

Small and Decentralized Water System

Lecture 2:

Community Development and Water management

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Presentation outline

DEVELOPMENT

- Development levels
- Global and regional perspective
- National and local perspective
- Community development

WATER MANAGEMENT

- Water constraints
- Water services
- Water infrastructures

Question 1

- Is development to be led by Government, or to be allowed to grow organically?

Development levels

- Long term planning (>10 years)
- Medium range planning (5 years)
- Annual

Development levels

- **Long term planning (>10 years)**
 - Water infrastructure at catchment levels
 - Big projects – water & wastewater treatment plants
 - Mega projects – piping & rationalization
- **Medium range planning (5 years)**
 - Refurbishment
 - Big scale upgrading
- **Annual**
 - Maintenance
 - Small scale upgrading

Development levels

Long range planning	<ul style="list-style-type: none">- Federal Government- States Government
Mid term range	<ul style="list-style-type: none">- Local Government- Community- Project developers
Annual	<ul style="list-style-type: none">- Operators- Contractors- Consultants

Policy making process

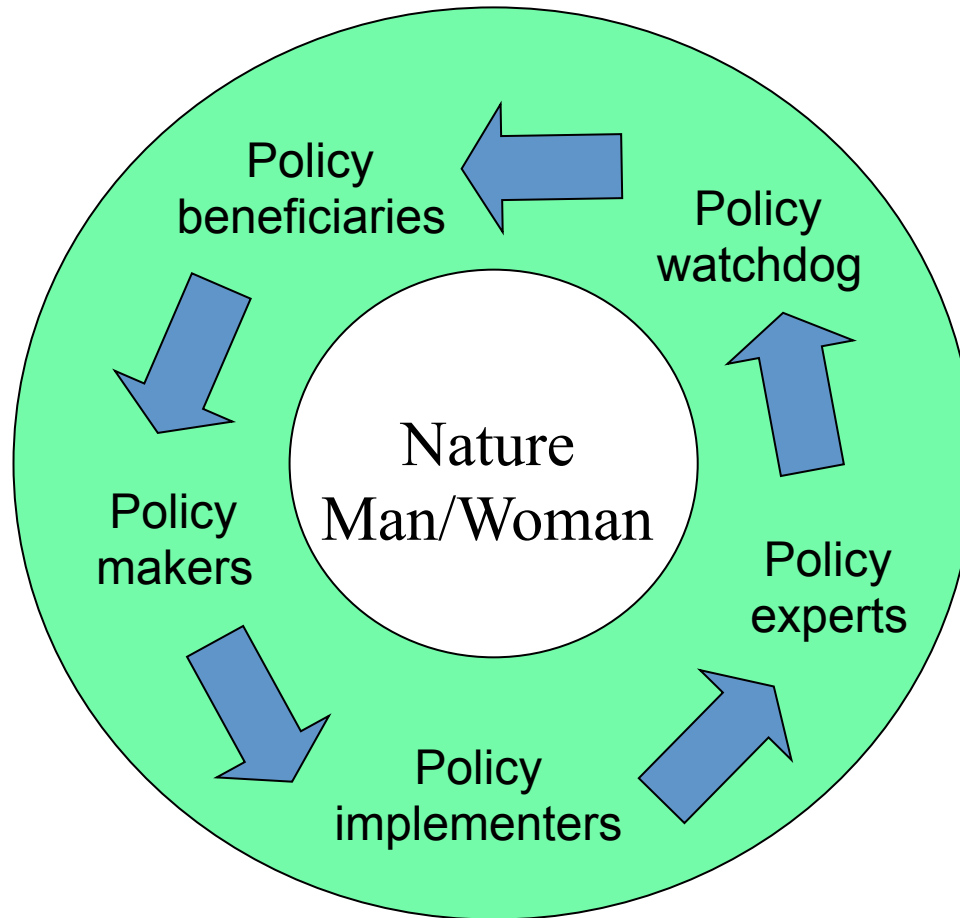
- Initial concern through accidents, tra... ssure, regional framework, etc
- Reactions from general public
- Political will
- Parliamentary procedures
- Structure of implementation agency
- Implementation started
- Improvements, new challenges
- New concerns etc.

3 to 5 years

Actors of policy making process

- Policy makers
 - Policy holders
 - Policy implementers
 - Policy experts, R&D
 - Policy watchdog
 - General public
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Actors of policy making process



Actors in environmental governance

Tasks	Agencies	Scope
Policy making	Cabinets, Parliamentarians	Overall
Policy holding & implementation	Dept. of Environment	Water, Air, Scheduled waste
	National Commission on Water Services	Water services
	Dept. of Sewerage Services	Sewerage
	Dept. of Irrigation & Drainage	Rivers, Lakes, Coast
	Department of Forestry	Forest
	Cleanliness – Local Authorities	Cleanliness
	Education – Ministry of Education	Education
	Ministry of Science, Technology and Innovations	R&D
Policy experts	Universities, Consultants	Overall
Policy watchdog	Press, NGOs, individuals	Overall
Policy beneficiaries	General public, Politicians, Tourists, Industries	Overall

Actors in environmental governance

Tasks	Agencies	Implementations
Policy holding & implementation	Dept. of Sewerage Services	Contractors
		Concessionaires
		Suppliers
		Consultants
		R&D experts
		Financiers
		Professional bodies

Question 2

- Structured, regulated society or non-structured, free society?
- Singapore or France model?

Question 3

- What aspects to be strictly regulated?
 - What aspects to be freely growing?

 - The cost of regulated society?
 - The cost of free society?
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Community structures

- Religion
- Identity
- Philosophy
- Social structure
- Socio-economic
- Leadership and politics
- Education level
- Network
- Environmental sensitivity

Question 4

- Is democracy relevant in developing countries?

Water in society

- Water availability
- Water ethics / principles in society
- Water usage
- Water politics
- Water war

Water availability

- Water is the most widely occurring substance on earth, but only 2.5 % is freshwater. The remainder is saltwater. Two thirds of the freshwater is locked up in glaciers and permanent snow cover.
- Freshwater resources are further reduced by pollution.
- Water stress in Asia and Africa

Continent	Population (%)	Water (%)
Asia	60	36
Africa	13	11
Europe	13	8
North America	8	15
South America	6	26
Australia	1	5
TOTAL	100	100

Water ethics



Water usage

- Drinking
 - Irrigation
 - Industry
 - Cleansing
 - Waste dilution
 - Environmental protection
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Kenyir Lake, Malaysia

Issues on Environmental Management

- Protection of water resources
- Pollution of rivers, lakes, estuaries, seas
- Toxic and hazardous waste management
- Air pollution
- Deforestation and biodiversity
- Solid waste management, esp. on disposal system

Question 5

- Management of water = Management of society?