

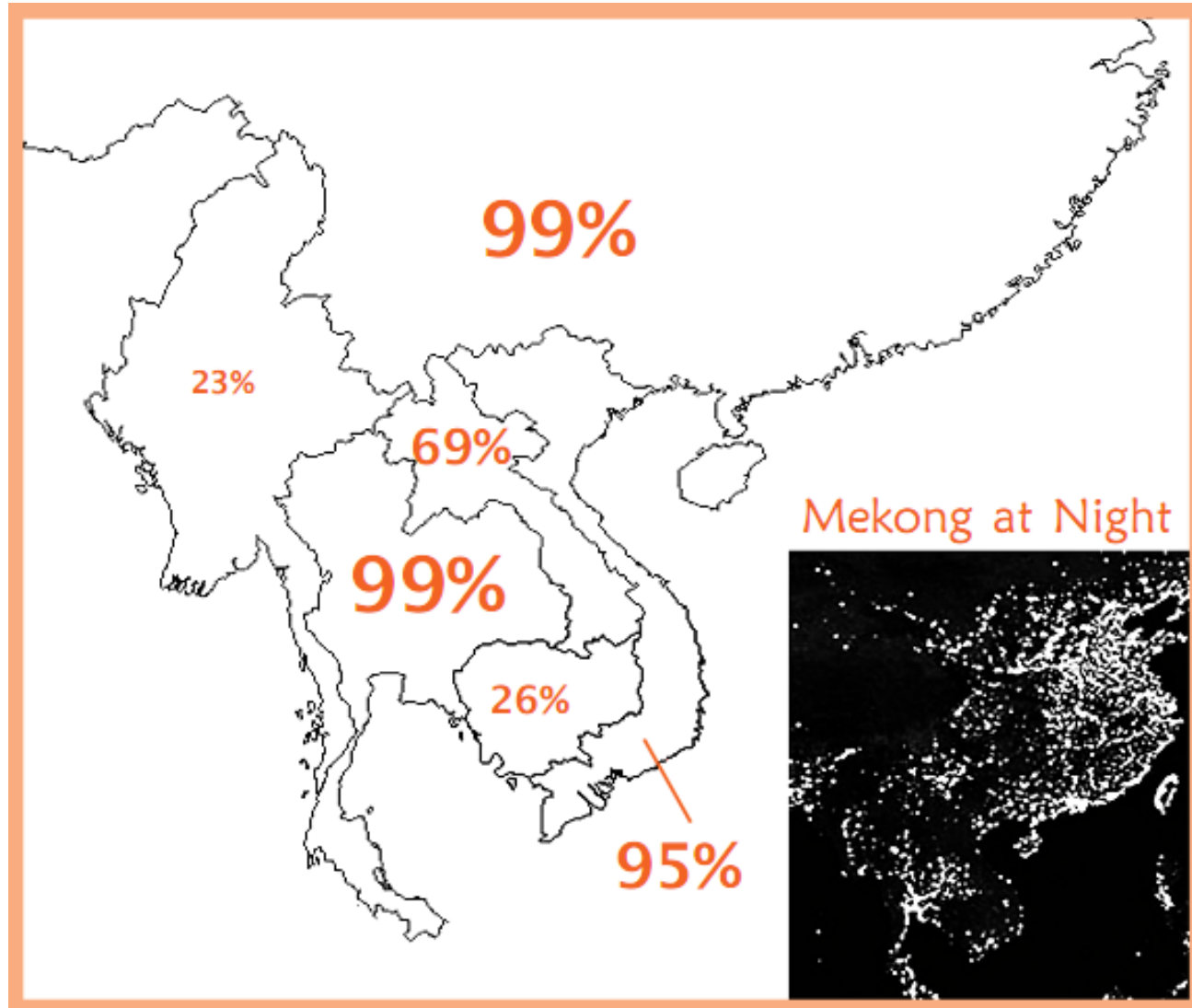
Environmental injustice; Power sector development in Myanmar.

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Mekong Countries Electrification Rate (2010)



Myanmar
Hydro: 100,000
Coal: 200-230
Gas: 160
Oil: 32

Thailand

Hydro: 12,700

Coal: 2,400

Gas: 943

Oil: 124

Oil: 124

GMS Energy Resources

Hydro: 333,700 MW

Coal: 59,340 Mln tons

Gas: 1,378 Bln cu. m.

Oil: 478 Mln tons

Oil: 478 Mln tons

[illegible]

Oil: 7- 14



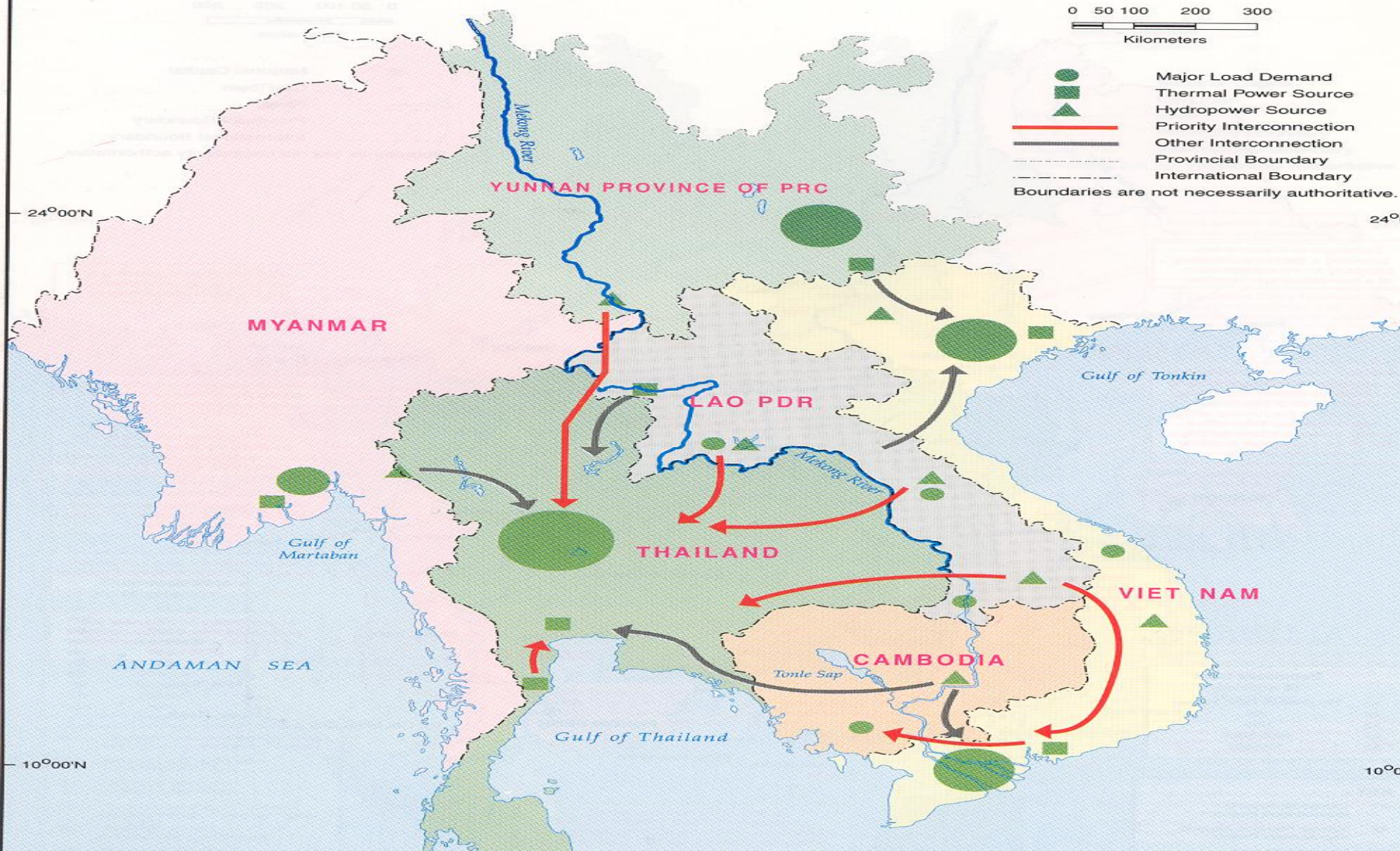
MEKONG REGIONAL POWER INTERCHANGE

98°00'E

108°00'E



- Major Load Demand
- Thermal Power Source
- Hydropower Source
- Priority Interconnection
- Other Interconnection
- Provincial Boundary
- International Boundary
- Boundaries are not necessarily authoritative.



The electrification rate is estimated at **29%**

Need to connect c
to reach universal



New household connections per year

189,000

130,000

59,000

2012

Source: MOEP (2011-2012), ESE, YESB data and Castalia estimations
Assumes 6.5 people in a household

Myanmar's power sector reality

- A) National grid:** about 26% of the country area, have been developed under the centralization National grid.
- B) Off grid:** thousands of decentralized isolated mini-grids operated by local entrepreneurs, but most people remain without electricity.
- C) IPP for export:** about 46,000 MW of hydro power projects have been targeted for export .

Generation Capacity Needs

- 2.5-3.0 GW of new generation capacity will be needed only for modest, residential needs
- More will certainly be needed for commercial, industrial, other demands.
- This is approximately doubling current generation (~2.7 GW)

State	New Connections	Proposed Capacity (MW)
Ayeyarwady	1,082,000	395
Bago	688,000	251
Chin	112,000	41
Kachin	115,000	42
Kayah	27,000	10
Kayin	379,000	139
Magway	811,000	296
Mandalay	722,000	264
Mon	258,000	94
Nyapitaw	98,000	36
Rakhine	977,000	357
Sagaing	909,000	332
Shan	504,000	184
Tanintharyi	325,000	119
Yangon	208,000	76
Total	7,216,000	2,636

POWER SECTOR (IV)

- Future Generation Expansion
 - 92 Hydro potential sites (46,000 MW)
 - 13 by MOEP1 (2,572 MW)
 - 7 BOT by local private sector (560 MW)
 - 44 FDI (BOT or JV) - 42,145 MW; 2 coal, 870 MW,
 - 1 gas power generation, 470 MW
 - 1 coal in Yangon, J power, 600 MW? (new)
- Power Demand projections: 2001, no systematic approach
 - A power demand master plan is needed: generation, transmission and distribution
 - Planning softwares and capacity building is needed

Electricity production and consumption (GWh)

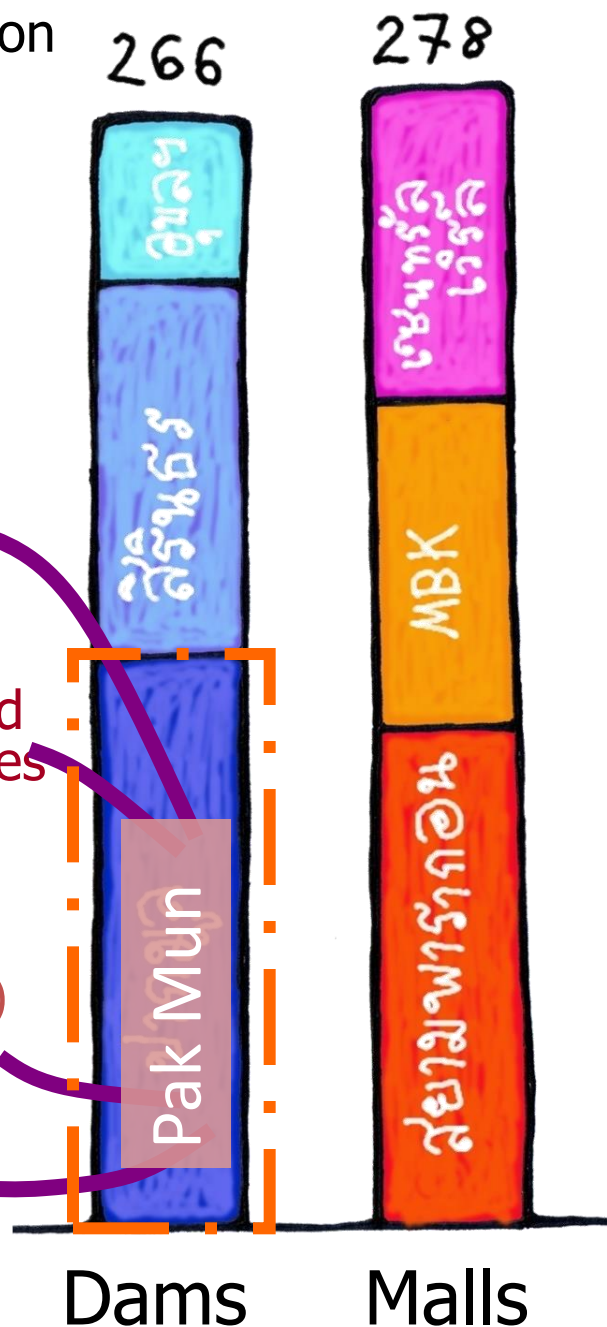
Impacts of Pak Mun Dam alone

1700 families relocated

Loss of livelihood for >6200 families

Loss of 116 fish species (44%)

Fishery yield down 80%



Energy needs

Who need what energy?



Thank you



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