosts the Council's secretariat.

## 5 Bottom line

In less than half a year after its formation, the Council has processed a draft pola (strategic plan) and submitted it for endorsement by the government.

Early experience indicates that the Council serves its purpose well, providing practical and useful guidance, in a functional, active collaboration with stakeholders.

The Council seems to be in a particular position to provide insight as well as directions and support to the water resources management and the water-related development of the basin.

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<sup>5</sup> Graitia Sutadi (2009)

<sup>6</sup> BBWS-BS is responsible for planning and regulation (and related tasks), while PJT1 is responsible for operation (and related tasks)

## References

ADB (Nov 08): Summary information on Solo River Basin

Agus Suprpto Kusmulyono, Suharto Sarwan, Hardjanto and Budhi Santoso (July 2009): Policy on implementing integrated water resources management in Indonesia. Country paper (public sector) presented at Conference on New Thinking on Water Governance, Singapore

DPU (Feb 08): Facilitating IWRM in planning and implementation. Departemen Pekerjaan Umum, Solo

DGWR (Mar 01): Comprehensive development and management plan (CDMP) study for Bengawan Solo River Basin under Lower Solo River Improvement Project. Prepared by Nippon Koei Co., Ltd and associates for Ministry of Housing and Regional Infrastructure, Directorate General of Water Resources. Final main report and annexes

Graitia Sutadi (2009): The Bengawan Solo Water Council. Paper published by BBWS-BS

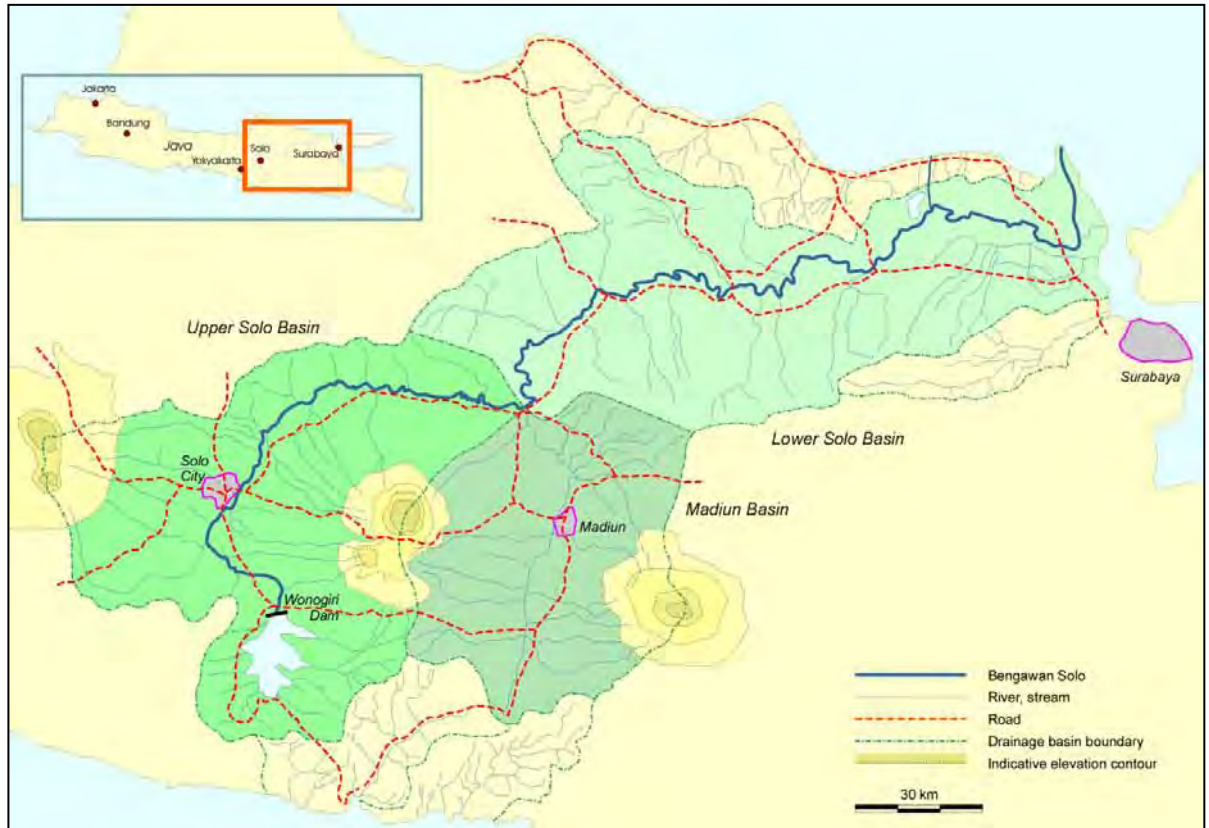
Isnugroho (July 2009): Authority and responsibility in river basin management. Small Publications Series no. 1, Center for River Basin Organizations and Management, Solo, Central Java

NARBO (Feb 07): Background paper on the Bengawan Solo River Basin, prepared for the 3rd General Meeting of NARBO

Sri Hernowo (June 2009): Planning of pola of water resources management of Bengawan Solo Basin. Internal note prepared under ADB RETA 6470, '*Managing water in Asia's river basins*'

## Appendix 1: The Bengawan Solo Basin

Figure 2: Map of the Bengawan Solo Basin



Note: The Bengawan Solo water management district comprises the drainage basin of Bengawan Solo itself plus some smaller adjacent basins

Bengawan Solo (or Solo River) is the longest river in Java (600 km). The basin is densely populated, with around 15 mio. people - more than many countries - and an area of 16,100 km<sup>2</sup>, covering parts of Central and East Java Provinces. The average rainfall is 2,100 mm/year, with a distinct seasonality.

The land use is distributed between paddy fields (35 percent of the area); other farmland (17 percent); forest (24 percent); and other uses (24 percent). Some 70 percent of the paddy fields is irrigated. There are 44 dams with a total active storage of 0.7 billion m<sup>3</sup>. They are small, except for the Wonogiri Multipurpose Dam (from 1983) with its storage volume of 0.4 billion m<sup>3</sup>.

About 8 percent of the basin is flood-prone, and major floods (caused by extreme direct rainfall) occur regularly along the mainstream. One flood in late 2007 inundated 120,000 ha. Also, drought is frequent, affecting both the rainfed and the irrigated areas.

Parts of the basin are exposed to erosion, due to improper land use and degradation of the vegetation cover. This causes damage to the infrastructure, siltation in the reservoirs (notably the Wonogiri Reservoir), and adds to the flood risk.

## Appendix 2: Council members

(as per mid 2009)

<b>Government bodies (total: 32)</b>	<b>RBOs (central government)</b>	1	Balai Besar Wilayah Sungai Bengawan Solo
		1	PJT 1 Bengawan Solo
	<b>Provinces</b>	5	departments from East Java Province, covering development planning, public works, environment, agriculture and forestry
		5	departments from Central Java Province, covering development planning, water resources, agriculture and horticulture, forestry, and environment
	<b>Regional (or 'district') bodies</b>	20	regional (or 'district') services covering economic development, public works, irrigation, drainage and mineral energy resources
<b>Non-government bodies (total: 32)</b>		13	farmers' associations/water user groups (or, in some cases, networks of water user groups)
		1	association of farmers and other cultivators
		6	waterworks/water supply companies (public corporation at de-central level)
		1	Wonogiri sub-unit of Indonesia Power Co. (public corporation, state level)
		1	association of chemical industries
		10	civil society organisations/NGOs, involved in development, conservation, water quality, and law and human rights
<b>Total:</b>		64	

Note: In Indonesia, some RBOs are under the central government, while others refer to de-central authorities. In the case of Bengawan Solo Basin, the RBOs are under the central government



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