Ventajas y Debilidades del Modelo Chileno de la Gobernanza del Agua

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Esquema: *Canto de Sirenas: El Derecho de Aguas Chileno como Modelo para la Reforma Internacional*

I. Introduccion

II. Resumir Codigo de Aguas de 1981

III. Contexto y debate internacional: Crisis del agua

IV. Historia politica y legislativa del Codigo de Aguas

V. Estudios y resultados empiricos:

- Mercados de aguas
- Gestion multi-sectorial de cuencas

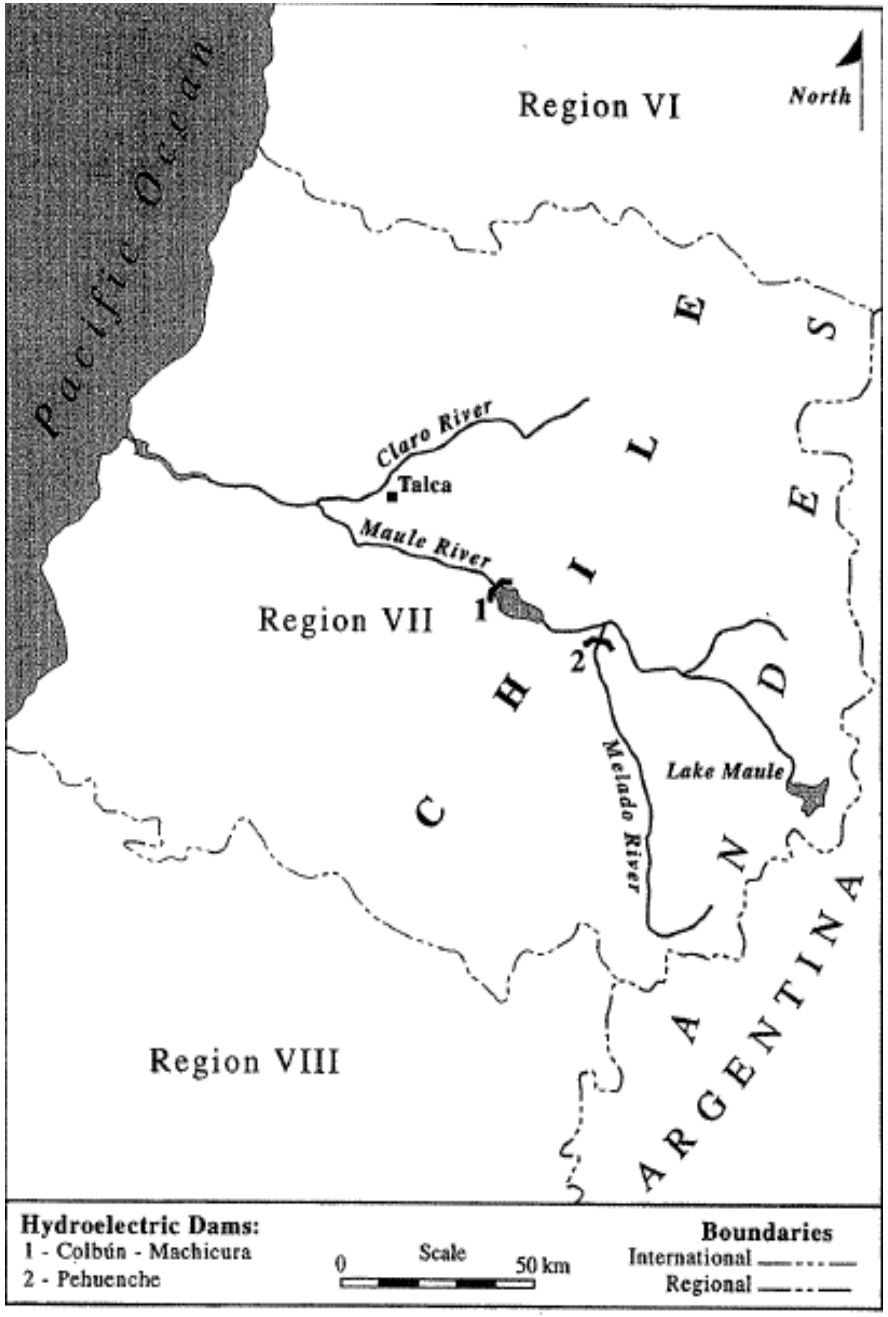
VI. Debate politico sobre reforma del Codigo de Aguas

VII. Conclusiones

Bauer, *Siren Song*: Key question

Is the free market approach to recognizing water as an economic good compatible with the broader and long-term goals of integrated water resource management?

Map 1. Central Chile



Map 3. Maule River Basin

Dams and Markets: Rivers and Electric Power in Chile

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Outline

[*Natural Resources Journal*, 2009, V. 49, N. 3/4]

I. Hydropower: Nexus between water and energy
II. Analytical framework/approach
III. Hydropower and water rights in Chile
IV. Hydropower and the electricity sector in Chile
V. Nexus between water policies and electricity policies since 1990
VI. Conclusions

I. Hydropower as water/energy nexus

Two axes of analysis: Water and electricity

Rules of the games for both sectors

Global trends affecting hydropower:

- Privatization and markets
- Climate change
- Ecosystem goods/services

Questions

How are rivers governed under market-oriented water and electricity policies?

How are different uses and values of water and energy coordinated in a market-driven context?

What are the implications for sustainable development? How to balance markets with regulation?

Why Chile?

Background about Chile

Physical geography

Recent political, economic, legal history

Cf. 1981 Water Code with 1982 Electric Law:

Both pro-market, but Water Code more laissez-faire

PERU
BOLIVIA
PARAGUAY
CHILE
ARGENTINA
URUGUAY
BUENOS AIRES
Montevideo
Santiago
Lima
Callao
Trujillo
Chiclayo
Arica
Iquique
Antofagasta
Valparaiso
Viña del Mar
Mendoza
San Juan
Córdoba
Rosario
Santa Fé
Paraná
La Plata
Asunción
Tucumán
Concepcion
Temuco
Valdivia
Puerto Montt
Bahia Blanca
Mar del Plata
Comodoro Rivadavia
Rio Gallegos
Punta Arenas
Stanley
Falkland Islands
(Falklandsöyene)
Islas Juan Fernandez
(CHILE)
Cerro San Valentin
Pampas
Gran Chaco
Río de la Plata
Magellanstredet
Selvas
Madeira
Tapajós
7973
2652

II. Analytical framework/approach

Two axes of analysis: Water and electricity

Interdisciplinary fields:

- Geography (human-environment relations)
- Law and society
- Political economy, institutional economics, law and economics

II. Analytical framework/approach

Concrete examples:

- Property rights
- Institutional arrangements for markets
- Rules of the game (= institutional economics)

Some key principles:

- Law determines economic value
- Law defines the structure and operation of markets

III. Hydropower and water rights

Water Code of 1981: Privatization and free markets

Non-consumptive water rights:

- Multiple use / river basin cooperation & conflict
- Speculation and monopoly

Legal reform of 2005: Many years of debate, minor results

IV. Hydropower and electricity sector

Physical features of electricity: Problem of storage

Water as fuel

Relationship between hydropower and thermal power

Historical development in Chile: Role of hydropower

IV. Hydropower and Electric Law of 1982

Electricity markets, prices, and sub-sectors

Spot market and CDEC (power pool operator):
    Hydropower is key to generation

Privatization in late 1980s

V. Nexus of water and electricity policies since 1990

Argentine natural gas (rise and fall)

Water rights and monopoly power

Drought and electricity crisis in 1998-99

Leyes Larga y Corta: "Long law" and "Short law"

Hydroelectric boom in Patagonia and other regions

Conclusions: Chilean rivers

In Chile, electricity law grants de facto property rights to water to owners of hydropower

Electricity law trumps water law in managing rivers that have hydropower dams

Both laws favor hydropower – water is free

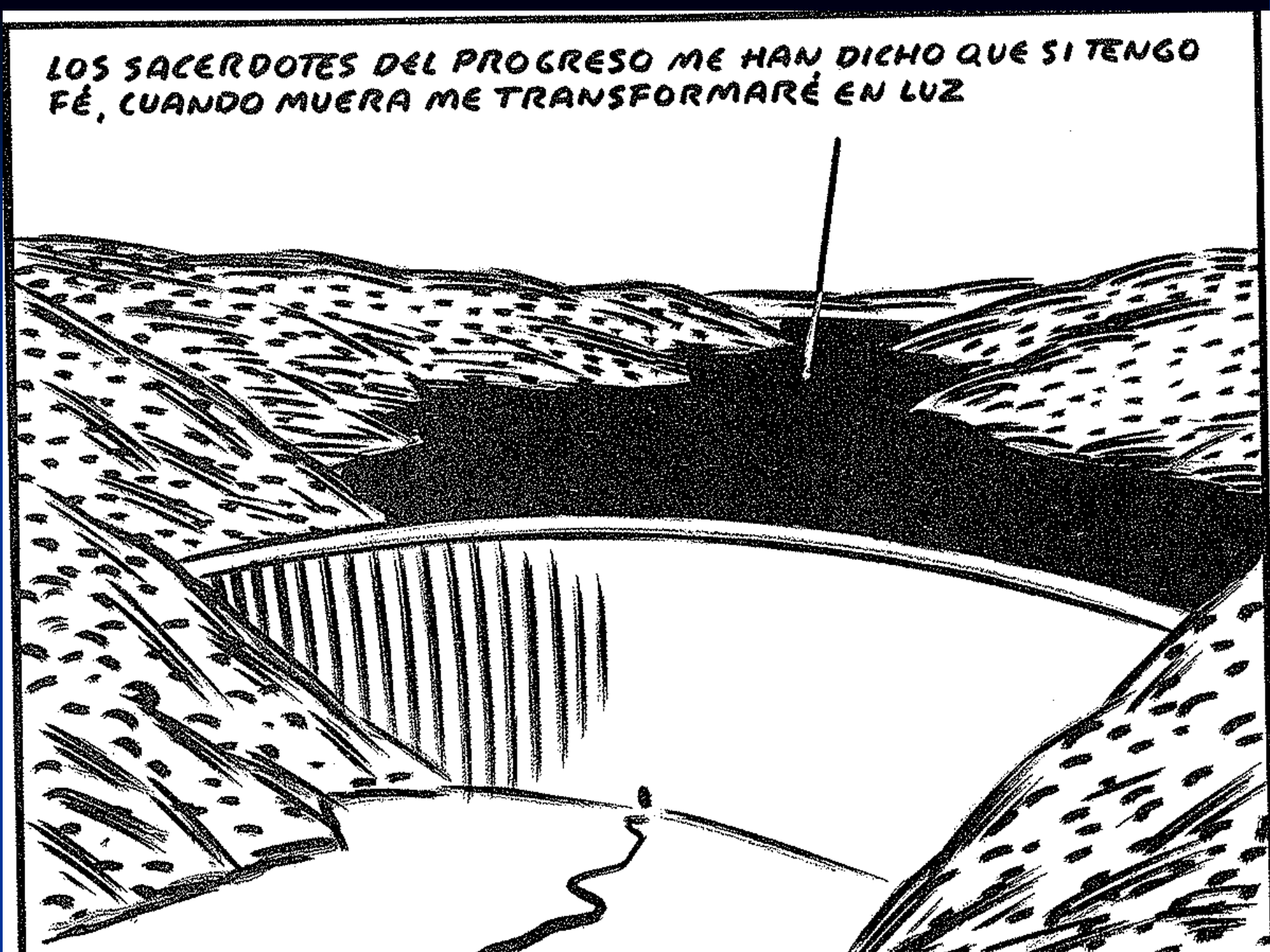
Rivers with dams are more regulated than they seem – but not for IWRM or water governance, which are weakened

Conclusions: Water and environment

Bad news for integrated and sustainable water management

Tough challenges for environmental flows, ecosystem services, water governance (= conflict resolution)

Chile is a world leader in water and electricity markets, but no one looks to Chile for sustainability or governance


LOS SACERDOTES DEL PROGRESO ME HAN DICHO QUE SI TENGO FÉ, CUANDO MUERA ME TRANSFORMARÉ EN LUZ

Recommendations and future work

Changing dual roles of hydropower are global issue

- Focus on water-energy nexus is valuable
- Current hydropower boom in Chile does not consider it
- California and Western U.S.?

How to integrate both sectors?

- Improve/strengthen environmental law, economics, policy
- Improve/strengthen judicial system

Final words

Hydropower is key example of broader problems of environmental sustainability and climate change

Legal rules define markets and determine economic value

Property rights and institutions are key for ecosystem services

Hydropower Governance & Historical Geography in California: Water Rights & Electricity Law since 1890s

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Outline

I. Introduction & overview

II. Previous work in Chile:

- Privatization of water rights & markets; river basin governance
- Hydropower, electricity law, & water/energy nexus (*NRJ* 2009)

III. History of hydropower in California & U.S.

- Significance in Western U.S. *water* development
- Significance in Western U.S. *electricity* development

IV. Conclusions & next steps

Questions

What has been the role & importance of hydropower…

- in the evolution of water law & the water sector?
- in the evolution of electricity law & the electricity sector?

How have hydropower's dual roles interacted over time?

- What conflicts over these dual roles have arisen & how have they been governed?

Thank you

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