



उत्तम शक्ति मंत्रालय
अनूत शक्तियुक्त, नयी विकास और नया संरक्षण विभाग
भारत सरकार
MINISTRY OF JAL SHAKTI
DEPARTMENT OF WATER RESOURCES,
RIVERS DEVELOPMENT & GANGA REjuvenATION
GOVERNMENT OF INDIA





विद्युत मंत्रालय
MINISTRY OF
POWER

92ND ANNUAL MEETING & INTERNATIONAL SYMPOSIUM

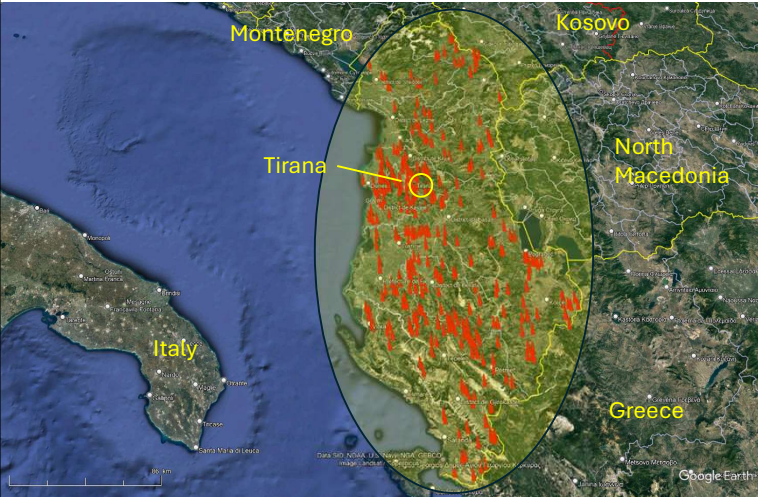
ON DAMS FOR PEOPLE, WATER, ENVIRONMENT AND DEVELOPMENT
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Assessment of institutional dam safety in Albania



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Albania and portfolio of dams



- Population: 2.4 mio (2023 census)
- Area: 28'748 km²
- Large dams: 350
- Large Hydropower dams: 23
- Large irrigation dams: 236
- Highest dams: Moglica and Fierza (166,5 m; rockfill)
- Smaller (agricultural) dams: ca. 300

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Background

- Sector assessment initiated by ALBCOLD
 - Chairman ALBCOLD recognized that the prevailing dam safety legislation and the associated required institutional dam safety structure are no longer adapted to the current environment
- Assessment (2023)
 - Conducted by Darbre & Maho on behalf of Skat Consulting AG and Energynautics GmbH
 - Under contract from the Swiss State Secretariat for Economic Affairs SECO
- Steps
 - Critical review of current legal, institutional and regulatory framework
 - Identification of gaps
 - Assessment whether revisions are necessary and relevant
 - Strengthening recommendations



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Legal and regulatory framework

- Law on Design, Construction and Maintenance of Dams (2000)
- Council of Ministers Decision on Regulation on Dam and Dyke Safety (2004)
- Key features:
 - Apply to all large dams (ICOLD definition) and to those representing a risk to third parties
 - User (Operator) is responsible for ensuring dam safety
 - 4-levels surveillance organization
 - State Dam Safety Regulator (ALBCOLD) named as representative of Albania in ICOLD
- Concise guidelines (Passport of dams, Operation and control of dams, Control of dams after last earthquake, Plan of alarms, Emergency preparedness plans)



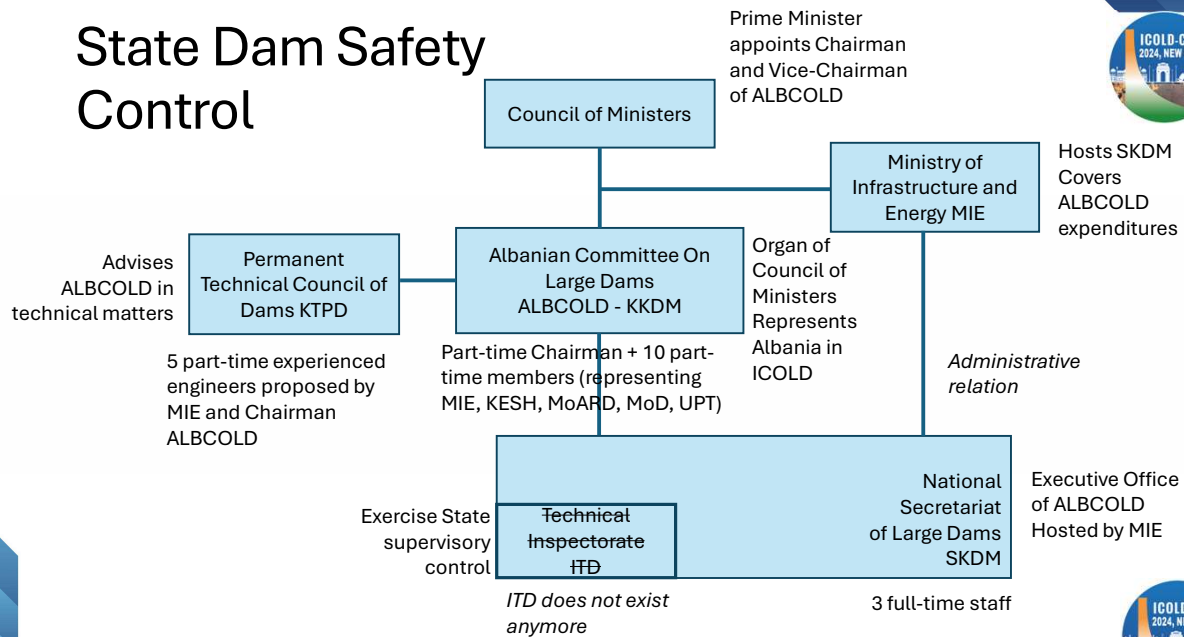
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4 stakeholders identified in the legislation

- Owner
- User (“Operator”): Responsible for the safety of its dams
 - Technical Management Units with Dam Safety Engineers required
- Ministry or Institution: Has oversight responsibilities
 - Dam Safety Groups required
- State Dam Safety Control
 - ALBCOLD (Albanian Committee on Large Dams)
 - Supported by the Technical Inspectorate of Dams/Dikes and by the National Secretariat
 - Advised by the Permanent Technical Council of Dams
 - Ministry / Institution



State Dam Safety Control

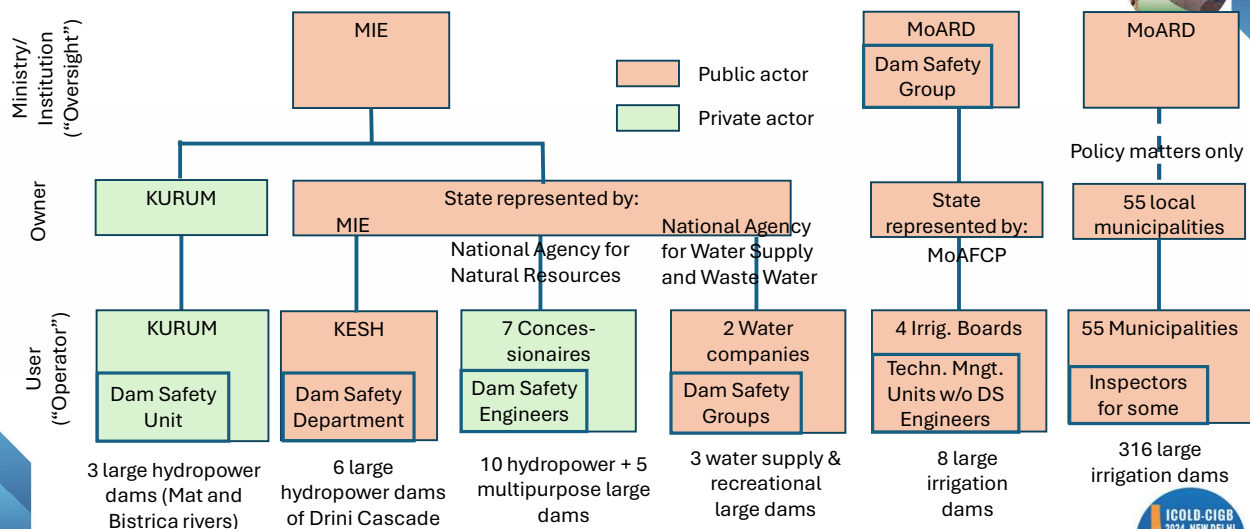


Surveillance: aligned with internat. practice

Type	Performed by	Frequency
Measurements of sediment deposits at reservoir with 100 mio. m3 water or more	User (Operator)	10 years
Control	Ministry/Institution (organized and guided by ALBCOLD)	10 years
Measurements of sediment deposits at reservoir with less than 100 mio. m3 water	User (Operator)	5 years
Control	Ministry/Institution + ALBCOLD	After 5 years of operation
Control/Report	Ministry/Institution (to ALBCOLD)	Yearly
Report	User (Operator) (to ITD and ALBCOLD, through Ministry/Institution)	Yearly
Report/Information	User (Operator) (to Ministry/Institution)	6 months
Control of discharge works	User (Operator)	6 months
Processing and interpretation of observations and measurements	User (Operator)	Monthly
Continuous surveillance (inspections and monitoring)	User (Operator)	Continuous

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Ownership and operation of large dams



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Some identified gaps

- No required 10-years inspections conducted (resp. starting in 2023)
- Few EAPs prepared
- Dams owned by municipalities lacking dam safety surveillance and maintenance
 - Municipalities do not have the required Technical Management Units
 - The 2015 decentralization process was not accompanied by any technical or financial support
- Only ca. 30% of required dam passports available
- No Operator and Owner independent inspections other than walk through facility
 - Technical Inspectorate of Dams not operational (no more staffing since 2012)
 - No Ministry/Institution Dam Safety Groups (except MoARD for its own 8 dams)
 - MIE relies on KESH Dam Safety Department, for KESH's dams only
- Formal verification of safety reports by ALBCOLD instead of technical review by ITD
 - ITD not operational (no more staffing since 2012)



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Assessment

- Legislation:
 - Reflects internationally recognized dam safety principles
 - However, not fully aligned with current institutional structure and bodies
 - Covers the 3 elements of the internationally recognized safety concept
 - However, focuses primarily on design and construction
 - Surveillance during operation and emergency preparedness are today's safety issues
 - Prepared at a time when all dams were owned and operated by the State
 - Dams are now also privately owned
 - Ownership of irrigations dams has been transferred to Municipalities

⇒ Existing dam safety legislation is insufficiently adapted to current environment



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Assessment

- Institutions

- Limited resources at ALBCOLD
- ITD no more existing
- Insufficient control exerted by ALBCOLD-ITD
 - “Controls” largely limited to HPP dams
- Oversight role assigned to Ministry/Institution insufficiently assumed
 - Limited for the 316 irrigation dams transferred to Municipalities
 - No dam safety group at MoE

⇒ Gap between institutional dam safety framework as per legislation and reality

- Professional association

- ALBCOLD represents Albania in ICOLD, but is no proper professional association

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Assessment

- Guidelines

- 5 Existing ones: Concise and clear, but some areas are not covered (Assessment of potential dam risk, design criteria, surveillance requirements, operation during floods, emergency preparedness)

- Surveillance (inspections, monitoring, 10-years controls, dam safety reports)

- Absent at many irrigation dams owned by Municipalities
 - Necessary resources not available
- Data analysis/reporting for HPP dams not all aligned with international state of practice
- No 10-years controls completed at any dam yet (start foreseen 2023)

- Emergency preparedness

- Few alarm and evacuation plans available

- Education at Polytechnic University of Tirana UPT

- Historically focused on design and construction, not surveillance and maintenance

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Conclusion

- Tremendous gap between the institutional framework as per legislation and reality
 - Not all assigned dam safety tasks are performed as intended to
 - Legal dam safety requirements are not implemented
 - Ineffective State Dam Safety Control

- For all practical purposes, dam safety is largely self-regulated for hydropower dams to non-existent for the majority of the irrigation dams

- Profound revision of institutional framework required
 - Clear and implementable assignment of roles and responsibilities
 - Supporting legislation



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10 Strengthening recommendations

Short to medium term implementation

1. Risk classification of all dams, as basis for
 - Prioritizing 10-years inspections
 - Prioritizing EAPs
 - Identifying irrigation dams requiring risk reduction measures
2. Draft “missing” guidelines
3. Prepare flood maps and EAPs
Perform 10-years inspections
4. Establish Master course on Dam Safety and Surveillance at UPT
5. Ensure education and training on monitoring equipment, analysis of measurement data and report preparation at KESH



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10 Strengthening recommendations



Medium to long term implementation

6. Merge ALBCOLD and ITD in a single State Dam Safety Agency
7. Create an Albania Dam Association separate from ALBCOLD
8. Reinforce the duties of the Operator as responsible entity for ensuring dam safety
9. Revise legislation to support changes and provide strong enforcement power to State Dam Safety Agency
10. Provide training and resources to Municipalities



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THANK YOU