

Interbasin Transfers within Thailand*: the *Salween/Luam/Ping/Chao Phraya* projects

An interbasin transfer is an engineering scheme that diverts some or all of the discharge from a discrete river basin (or from a sub-basin within a larger catchment) into a stream draining a completely different basin or sub-basin, thereby augmenting the latter's discharge by a volume equivalent to that diminished from the source catchment.

The two main motivations for interbasin transfers are:

- in hydropower engineering, to take advantage of the receiving streams' topography to significantly increase the hydrostatic head of the release from a reservoir in the original catchment, through a canal or tunnel to a generating facility in the receiving catchment that is much lower in relative elevation than would be practicable within the source basin. The result is a much higher energy yield, for a given dam+reservoir, with only a relatively minor increase in overall capital investment. The best example in our study area is the Nam Theun 2 project in the Lao PDR, which diverts some 300 cumecs of water from the Theun-Kading basin into the Xe Bang Fai (XBF) basin, via both excavated new canals and existing XBF tributaries.

- in water resources management for better meeting both M&I and irrigation demands; where the existing basin's aggregate discharge is insufficient to fulfil essential needs in dry-season or drought conditions. As seen in the instant case (the Salween-Chao Phraya proposal), the energy requirements of interbasin transfer schemes of this category —where the source catchment is at a lower elevation than the receiving basin may be quite extreme, but the cost/benefit economics of pumping vs. social/agricultural/industrial needs still may justify the investment.



The Salween (Thanlwin, in Burmese) estuary at Myawlamayn, Myanmar: animated fly-through The Chao Phraya delta at Krungthep (Bangkok)



Oblique space imagery and schematic speed-drawing of Thanlwin/Salween-Luam-Ping/Chao Phraya interbasin transfer components



Yuan River
From Wikipedia, the free encyclopedia

The Yuan River (Thai and Burmese) is a river in northeastern Thailand, part of the Salween watershed. It originates in the mountains of the Thanin Thong Chi Range, about 100 km from the Salween River, Thailand. The river flows to a peak with a dam and then to the Mae Lama Luang Dam, where it joins the Salween River, forming a stretch of the Thai-Burmese border shortly before it joins the left bank of the Mae Lama River, shortly before its confluence with the Salween.

A major dam is proposed on this river as part of a water diversion plan from the Salween to the Chao Phraya River.^[?]

The Yuan River, which unlike most rivers in Thailand flows northwards, is one of the Yuan's main tributaries.^[?]

See also

Four corners of Thailand
Mae Ngon National Park

References

- Salween Works: Record Data and Water Diversion Plan (http://www.salweenworks.org/links.php?linkname=recorddata&id=11&id=11&id=11)
- Mae Ngon National Park (http://www.thailandtourism.com/mae-ngon-national-park.html)

External links

- Mae Ngon (http://www.government.go.th/mae-ngon-national-park.html) (in Thai)
- Salween National Park (http://www.salweennationalpark.org/). Salween National Park & Yuan River
- Thailand's Salween River and Mae Ngon National Park (http://www.salweennationalpark.org/). Salween National Park & Yuan River
- A New Neotoma/Loach from Thailand and Burma (http://www.wildlife.org.uk/publications/pdf/29/29/290201.pdf)

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* N.B. While the source stream for this project is a shared waterway with the exact international border likely determined by the thalweg, i.e., the deepest main channel, which is not necessarily midway between the two banks, the Salween left bank where the intake structures and pumping stations would presumably be located, is in fact entirely within Thai territory. Note also that there presently exist no binding agreements or treaties regarding water sharing between the Salween's co-riparians: China, Burma/Myanmar, and Thailand.