



MANAGING CONFLICT ON THE MEKONG: SHARING DATA, EXPERIENCE, AND CAPACITY WITH THE COLUMBIA RIVER BASIN

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Human salvation lies in the hands
of the creatively maladjusted.

Martin Luther King, Jr.

US black civil rights leader & clergyman (1929 - 1968)

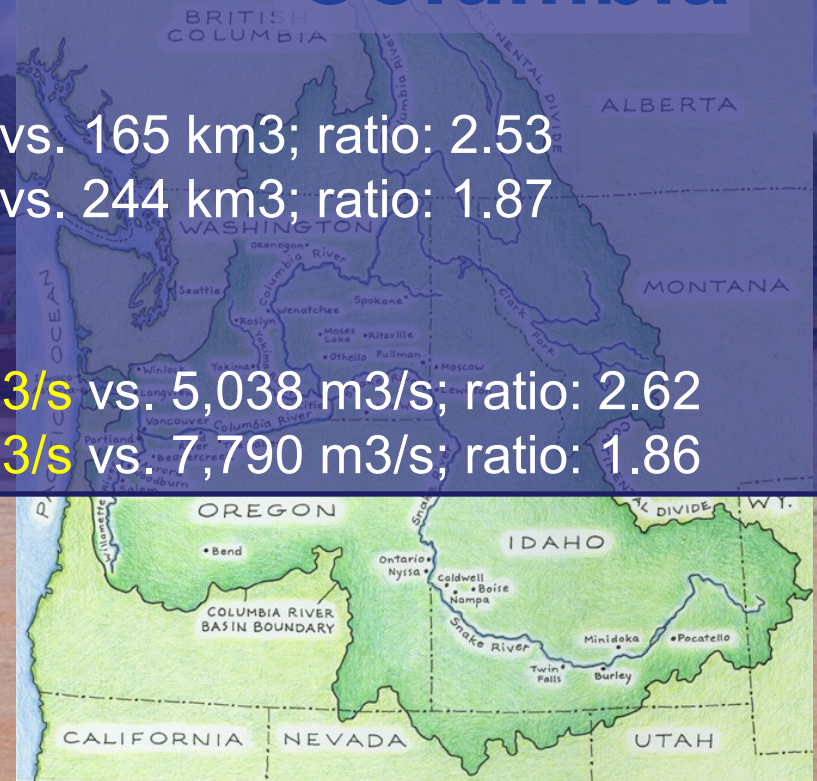


Comparison of Two Basins

Mekong

Drainage:	760,000 km ² vs. 669,300 km ² ratio: 1.11
River Length:	4,800 km vs. 1,954 km ratio: 2.14
Ann. Runoff Volume:	
Kratie/ The Dalles	418 km ³ vs. 165 km ³ ; ratio: 2.53
Mouth/Mouth	457 km ³ vs. 244 km ³ ; ratio: 1.87
Average Discharge:	
Kratie/ The Dalles	13,200 m ³ /s vs. 5,038 m ³ /s; ratio: 2.62
Mouth/Mouth :	14,500 m ³ /s vs. 7,790 m ³ /s; ratio: 1.86

Columbia

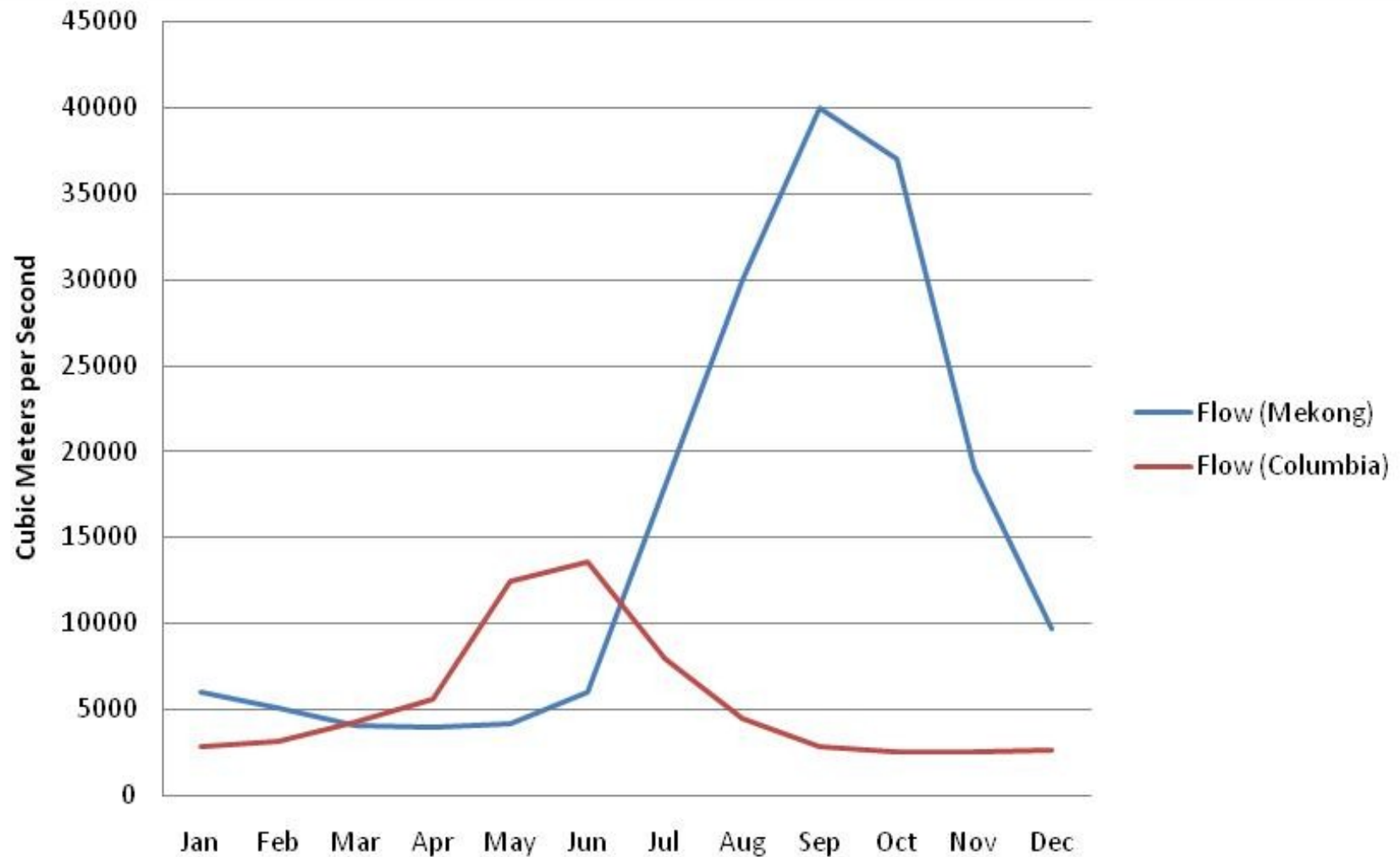


USACE 2008; MRC 2005

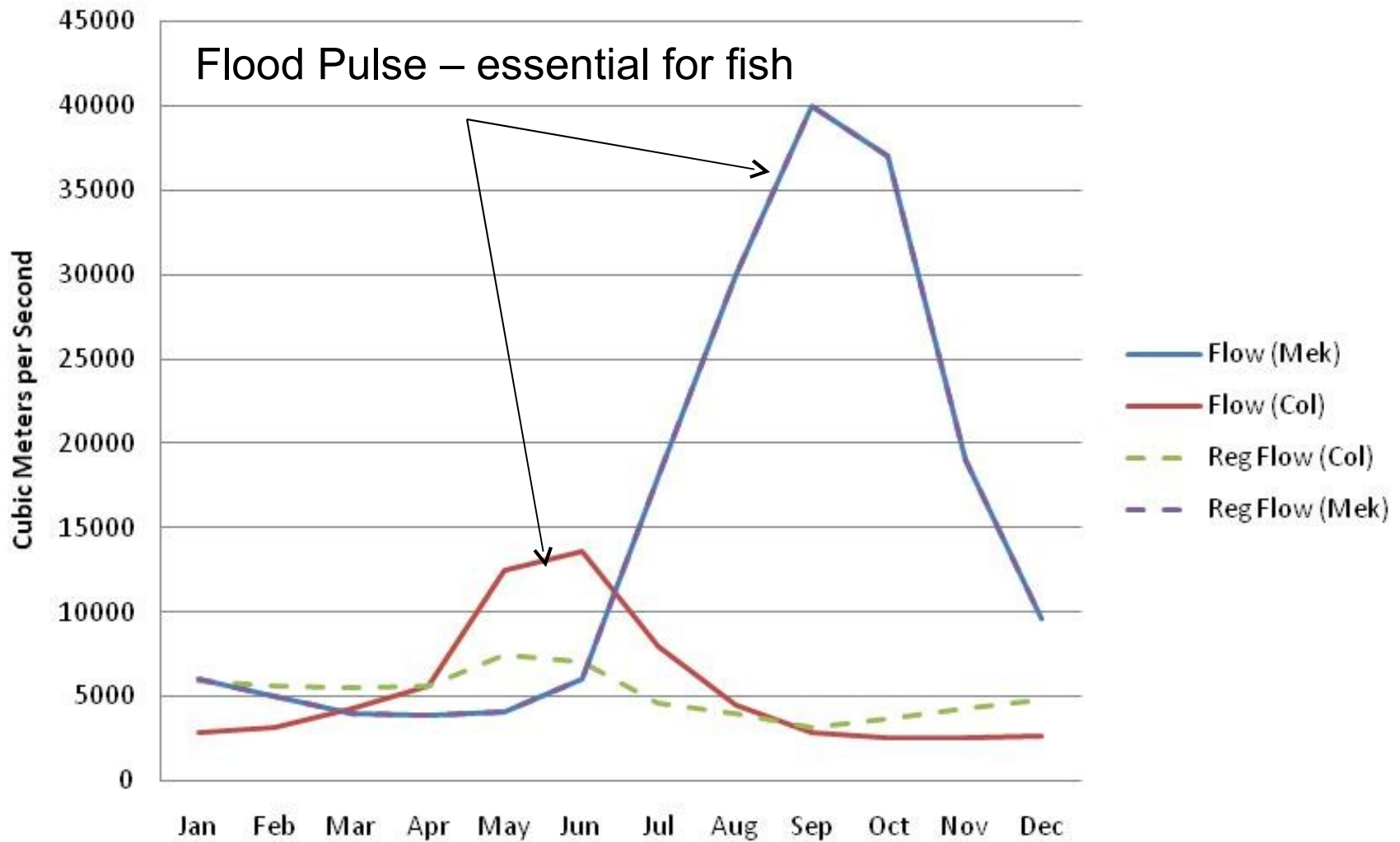
Basin Comparisons

Location	SE ASia	NW North America
Countries	6	2
Basin Population, million	59	12
Basin %	25% Lao PDR; 23% Thailand; 21% PRD; 20% Cambodia; 8% Viet-Nam; 3% Myanmar	85% US; 15% Canada
Max. Elevation, m	5,224	3,901
Min. Elevation, m	0	0
Mainsteam Elec. Dams	3	14
Typical Annual Power Production, TWh	13	105

Hydrograph Comparisons



Effects of Water Development



Challenges Facing the Mekong

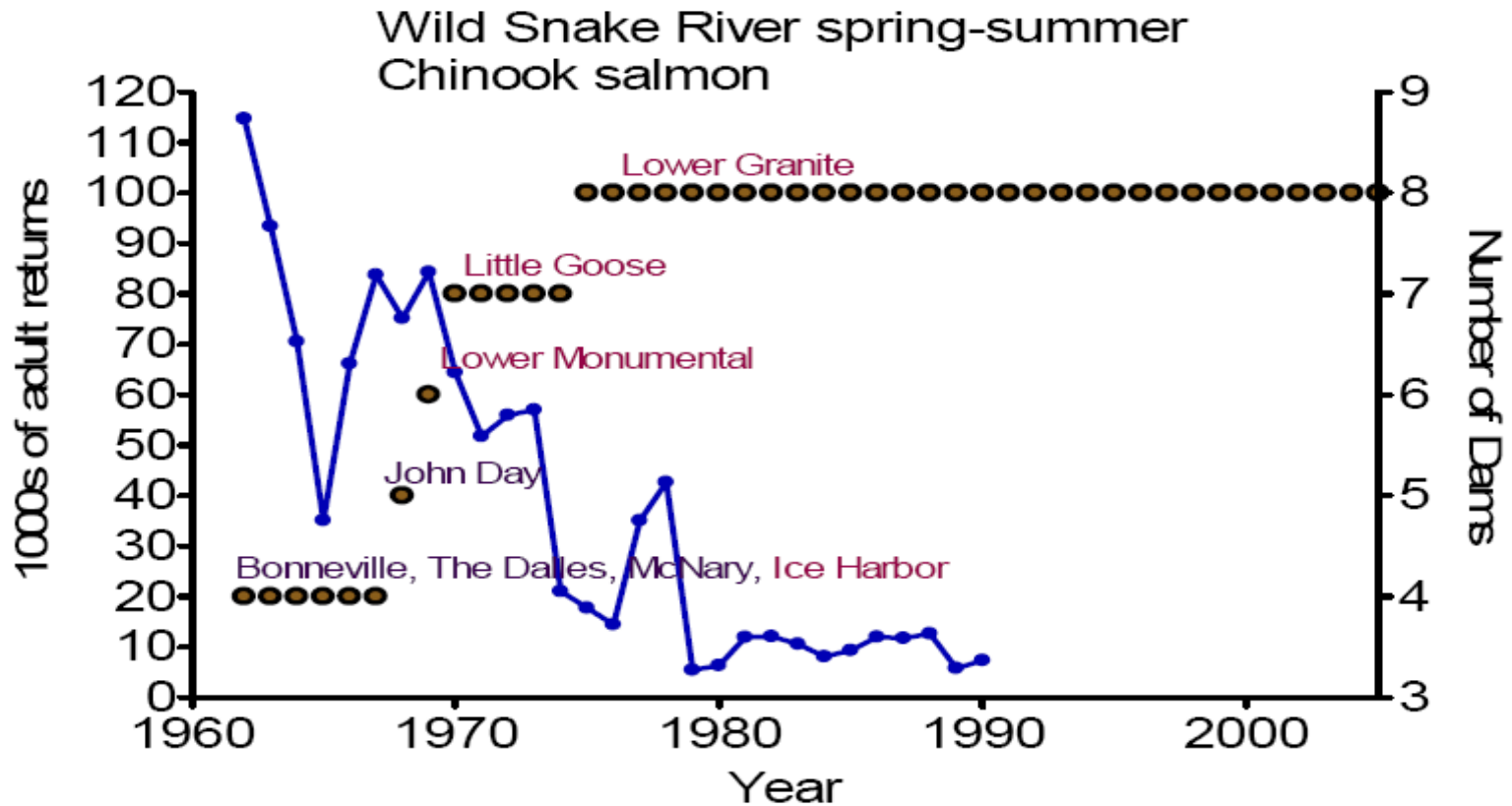
- Population growth
- Climate change
- Erosion
- Deforestation
- Ecosystem resilience
- Rapid & unsustainable development
- Environmental degradation

- Population growth
- Climate change
- Degrading infrastructure
- Ecosystem restoration (Salmon)
- Native American/First Nation's rights
- Treaty re-negotiation with Canada

Challenges Facing the Columbia

Effects of Water Development on the Columbia

River and Salmon Historical Changes



Challenges Facing the Mekong

- Population growth
- Climate change

- Erosion

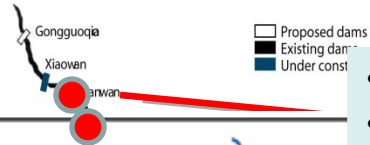
- Deforestation

- Rapid & unsustainable development

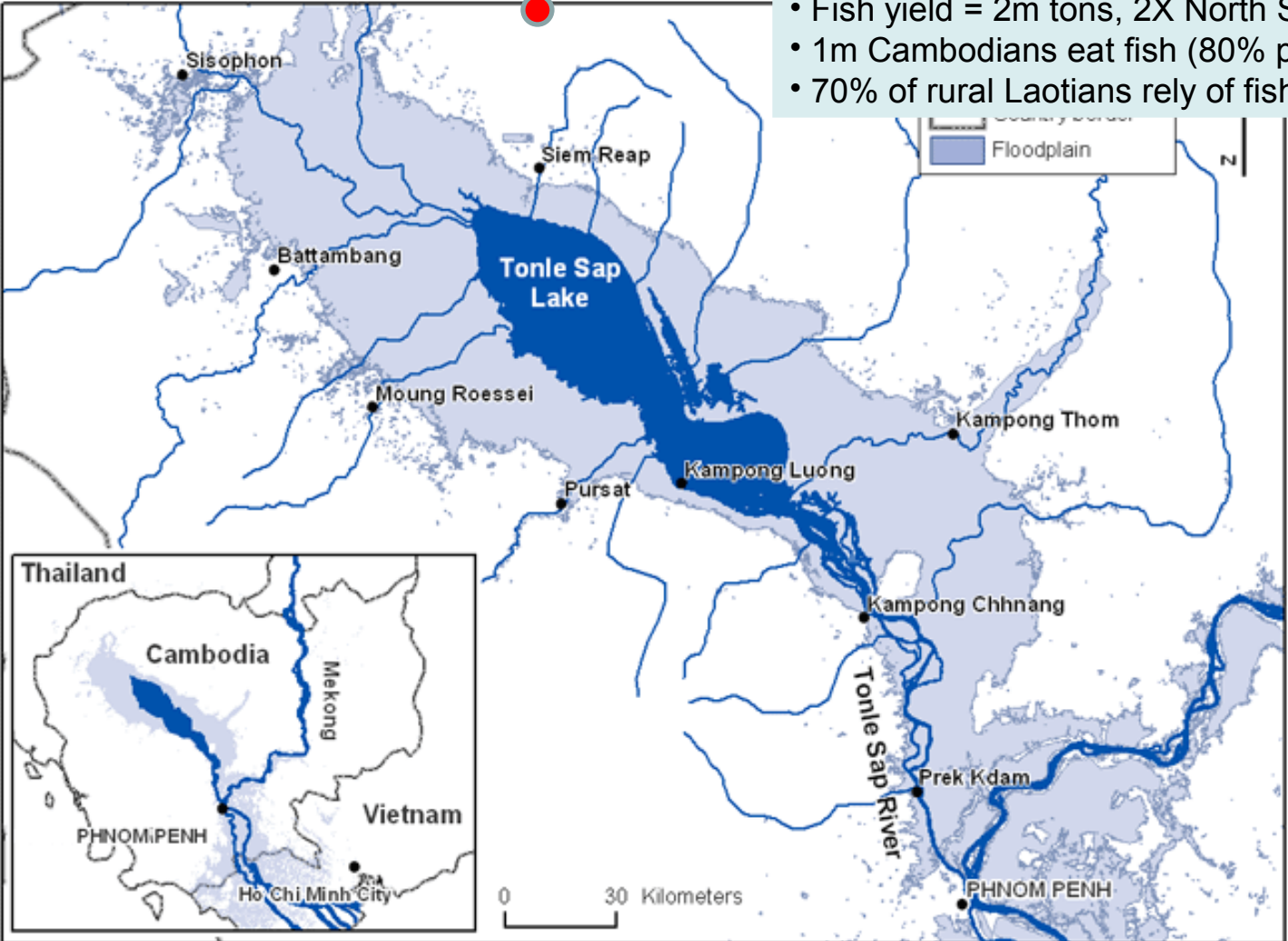
- Environmental degradation

- Over 69% of original forest is gone
- China's unilateral construction of 8 dams on upper basin
- Huge impoundment of sediment –erosion
- Taping 60% of the flow – irregular river levels
- Only 5% of the basin is protected
- 9% of the basin is in wetlands
- China not member of Mekong River Commission

A DAM RUSH ON THE



- 80% of rice paddy depend on floods
- Fish yield = 2m tons, 2X North Sea
- 1m Cambodians eat fish (80% protein diet)
- 70% of rural Laotians rely of fish from Mekong



upments upstream could have a serious impact
e Mekong Delta's ecosystem and productivity.

people's Victory

te of the first great Mekong dam struggle, the Pak
Dam was completed in 1994 on the Mun River, the
ng's largest tributary. As a direct result of the dam,
than 20,000 people have been affected by drastic
tutions in fish populations upstream. In 2002, after a
r battle, villagers were successful in convincing the
overnment to open the dam's gates for four months
ar to allow for fish migrations. Villagers continue to
or permanent decommissioning of the dam.

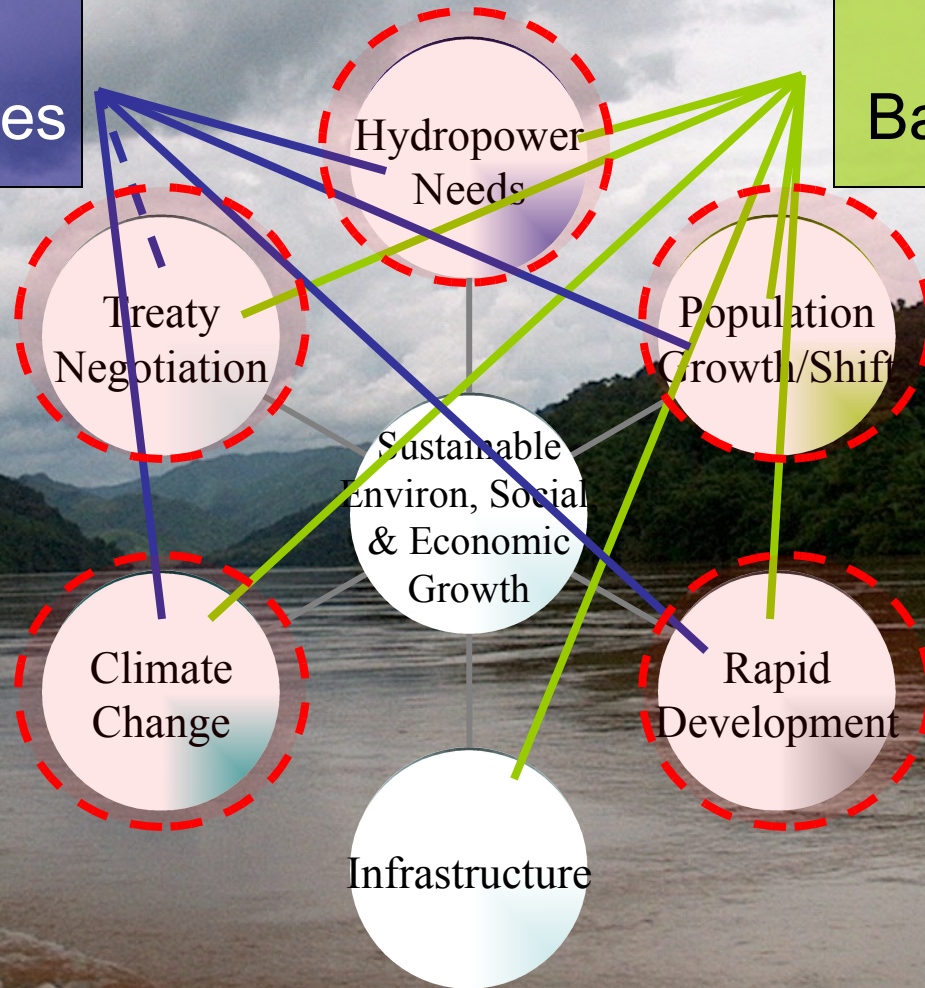


endangered by IUCN.

Common Stressors to Both Basins

Mekong
Basin Challenges

Columbia
Basin Challenges



2050 Scenarios

Columbia

Mekong

Treaty
Negotiation

Hydropower
Needs

Population
Shifts

Rapid
Development

Climate
Change

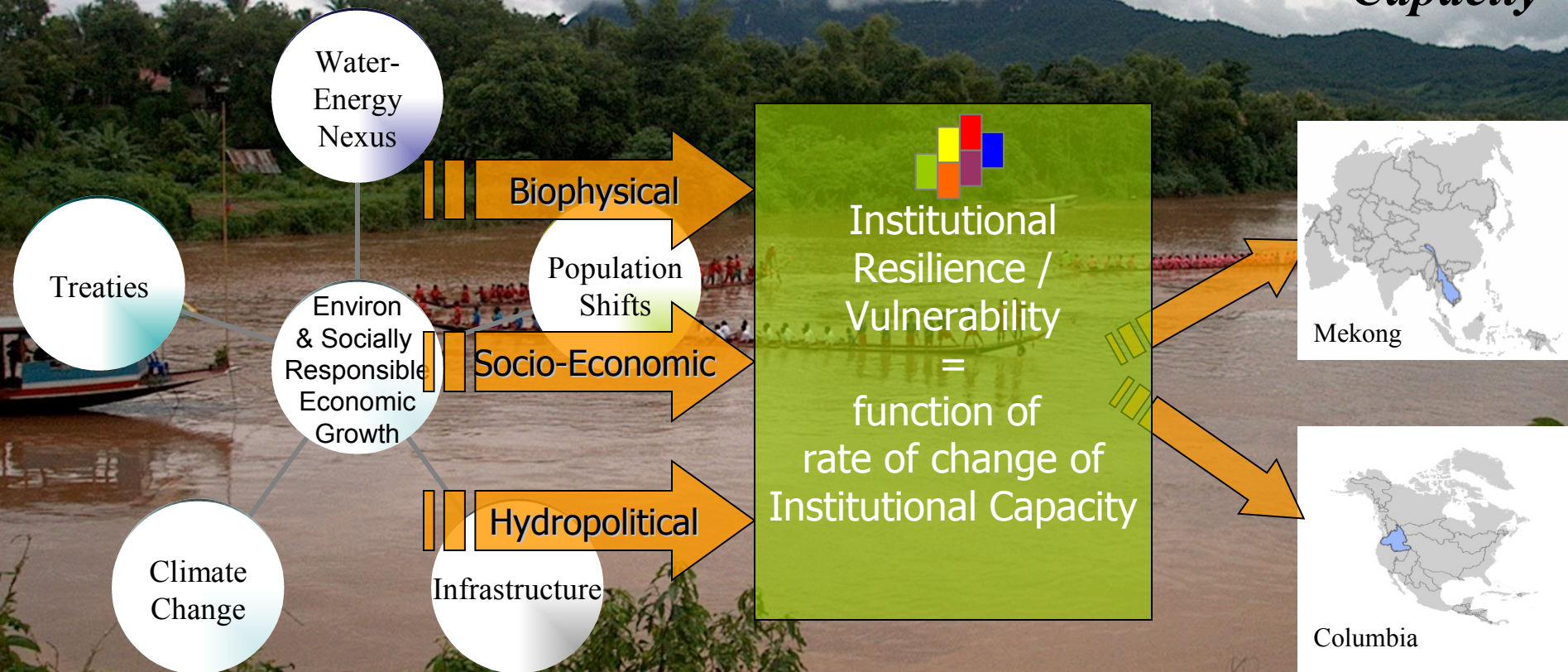
1	USA/Canada Tribes takings	>200 TWh? E-fp >10 ha/cap	30 million 50+ possible	Dam removal Urban sprawl	Early hydrograph ASR, AR, storage
1	China? +regionalism	> 150 MW tributaries alloc	> 120 million >100 pop dens	>30 dams built ecosys stress	Less dry sea flow flood erosion

Institutional Resilience Comparison

Stressors

Performance Metrics

Basin Capacity



Socio-economic & Political Characteristics

	Less Developed	Industrializing	Postindustrial
ECONOMIC FEATURES:			
<i>Sectoral dominance</i>	Agriculture	Manufacturing	Services
<i>Systemic character</i>	Labor intensive	Capital intensive	Knowledge intensive
<i>Technical change</i>	Slow	Rapid	Exponential
<i>Material condition</i>	Poverty/subsistence	Rising productivity	Affluence
SOCIAL FEATURES:			
<i>Population</i>	Rural	Urban	Megalopolitan
<i>Population growth</i>	High	Modest	Low or negative
<i>Community</i>	Intimate	Eroding	Impersonal
<i>Literacy</i>	Low	Medium	High
<i>Dominant values</i>	Basic/survival needs	Material security	Post-materialist values?
POLITICAL DIMENSIONS:			
<i>Central issue</i>	"Who shall rule?" (political order)	Economic growth (economic order)	Negative externalities and social order
<i>Object of conflict</i>	Office/power	How to distribute expanding wealth	Both quantity and quality of life issues
<i>Attitude toward authority</i>	Deferential	Supportive (elite directed)	Challenging (elite challenging)
<i>Governability</i>	Variable	High	Declining—"Crisis of confidence"

Mekong

Columbia

WRM Growth and Development – Is it Worth It?

TVA

Columbia

Region -----Indicators	1920s-30s	One generation	1920s -1930s	One generation
Electricity	5%	100%++	same	same
Toilets sanitation	30-40%	95-100%	Same	same
Water	25-30%	100%	same	Same
Literacy	30-40%	95-100%	same	same
Energy source	Basic/horses 60%	Advanced 100%	same	Same
Refrigeration	10%	100%	same	same
Farming – soils	Poor Subsistence	Improved Commercial	same	same
Flood Damage	High % Product Recurrent	\$5.4 Billion Prevent Small% Product Episodic	High % Recurrent	Very Small% Productivity
Life Expectancy	Low 50s	Md 70s	same	same
Public Heath	High malaria typh. Smallpox	Eliminated; Malaria, typh.,smallpox	same	Same
Commerce –Industrial Production	little commerce	Up 500%++	same	Same
Median Income	Lowest 1/3	Above Median	same	Same
Revenue Capacity	Little - Welfare	Very High Large Taxpayer	same	same

Conflicting Environmental Policy Paradigms

Dominant Social Paradigm (DSP)	New Environmental Paradigm (NEP)
<i>ANTHROPOCENTRIC</i>	<i>BIOCENTRIC</i>
Nature to produce goods and services primarily for human use	Nature for its own sake
Emphasis on commodity production over environmental protection	Emphasis on environmental protection over commodity production
Compassion for present generation (short-term perspective)	Compassion for future generations (long-term perspective)
Science and technology will solve problems of resource scarcity	Science and technology create as many problems as they solve
Economic and population growth need not be restricted	Economic and population growth must be limited
Emphasis on competition and markets	Emphasis on economic, political, and social cooperation
Old politics, determination by experts	New politics, consultative and participative
Centralized and hierarchical decision making	Decentralized and participatory decision making

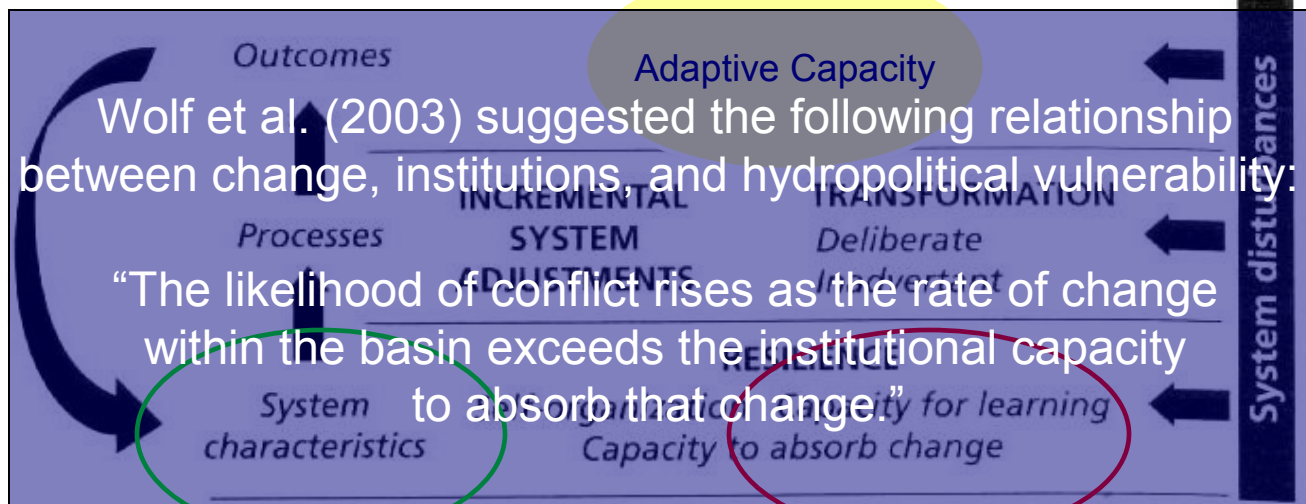
VALUES

Environmental Relience

1) Resilience theory

(Hydropolitical Resilience and Vulnerability)

Preconditions necessary for a system to be able to adapt to disturbances

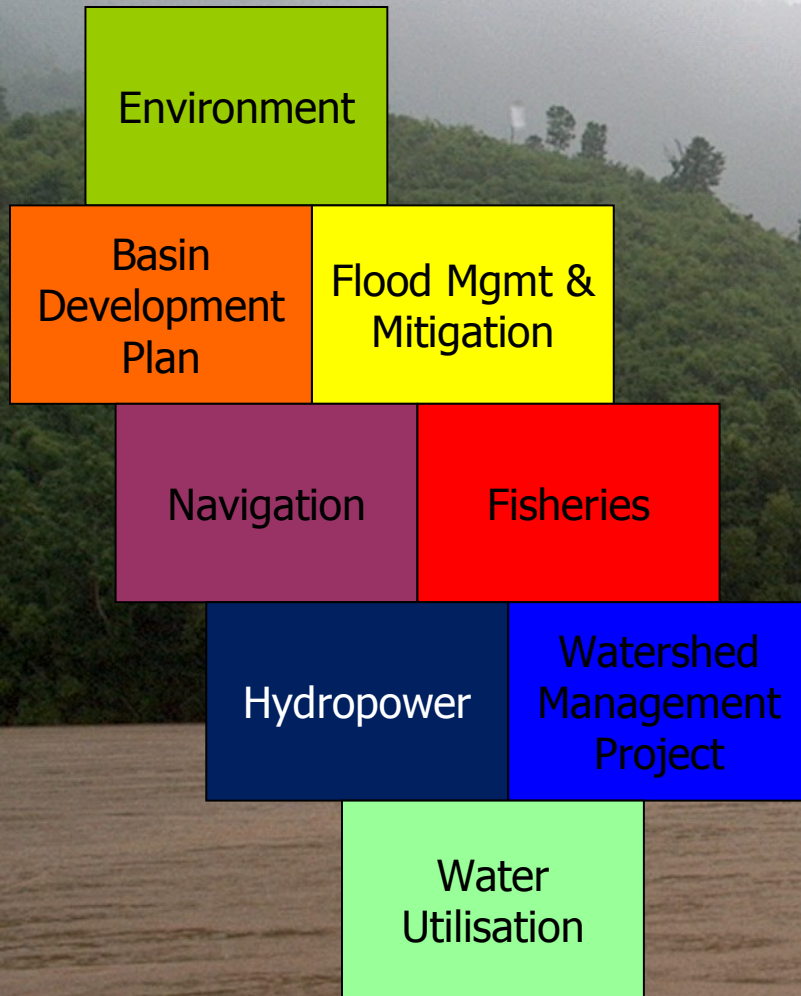


Characterize using Systems theory (Daniels & Walker 2001)

Intuitional capacity and conflict prevention training (ECO-Asia, MRC programs, ADB)

Strategic Conflict Prevention & Management Focus for MRC

MRCs Programmes



- Focus on capacities at national and local scales
- Carefully design processes that mix data and stakeholders
- *Distribution* and *timing* of costs and benefits critical in scenario assessments
- Collaborative learning process used to prevent local & sub-national disputes
- More development of social and environmental (institutional predictive tools (SIA, SPA, socio-economic data, etc)
- Careful of over-reliance on technical assessment tools

MRC Study Tour to Columbia Basin (April 2008)

- Current hydropower plans will transform the Mekong Basin
- Dams built are there to stay
- Mitigation of the barrier effect of dams on migrating fish is a large and costly undertaking
- Use policy relevant and measurable criteria to assess alternative development scenarios
- IWRM does require the assessment of multi-purpose projects
- On the importance of transparent public consultation and civil society participation
- On the principle of equality and equity in the evaluation of alternative development scenarios
- International water management agreements should have some flexibility
- Agreements over water development should provide means for compensating affected communities
- Basin development dramatically increases transboundary cooperation at the technical level

Increased Cooperation as a Result of Comparison

- Cross-border training of technical staff on governance and IWRM- USACE Institute of Water Resources
- Procurement and technical services on Flood and Fish passage
- Increased planning capacity building in hydropower management and development
- Increased training and assessment (EIA, SIA, etc) on development scenarios

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