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# DAM CONSTRUCTION AND DEVELOPMENT

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In the  
Philippines

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# Regulating Agencies

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- Department of Environment and Natural Resources
  - Environmental Management Bureau
  - Protected Areas and Wildlife Division
- National Water Resources Board
- Department of Energy
  - Mini-hydro Division – Energy Utilization Management Bureau

# Project Implementing Agencies

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- National Irrigation Administration
- Department of Agriculture
  - Bureau of Soil and Water Management
- National Power Corporation
  - Individual Power Producers (*private sector*)

# Rules and Regulations in Implementing Dam Projects

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- Presidential Decree No. 1586
  - Philippine Environmental Impact Statement (EIS) System
    - Environmentally Critical Projects
    - Projects located in Environmentally Critical Areas

# Criteria for EIS / IEE

CRITERIA	DAM			
	(for Power)	(for Irrigation)	(for Other Purposes)	
With service area in excess of 1,000 has	n. a.	EIS Study	EIA Study	<b>E C P</b>
Reservoir storage capacity in excess of 25 million cubic meters	EIS Study (less than 25 MCM, submit IEE study)	EIS Study	EIS Study	
Reservoir area (flooded area) in excess of 25 has.	n. a.	EIS Study	EIS Study	
With service area in excess of 700 has. but less than or equal to 1,000	n. a.	IEE Study	IEE Study	<b>E C A</b>
With service area in excess of 700 has. but less than or equal to 700	n. a.	IEE Checklist	IEE Checklist	
With service area of less than or equal to 300 has.	n. a.	CNC	CNC	

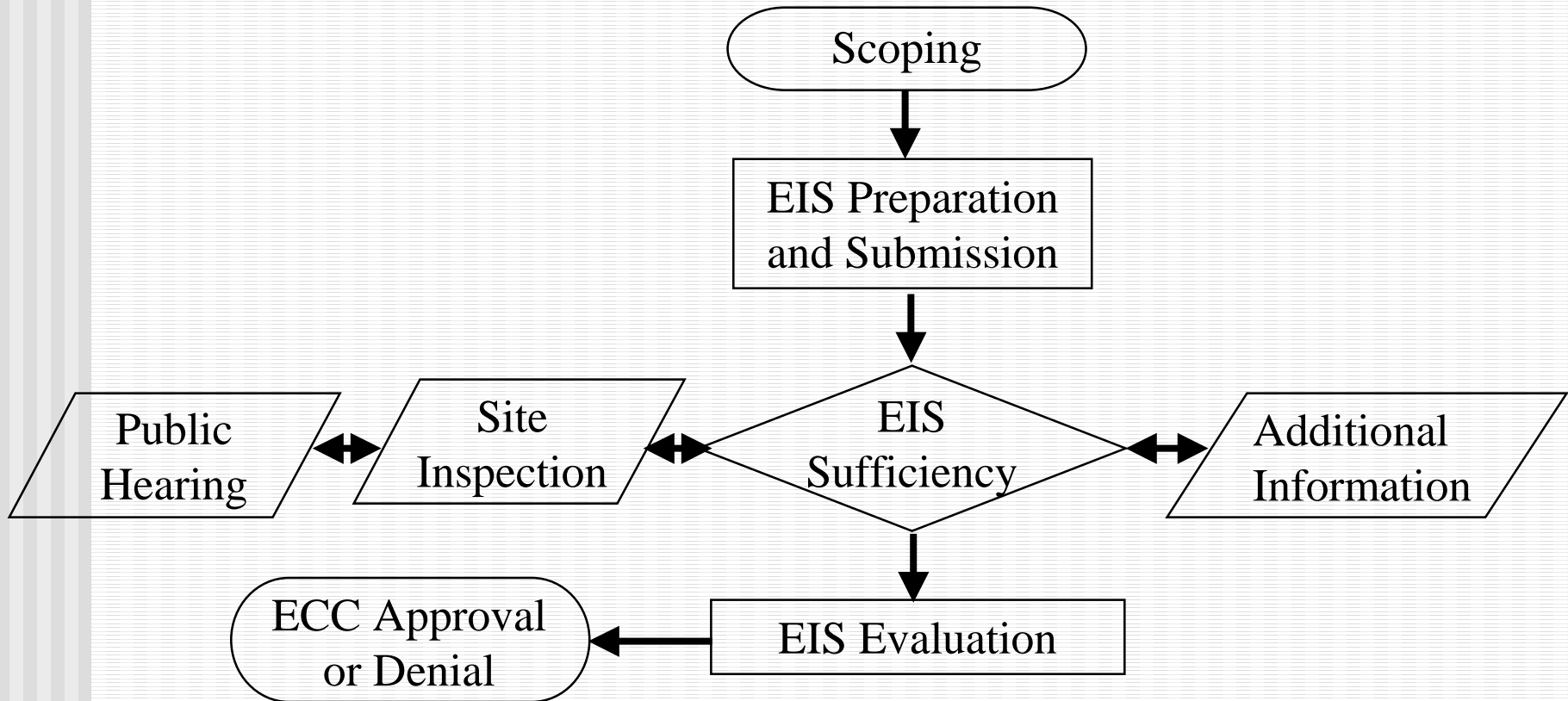
# Rules and Regulations in Implementing Dam Projects

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- Procedures in the Preparation of an IEE
  - Scoping Meeting with DENR-RO.
  - Information/Data Gathering.
  - Description of Environmental Effects / Impacts
  - Environmental Management Plan
  - Public Consultation
  - Submission of IEE Report

# Rules and Regulations in Implementing Dam Projects

## Procedures for Environmentally Critical Projects



# Rules and Regulations in Implementing Dam Projects

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- Philippine Water Code of 1976
  - Order of Preference for the use of Water Resources
    - Domestic and Municipal Use
    - Irrigation
    - Power Generation
    - Fisheries
    - Livestock
    - Industrial Use, and
    - Other uses.

# Rules and Regulations in Implementing Dam Projects

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- Republic Act No. 7586
  - National Integrated Protected Areas System Act of 1992
    - An act providing for the establishment and management of National Integrated Protected Areas System, Defining its scope and coverage, and for other purposes.
    - Creation of the Protected Areas Management Board (PAMB)

# Rules and Regulations in Implementing Hydropower/Dam Projects

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- Executive Order No. 215 complemented by Republic Act Nos. 6957 and 7718
  - Innovative Approaches to encourage private sector participation:
    - Careful allocation of risks between the public and private sector;
    - Possible availment of loans on terms that improve the debt service profile of projects;
    - Availments of incentives.

# Rules and Regulations in Implementing Hydropower/Dam Projects

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- Republic Act No. 7156
  - An Act Granting Incentives to Mini-hydroelectric Power Developers, and for Other Purposes
    - Special Privilege Tax
    - Tax and Duty-Free Importation
    - Tax Credit on Domestic Capital Equipment
    - Special Realty Tax Rate
    - Value-Added Tax Exemption
    - Income Tax Holiday
  - DOE has the exclusive mandate to administer, regulate and promote mini-hydroelectric power development in the country

# Rules and Regulations in Implementing Hydropower/Dam Projects

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## ■ Others

- Republic Act No. 8371 or the “Indigenous Peoples Rights Act of 1997”
  - Certification that the project proposal is not within any ancestral domain.
  - Free Prior Informed and Written Consent
- Power Generation Before RA 9136
  - Accreditation as Private Sector Generating Facility from DOE
- Power Generation under RA 9136
  - Certificate of Compliance from ERC
- Endorsement of Local Government Units
- Department of Public Works and Highways Permit on Navigable or floatable waterways

# Rules and Regulations in Implementing Hydropower/Dam Projects

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## ■ Benefits to Host Communities

### ■ Republic Act No. 7160

- 1% of gross sales or receipts / 40% of national wealth taxes, royalties, fees, or charges derived by any national government-owned and controlled corporation from energy resource development projects
- 40% of gross collection from royalties and other fees and charges for the utilization and development of national wealth

*80% shall be utilized for lowering electricity costs*

# Rules and Regulations in Implementing Hydropower/Dam Projects

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- Benefits - continued -
  - Republic Act No. 7638 (Section 5i)
    - Allocation of PhP 0.01 per kilowatt-hr sold to host and affected communities
      - PhP 0.0025 - Electrification
      - PhP 0.0025 - Development and Livelihood
      - PhP 0.0050 - Reforestation, Watershed Management, health and/or environment enhancement
    - Prioritization of Load Dispatch
    - Skills Development
    - Preference in Employment
    - Procurement of Local Supplies and Services

# Rules and Regulations in Implementing Hydropower/Dam Projects

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## ■ Benefits - continued -

### ■ Republic Act No. 7156

- 2% Special Privilege Tax of gross receipts from sale of generated electricity

- 40% for the National Government

If locate in a city:

- 60% for City Government (if located in a city)

Or if located in a municipality

- 30% for the Provincial Government
  - 30% for the Municipal Government

# WCD Guidelines for Good Practice

WCD REPORT	PHILIPPINE GOVERNMENT PRACTICES						
	DENR		NWRB	DOE	NIA	NPC	DA
	EMB	PAWD		MHD			BSWM
<b>Strategic Priority 1: Gaining Public Acceptance</b>							
1. Stakeholder Analysis	⊛	*	*	⊛	**	**	**
2. Negotiated Decision-Making Processes	⊛	*	*	⊛	**	**	**
3. Free, Prior and Informed Consent	⊛	*	*	⊛	**	**	**
<b>Strategic Priority 2: Comprehensive Options Assessment</b>							
4. Strategic Impact Assessment for Environmental Social, Health and Cultural Heritage Issues	⊛	*	*	⊛	**	**	**
5. Project-level Impact Assessment for Environmental, Social, Health and Cultural Heritage Issues	⊛	*	*	⊛	**	**	**
6. Multi-Criteria Analysis	⊛	⊛	⊛	⊛	**	**	**
7. Life Cycle Assessment	⊛	⊛	⊛	⊛	**	**	**
8. Greenhouse Gas Emission	-	-	-	-	-	-	-
9. Distributional Analysis of Projects	⊛	*	⊛	⊛	**	**	**
10. Valuation of Social and Environmental Impacts	⊛	*	*	*	**	**	**
11. Improving Economic Risk Assessment	⊛	*	*	*	**	**	**

# WCD Guidelines for Good Practice

WCD REPORT	PHILIPPINE GOVERNMENT PRACTICES						
	DENR		NWRB	DOE	NIA	NPC	DA
	EMB	PAWD		MHD			BSWM
<b>Strategic Priority 3: Addressing Existing Dams</b>							
12. Ensuring Operating Rules Reflect Social and Environmental Concern.				⊛	**	**	**
13. Improving Reservoir Operations				⊛	**	**	**
<b>Strategic Priority 4: Sustaining Rivers and Livelihoods</b>							
14. Baseline Ecosystem Survey	⊛	*	*	*	**	**	**
15. Environmental Flow Assessment	⊛	*	*	*	**	**	**
16. Maintaining Productive Fisheries	⊛	*	*	*	**	**	**
<b>Strategic Priority 5: Recognizing Entitlements and Sharing Benefits</b>							
17. Baseline Social Conditions	⊛	⊛	⊛	⊛	**	**	**
18. Impoverishment Risk Analysis	⊛	*	*	*	**	**	**
19. Implementation of the Mitigation, Resettlement and Development Action Plan	⊛	⊛	⊛	⊛	**	**	**
20. Project Benefit-Sharing Scheme	⊛	*	*	⊛	**	**	**



# WCD Proposed Strategic Policies

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## 1. Gaining Public Acceptance

- Compliance with permitting and licensing requirements of DENR, NWRB, DOE, and NCIP ensures consultations with various stakeholders
- NEDA-ICC approval requires RDC endorsement

# WCD Proposed Strategic Policies

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## 2. Comprehensive Options Assessment

- Selection of power generation projects undergoes stringent selection process of economic and financial evaluation and benefit/cost analysis that involves comparison of all potential power sources
- Formulation of Philippine Energy Plan involves social and environmental considerations and is indicative in nature providing private power producers/generators free choice of fuel/energy source
- Irrigation projects are subjected to Strategic Impact Assessment prior to implementation
  - Involves multi-criteria analysis and the most feasible option is adopted
  - Valuation of social and environmental impacts are covered by the EIA

# WCD Proposed Strategic Policies

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## 3. Addressing Existing Dams

- Dams of existing power plants are maintained at all cost to prevent huge financial losses in terms of damages to properties, lives, restoration and unearned revenues
- Regulation of mini-hydropower plants entails maintenance and repair of existing dams and mandatory restoration/re-engineering in such a way that existing water users are not permanently deprived of water
- Scheduled dam inspection/repair/maintenance of irrigation facilities
- Flood forecasting and flood warning in case of spillway release (e.g. low-lying areas along Pampanga River)

# WCD Proposed Strategic Policies

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4. Sustaining Rivers and Livelihood
  - Stringent ECC requirements includes mitigating measures to minimize effects to the river system / environment
  - Compliance with provisions of Water Rights Permit to ensure river system/fish and aquatic resources sustenance
  - Development of run-of-river schemes for mini-hydropower projects
  - Dam site selection for hydropower projects involves series of screening process with emphasis on structural stability and benefit/cost ratio; 10% maintenance flow is ensured

# WCD Proposed Strategic Policies

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5. Recognizing Entitlements and Sharing Benefits
  - Project benefit sharing mechanism is used as a parameter in cost allocation for irrigation projects
  - Social responsibility concept is applied for hydropower projects
  - RA 7638 and RA 7160 provide benefits to communities hosting energy projects

# WCD Proposed Strategic Policies

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## 6. Ensuring Compliance

- Provisions of the Philippine EIS System and Clean Air Act includes penalties and incentives for power generation projects
- Guaranteed compliance to technical measures as a built-in hydropower project specification, as well as social and environmental aspects
- Regulation of mini-hydropower development ensures technical and financial capability of developers to implement projects, including issuance of performance bonds

# WCD Proposed Strategic Policies

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7. Sharing Rivers for Peace, Development and Security
  - NWRB regulation assures proper/appropriate allocation of water usage/extraction to address the different needs of all sectors
  - Cooperative efforts among government agencies in administering and regulating water resource development and utilization