

## **CHAPTER 6**

### **SKELETON OF THE COMPREHENSIVE WATER MANAGEMENT MASTER PLAN**

#### **6.1 Policy for the Master Plan Formulation**

This Chapter discusses and proposes a skeleton of the Comprehensive Water Management Master Plan. The policy for the formulation of the Master Plan is as follows:

- (1) Proper management of water and the river basin is urgent in the Musi River Basin for the sustainable development of South Sumatra Province. This Master Plan is to show principles and an overall direction for water management in the Musi River Basin.
- (2) The Master Plan did not simply list up the necessary projects, but attention has been paid that the Master Plan should focus on what is important, what is urgent, what is comprehensive in the Basin.
- (3) “Comprehensive” of the Comprehensive Water Management includes the following idea:
  - Issues for the whole Musi River Basin
  - Issues relating to multiple sectors, e.g. water quality and water supply, watershed devastation and water quality.
  - Issues of conflict between sectors or users

#### **6.2 Prerequisite for the Master Plan Formulation**

##### **6.2.1 National Background and Regional Development Target**

National background and regional development targets are referred as a general background for the formulation of the Master Plan. They have been discussed in Chapter 2 of this report, and key points are summarized as follows:

##### **National Background**

After the economic crisis in 1997, the Government of Indonesia moved to redraw its development strategy, articulated by General Guideline for National Development, 1999-2004 (GBHN). It sets forth guidelines for conducts of Government organizations and the entire nation toward sustainable and enhanced development. Among the key issues, underlined in the present Study is: reorganization of government administration system focusing on the regional autonomy and transparency of public finance. In the policy for the water sector, the Government is conducting a drastic reform.

Based on the GBHN, the mid-term development strategy, Five Year National Development Program (PROPENAS, 2000-2004) was presented. PROPENAS is based on decentralization policy in all aspects of national development, which is quite different from the past development plans. The directions for development and management of water resources in PROPENAS include: to form the network and institutions for collecting and managing hydrological data to facilitate the effective and efficient water management; to control surface water pollution through regulation and law enforcement, specially in water catchment, industrial and urban areas; to conserve river basin functions so that there can be conserved and its utilization increased.

New Autonomy Law (UU22/99) and Government Regulation on Fiscal Balance (PP25/99) are the basis for the achievement of the directions given in the GBHN and PROPENAS. In the water sector, New Water Resources Law, the amendment of Law No.11/74 is presently waiting for the approval of the national assembly. Government Regulation on Water Resources Management (Draft) has also been prepared and waiting for the enforcement of New Water Resources Law.

### **Regional Development Target**

After the change of administrative system (decentralization), regional governments also set up medium-term development plans such as strategic plan (RENSTRA), local government plan (PROPEDA), or principle framework (POLA DASAR). Almost all the regional development plans include the following targets as common understanding: namely, Development of human resources; Economic development by making good use of local resources and characteristic; Balanced development for environmental conservation and sustainable development; and, Development of basic infrastructure especially for isolated areas.

#### **6.2.2 Target Year and Socioeconomic Framework to the Target Year**

Target year for the master plan is set at 2020 considering that it usually considers 15 to 20 years period and that the Second Twenty-five Year Long-term Development Plan (PJP II) finishes in March 2019. Population in the Musi River Basin was projected to the target year as follows (projection was conducted based on old Kabupaten and Kotamadya unit):

**Table 6.2.1 Population Projection and Annual Growth Rates (1,000 people)**

Regency/Municipality	2002	2005	2010	2020
Palembang	1,506 (2.1%)	1,598 (2.0%)	1,752 (1.8%)	2,058 (1.5%)
Ogan Komering Ulu	1,202 (1.7%)	1,263 (1.6%)	1,365 (1.5%)	1,568 (1.3%)
Ogan Komering Ilir	1,019 (2.1%)	1,083 (2.0%)	1,189 (1.8%)	1,403 (1.5%)
Muara Enim	749 (2.1%)	795 (2.0%)	873 (1.8%)	1,028 (1.5%)
Lahat	690 (1.3%)	717 (1.3%)	763 (1.2%)	853 (1.1%)
Musi Rawas	672 (2.3%)	717 (2.2%)	794 (2.0%)	946 (1.6%)
Musi Banyuasin	1,309 (2.9%)	1,422 (2.7%)	1,609 (2.4%)	1,984 (1.9%)
Total	7,146 (2.1%)	7,565 (1.9%)	8,344 (2.0%)	9,840 (1.7%)

Future GRDP was projected referring to the targets set in PJP II, PROPENAS and those by each sector as a moderate growth scenario as follows:

**Table 6.2.2 Results of Future GRDP Estimation  
(without oil/gas, 2000 constant price)**

<b>Regency/ Municipality</b>	<b>Actual GRDP in 2000 (Rp. billion)</b>	<b>GRDP in 2020 (Rp. billion)</b>	<b>Growth 2000-2020 (% p.a.)</b>
Palembang	8,147	18,858	4.3
OKU	3,230	6,967	3.9
OKI	2,916	6,205	3.8
Muara Enim	3,129	5,986	3.3
Lahat	2,258	4,815	3.9
Musi Rawas	1,710	3,623	3.8
MUBA	4,501	9,429	3.8
Total	25,890	55,883	3.9

### **6.3 Super Goal for Comprehensive Water Management of the Musi River Basin**

The super goal for the comprehensive water management of the Musi River Basin is set in due consideration of the identified issues in the basin as well as referring to the national and regional directions as follows:

- (1) Increase the physical and mental happiness of people through the proper management of the river basin.
- (2) Maintain sustainable development with conservation of environment
- (3) Realize equitable, balanced and sustainable regional development in the whole basin

Concrete goals for achievement in the Comprehensive Water Management are set by each component of the Master Plan as discussed in Chapter 7.

### **6.4 Formulation of Master Plan Component -Focusing on what should be started now-**

Components of the Master Plan have been formulated from the view point of the comprehensive water management based on the sectorwise issues identified through the study and analysis, field investigation, public consultation meetings.

- Component 1: Water Use Management
- Component 2: Floodplain Management
- Component 3: Watershed Rehabilitation and Conservation
- Component 4: Urban Water Environment Improvement
- Component 5: Monitoring Network Establishment
- Component 6: Institutional Strengthening

Issues		Direction of Management	River Basin Comprehensive Water Management Component		
<i>Water Use</i>	<ul style="list-style-type: none"> <li>◆ Lack of water</li> <li>◆ Water balance to year 2020</li> <li>◆ Spatial balance</li> <li>Water balance by tributary</li> <li>Tidal swamps (remote area)</li> <li>◆ Sectorwise conflict</li> <li>Ratio of water use</li> <li>Irrigation general tidal</li> <li>Irrigation Aquaculture</li> <li>◆ Navigation trouble</li> <li>◆ Low use of micro-hydro power</li> </ul>	<ul style="list-style-type: none"> <li>◆ Programs for whole basin and for multi-sector are needed.</li> <li>◆ Management of spatial irrigation and swamp development in view of land and water resources availability is needed.</li> </ul>	<p><b><u>Component 1:</u></b>  <b><u>Water Use Management</u></b></p> <ul style="list-style-type: none"> <li>● Sustainable water supply to wide area</li> <li>● Sustainable irrigation and swamp development</li> <li>● Rainwater utilization in tidal swamp area</li> <li>● Aquaculture water management</li> <li>● Enhancing water utilization for tourism</li> <li>● Modeling of water use management</li> </ul>		
	<p><u>Natural</u></p> <ul style="list-style-type: none"> <li>◆ Water quality deterioration</li> <li>Urban area</li> <li>River area</li> <li>◆ Devastation of watershed</li> </ul> <p><u>Social</u></p> <ul style="list-style-type: none"> <li>◆ Severe life condition in migration sites in tidal swamp</li> </ul>		<ul style="list-style-type: none"> <li>◆ Necessity of watershed management for fundamental solution of various basin's problems.</li> <li>◆ There is a necessity of paying much attention to environmental improvement.</li> </ul>	<p><b><u>Component 2:</u></b>  <b><u>Floodplain Management</u></b></p> <ul style="list-style-type: none"> <li>● Zoning and land use control</li> <li>● Flood forecasting and warning</li> <li>● Sustainable river channel management</li> </ul>	
<i>Flood</i>	<ul style="list-style-type: none"> <li>◆ Deterioration of river regime</li> <li>Extreme drought</li> <li>◆ Bank erosion &amp; sedimentation</li> <li>◆ Flush flood damage</li> <li>◆ Rain inundation in urban areas</li> </ul>	<ul style="list-style-type: none"> <li>◆ Monitoring of data and information is needed for the management.</li> <li>◆ Continuous effort of institutional improvement in line with the direction of WATSAP and New Government Regulation on Water Resources are needed.</li> </ul>	<p><b><u>Component 4:</u></b>  <b><u>Urban Water Environment Improvement</u></b></p> <ul style="list-style-type: none"> <li>● Community drainage management</li> <li>● Riverine areas conservation</li> <li>● Trunk drainage channels rehabilitation</li> <li>● Drainage system improvement</li> </ul>		
<i>Institution</i>	<ul style="list-style-type: none"> <li>◆ Improper Information dissemination</li> <li>◆ Lack of guidelines for law enforcement</li> <li>◆ Lack of capacity in human resources</li> <li>◆ Lack of coordination between organizations</li> </ul>		<p><b><u>Component 6:</u></b>  <b><u>Institutional Strengthening</u></b></p> <ul style="list-style-type: none"> <li>● Institutional development</li> <li>● Organizational enhancement</li> <li>● Human resources development</li> </ul>		
			<p><b><u>Component 5: Monitoring Network Establishment</u></b></p> <ul style="list-style-type: none"> <li>● Hydrology monitoring system establishment</li> <li>● Water quality monitoring system establishment</li> <li>● Water use monitoring</li> <li>● Hydrological database establishment program</li> </ul>		