Policy on Implementing Integrated Water Resources Management in Indonesia

Directorate General of Water Resources
Ministry of Public Works

Presented On
Conference on New Thinking on Water Governance
2-3 July 2009 Singapore

Public sector Indonesian groups

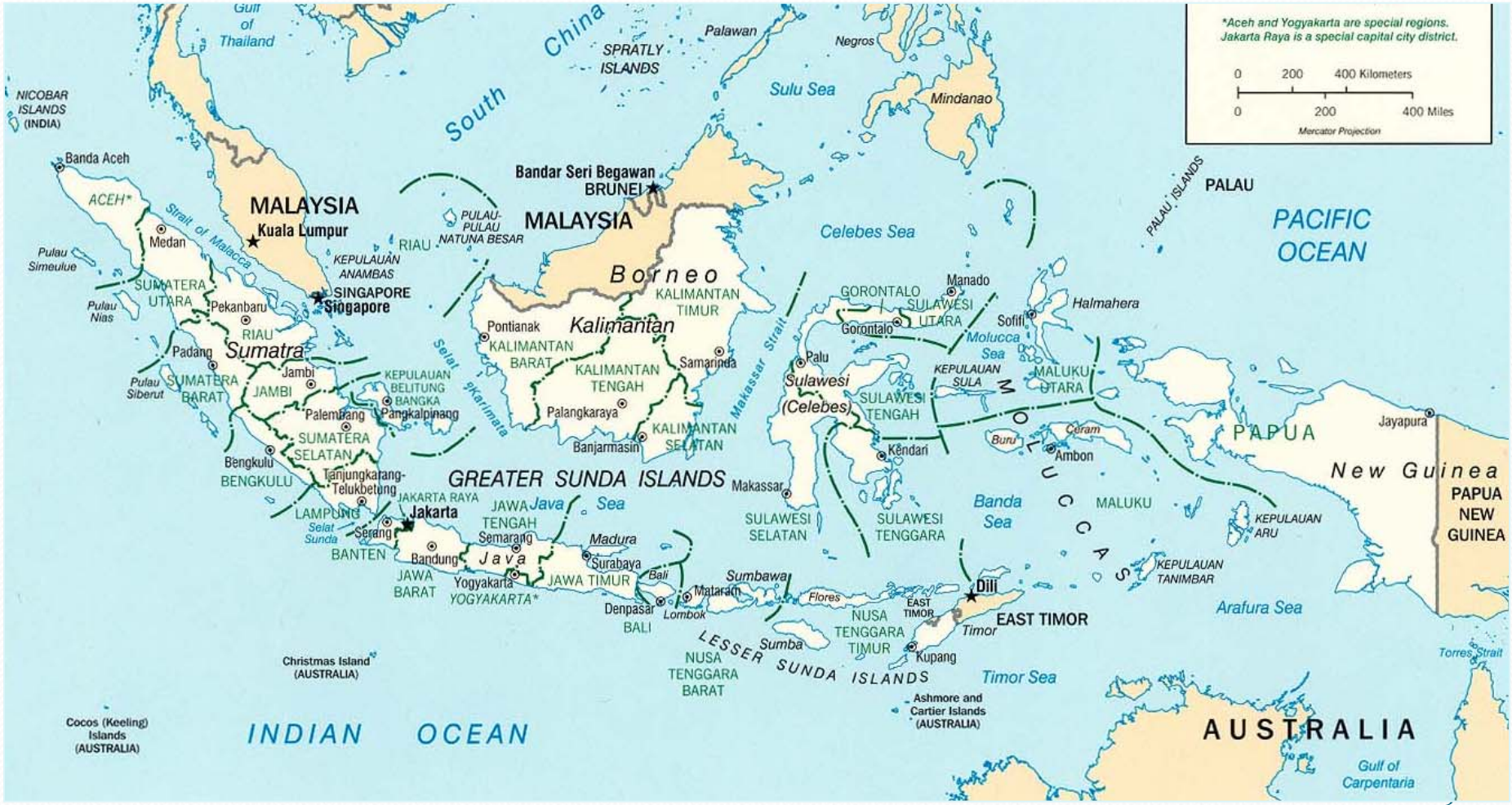
Agus S. Kusmulyono, Suharto Sarwan, Rahardjanto (DGWR)
Budhi Santoso (National Planning Agency)

Outline

- Background
- WRM Issues and Problems
- Revision on WR Regulations
- Basis for Water Resources Management
  - River Basin Territory
  - Strategic Plan
- Institutional Framework
- Other issues

Background

Map of Indonesia



Population Distribution

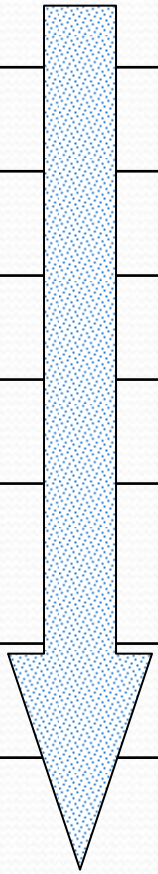
Main Island	2000	%	2005	%	2010	%
Sumatera	43.225.203	21,00	47.115.487	21,50	50.807.255	21,90
Jawa & Bali	121.442.237	59,00	127.321.386	58,10	133.630.042	57,60
NTB, NTT	10.992.180	5,30	11.833.657	5,40	12.527.816	5,40
Kalimantan	11.320.886	5,50	12.271.941	5,60	12.991.810	5,60
Sulawesi	14.820.070	7,20	15.997.351	7,30	17.167.748	7,40
Maluku & Papua	4.116.686	2,00	4.601.978	2,10	4.871.929	2,10
Indonesia	205.834.300	100.00	219.141.800	100,00	231.996.600	100.00

Source: "Proyeksi Penduduk Indonesia per Propinsi 2000 – 2010", BPS, December 2002.

4
4

Indonesia as an archipelago

	% of Population	% of Land Area	% of Rice Field	% of Water Availability
Sumatera	**22,00**	**26,00**	**27,00**	
Jawa & Bali	**59,00**	**7,00**	**49,00**	
NTB, NTT	**5,30**	**4,00**	**5,00**	
Kalimantan	**5,50**	**29,00**	**6,00**	
Sulawesi	**7,20**	**10,00**	**12,00**	
Maluku & Papua	**2,00**	**24,00**	**1,00**	
Indonesia	**100.00**	**100,00**	**100,00**	



5
5

Indonesia Water Balance (in millions m^3)

Island	Rainy Season		Dry Season		Total	
	Availability	Demand	Availability	Demand	Availability	Demand
Sumatra	384.744,4	9.485,8	96.193,6	13.280,2	480.968,0	22.766,0
Jawa&Bali	101.160,8	31.487,1	25.290,2	*44.081,9*	126.451,0	75.569,0
Kalimantan	389.689,3	2.505,8	167.009,7	3.508,2	556.699,0	6.014,0
Sulawesi	129.400,2	6.921,7	14.377,8	9.690,3	143.778,0	16.612,0
NTT	37.940,4	1.552,5	4.215,6	*4.657,6*	42.156,0	6.210,1
Maluku	49.420,8	106.2	12.355,2	148,7	61.776,0	254,9
Papua	381.763,9	117,1	163.613,1	163,9	545.377,0	281,0

Source: Directorate General Of. Water Resources, 2003

6

WRM Issues and Problems

Population growth and distribution

Increasing water demand:

Agriculture
Municipal
Industry

Land use changes:

deforestation, reclamation,
industries, housing, etc
erosion and sedimentation,

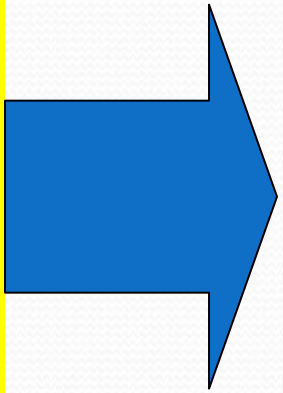
Water pollution, floods, and droughts

Groundwater degradation, land subsidence

Revision on Regulation

New Paradigm in WRM:

- **Integrated WRM**
- **Balancing Structural and Non Structural Measures**
- **Balancing of Water Utilization and Conservation**
- **Human Right for Water**
- **Public Participation**
- **Sustainable Development**
- **Anticipate excess of economic value of water**



- Water Resources Conservation
- Water Resources Utilization
- Water Damaged Control
- Community Participation
- WR Information

Integrated and Comprehensive Water Resources Management

Watershed Management

1. Spatial planning
2. Forestry management
3. Non-forest management
4. Land rehabilitation and conservation
5. Preservation and management of infiltration area

Water Conveyance Management

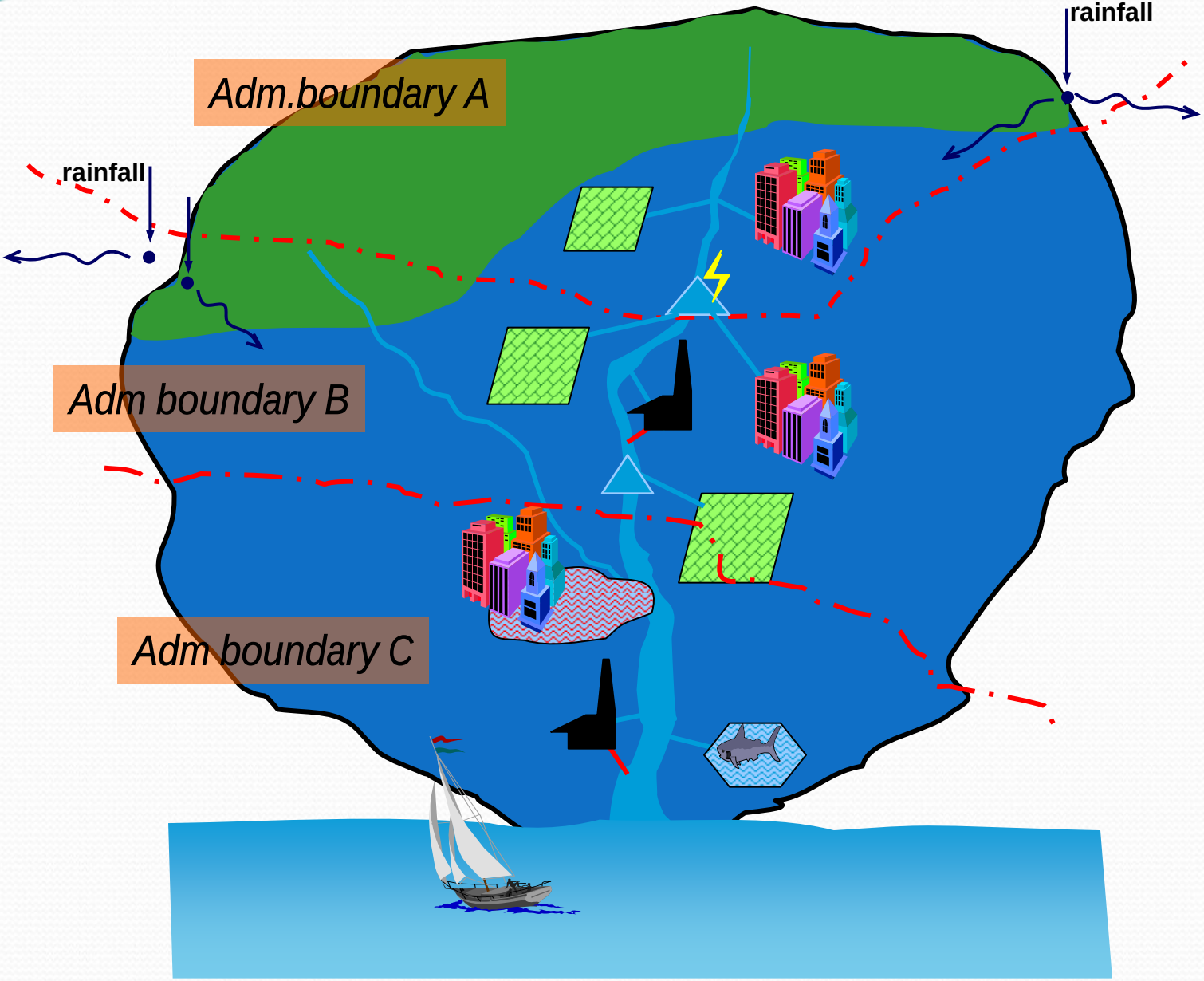
1. Low water management
2. Water quality management
3. Flood management
4. Water resources infrastructure management
5. Water environmental management

Water Use Management

1. Irrigation management
2. Water pollution control
3. Water use saving
4. Waste water management and environmental sanitation

11

Hydrologic boundary as the basis for WR Management



What is River Basin Territory ?

May be in the form of:

- **One River Basin (Catchment Area)**
- **A Group of some River Basins**
- **One small island**
- **A Group of small islands**
- **Group of a River Basin and surrounding small islands**

River basins teritories in Indonesia

1	RBs across countries	4
2	RBs across provinces	26
3	RBs nationally strategic	38
4	RBs across districs	49
5	RBs within a district	16
	Total	133

Under the Law No 11/1974 concerning “Pengairan” total RB in Indonesia 90 RB’s

Implementation of IWRM

Start with Strategic Plan of WRM

A FRAMEWORK in Planning, Implementing, Monitoring, and Evaluation

Coverage:

WR Conservation

WR Utilization

Water related disaster control and prevention

- **Four principle of WRM Strategic plan:** (article 11)
  1) River basin as boundary basis.
  2) Integrated between surface water and ground water.
  3) Balance between conservation and utility
  4) Community participation base.

refer to Q1→ comprehensive & integrated , rated =8

Q3→ water sector assessment , rated =8

Q5 → comprehensive assesment in river basin , rated =8

- **New policy has been implemented by the issued of Law No.7 / 2004**
- **Followed by :**

❑ **Gov.Regulations:**

1. **No 16 year 2006 : Drinking Water (incl.reg. private sector)**
2. **No. 20 year 2006 : Irrigation**
3. **No 42 year 2008 : WR Management**
4. **No.43 year 2008 : Ground Water (Q4, rated =8)**

❑ **President Decrees and Ministries Decrees**

1. **No.12/2008 Water Res. Coord. Bodies (Nat, Prov, Districts)**
2. **Ministry of Public Work : no 04/2008 : Guideline for Establishment of WR Coord. Bodies (Prov, District and River Basin)**

On Going Regulations

- Government Regulations, concerning:

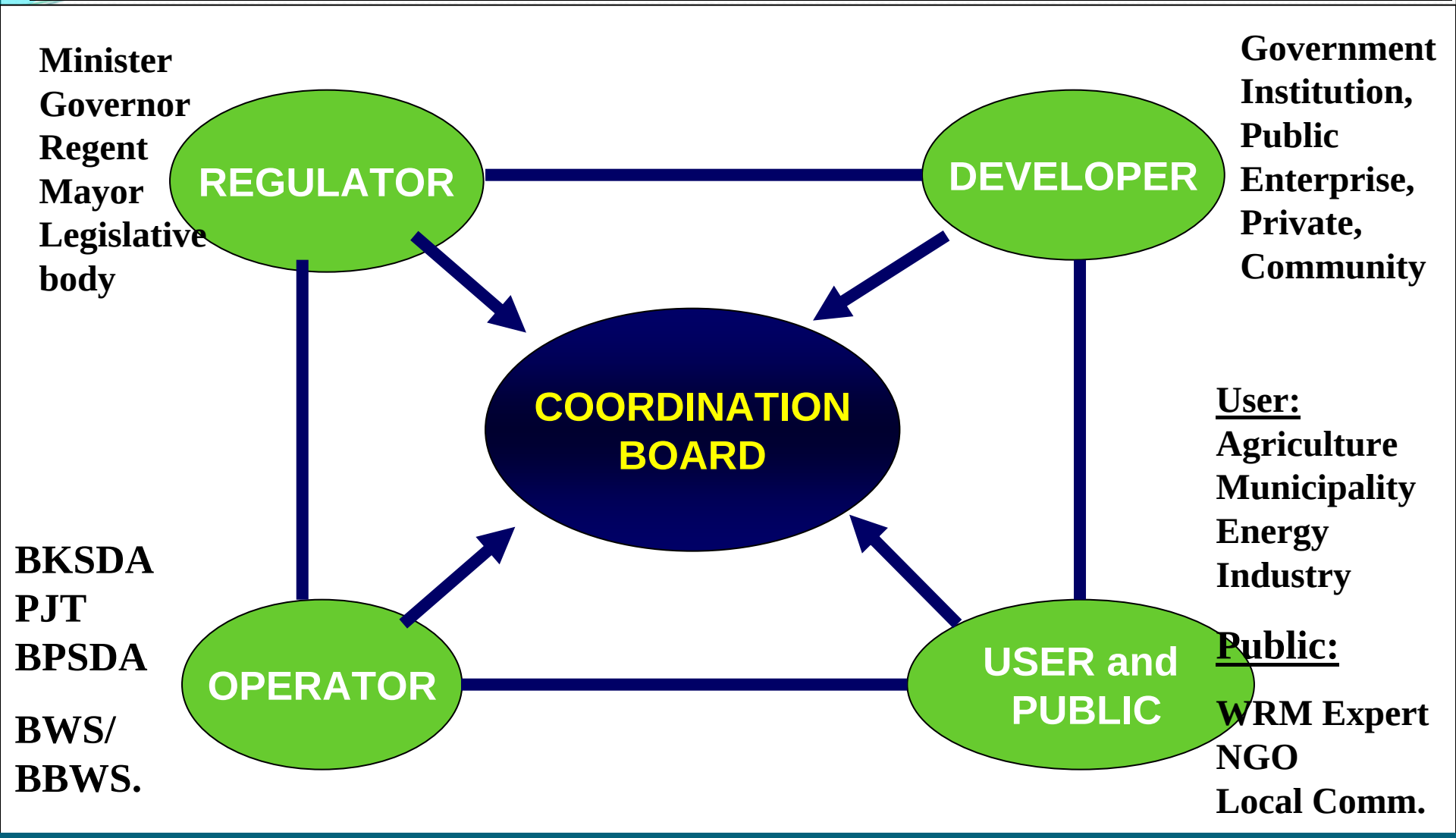
1) Rivers
2) Dam Safety
3) Water Right.(rating = 6)
4) Corporatitation of WR.
5) Water Quality (revision GR no.80/1998)
6) Swamp and coastal

- President decrees

1) River Basin territories and ground water
2) National Policy on WRM.

(refer to Q2→ just recently
Q4 → coordination apex body is regulated

IWRM Institution Framework



(refer to Q4 → coordination apex body (in progress)

Central Level:

DG of Water Resources (MPW) to direct surface water management.

DG of Land and Water (MoA) to direct agriculture land extension and water use in farm level.

DG of Mining to direct ground water management

✓ Provincial and District level.

- Public work agencies.(33 prov. and > 400 Districts)

✓ River Basin Level.Type I: Corp. RBO (PJT 1 & PJT 2) = 3 RBs

1. Type IIA: Central Gov. RBO (w. complete mandate from planning, construction and O&M) = 31 RBOs in 69 RBs
2. Type IIB: Prov. Government RBO (only for O&M) = 59 RBOs

Q6 → River Basin Organizations exist (just started except PJT) rt=5

WRM COORDINATION BODIES

- **Already Established**

1. **National Water Resources Council**
2. **Provincial coord. bodies (Central&South Sulawesi, C.Java, Banten West Sumatra).**
3. **River Basin Coord. bodies (Lombok, Brantas, Bengawan Solo, Jratunseluna, Pemali Comal, Opak Serang, Serayu Bogowonto, Cimanuk Cisanggarung)**

- **On going**

The remainder of provinces and River basins

Q8 → autonomous = 8 accountable =5

Gov Reg. no 16/2006 concerning drinking water.

- ✓ RURAL WATER SUPLY
- by District drinking water corporation (corporation own by distric govt)
- ✓ Urban Water Supply.
- Some by District drinking water corporation (corporation own by district govt)
- Private Corporations
- Others by community groups.

- Irrigation Services is not adopted, farmers collect money for O&M at tertiary levels as their

Q8 → autonomous = 8 accountable =5

- Users participation is conducted through WR coord. body at river basin level.
- Recent condition users pay only in 2 RBO corporate type for commercial users like industry, energy and drinking water.
- Users pay principle will be implemented gradually in 69 River basin territory depend on economic potential of users.

Turn Over.

Irrigation

- Based on law no 7/2004 there is no turn over of irrigation scheme to water user associations.

- Basically Governments are responsible for development and O&M of irrigation scheme (main and secondary canals)

- Farmers are responsible for tertiary scheme

Rural water supply

- Investment, O & M by district corporation
- Users pay tariff for piped drinking water.

Q10 T-O to WR Assoc. → clear responsibility

Cost Recovery

In Principle :

Water management service fee is applied to:

- **Piped drinking water**
- **Industry**
- **Energy**

- **For irrigation, no service fee is applied as a support for food security, eventhough irrigation consumes the water the most**

Q11 → rtd = 7

- no specific reward for conservation at present, but some budget from users used for conservation
- Penalize waste will be formulized in the regulation for user pays principle.

Q12 → reward and punishment rtd = 3

- Education for efficient use of water:
  - to industry is not yet implemented,
  - for agriculture started with some pilots (SRI)
- Higher prices is applied for industry

Q15 → education

Thank you