



Thailand's **Salween dams** to fuel Southeast Asian regional power grid at the cost to ethnic communities, forests and rivers

by Noel Rajesh

Plans to build three dams on the Salween River in Burma are the beginnings of ambitious plans for a regional energy grid connecting the Southeast Asian countries that would come at the cost of pristine forests and the farming and fishing livelihoods of hundreds of local communities in Burma and Thailand.

The Salween dam plans have also sparked huge controversy over Thailand's willingness to turn a blind eye to the continuing human rights violations by the brutal military dictatorship of Burma which has been engaging in killings, rape and the forcible displacement of ethnic communities living along the Salween river.

The 2,800 kilometre (km) Salween river originates high in the Tibetan mountains, flows through China's Yunnan province into Burma, and then forms the border between Thailand and Burma before emptying into the Andaman sea. It is Southeast Asia's second largest river, after the Mekong, and the world's 26th longest.

Three hydropower dams are planned for the Salween River. The Electricity Generating Authority of Thailand (EGAT) plans to build two dams - the Upper and Lower Salween dams - located adjacent to Mae Sariang district in Mae Hong Son province, where the river forms a natural 130km section of the Thai-Burmese border.

The Upper Salween dam would be on the border of the Salween Wildlife Sanctuary and able to generate 4,540 megawatts of power. The lower dam on the Salween National Park would generate 792 megawatts. Together, they would flood about 3,200 hectares of prime forest land on the Thai side and about 5,600 hectares on the Burmese side. They would cost an estimated 277 billion baht (US\$6.15 billion)

MDX Plc, a Thai construction outfit, has begun work on a third 3,600-megawatt dam near Ta Sarng in Burma's Shan state. According to MDX, the Ta Sarng dam would be the largest hydropower dam in Southeast Asia. It also would be the first dam built on the Salween River.

A preliminary study by Japan's Electric Power Development Co Ltd in the early 1990s identified five potential dam sites. EGAT has opted for the two border locations because it could be much easier to seek investment funds from financial institutions rather than if the dams were located inside Burma.

The Salween dams tie into Thailand's ambitious plans to establish a Southeast Asian regional energy grid. According to Sittiporn Rattanopas, the governor of EGAT, "The dream of the Asean (Association of Southeast Asian Countries) Power Grid cannot be realised without the Upper and Lower Salween dams."



Fishers use a cast net to catch big fish from the Salween River.

Mr Sittiporn has been at the forefront of Asean leaders to support the regional power grid. He has also travelled to Rangoon, where he secured backing for the project from the head of Burma's Electric Power Department, and accompanied Prime Minister Thaksin Shinawatra to the Greater Mekong Subregion Summit in Cambodia in November, where he again promoted the regional power grid.

Thailand and EGAT's desire to build the Salween dams is apparent in its willingness to even fund the entire project if there were financial problems arising

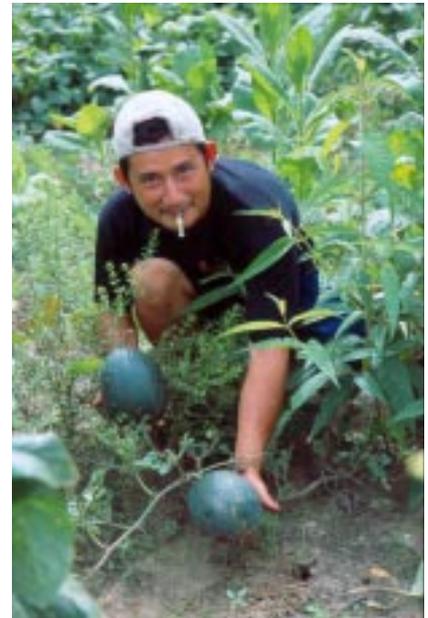
from investors not wishing to be involved with Burma's military regime. According to Sittiporn, EGAT has allocated 30 to 40 billion baht for investment in the project and the agency is also ready to put up the money first through its own capital or by issuing bonds.

The Thai government has begun negotiations with the Burmese government. Mr Sittiporn expects construction of the dams to begin in 2007 and electricity generation to start in 2012. He said Egat was prepared to buy the entire electricity output for onward sale to Malaysia and Indonesia, which are forecast to become net importers of electricity by 2010.

The regional energy grid emerged in 1999 when ASEAN ministers adopted plans for a regional Power Grid to integrate the power infrastructures of the ASEAN member countries. Subsequently, ASEAN ministers of energy agreed to speed up "the realization and implementation of the ASEAN leaders' vision of an integrated trans-ASEAN energy network consisting of the ASEAN Power Grid and Trans-ASEAN Gas Pipeline Projects." The master plan study for the ASEAN Power Grid was scheduled to be completed in mid 2003.

At the XVII ASEAN Ministers on Energy Meeting (AMEM) held on 3 July 1999 in Bangkok, Thailand, the Ministers adopted the ASEAN Plan of Action for Energy Cooperation 1999-2004, which for the first time involved the region-wide participation of all ten countries of Southeast Asia. The meeting agreed to "the expansion of the ASEAN Power Grid Project to 14 interconnection projects, with the addition of four interconnection projects between Thailand-Myanmar, Vietnam-Cambodia, Lao PDR-Cambodia and Thailand-Cambodia, respectively."

The World Bank and the Asian Development Bank (ADB) have been closely supportive of the discussions



Watermelons are grown along the bank of the Salween River.

on regional power arrangements. A policy statement on regional power trade in the GMS was formulated with ADB assistance and endorsed during the 9th Greater Mekong Subregion (GMS) Ministerial Meeting in Manila in January 2000.

The statement asks GMS countries to sign an agreement that will provide the framework to advance subregional trade in electricity. The draft agreement, called the Inter-Governmental Agreement on Regional Power Trade (IGA), was formulated with World Bank assistance and signed during the GMS Summit in Phnom Penh in November 2002. A "GMS Master Plan study" has also identified priority interconnections



A woman uses a scoop net to catch small shrimp along the bank of the Salween River.



A river bank garden of beans and vegetables on the bank of the Salween River.

from promising hydropower projects in Lao PDR, Yunnan Province, China and Myanmar for export to Thailand and Vietnam.

The planning process on the Salween dams also seems to follow the prescription of the ADB's energy sector project profile. The ADB's Subregional Energy Sector Study for Asian Development Bank (Draft Report, June 1994) lists "the Thanlwin [Salween] Basin Hydropower Development Study in Myanmar and Thailand including Transmission Interconnection between the two countries."

Commissioned by the ADB, the report was undertaken by Norconsult International, an international firm involved in supporting dam building and states that: "The Thanlwin River with it's tributaries has a hydropower potential estimated to be more than 65 TWh (terawatt hours) within Thailand and Myanmar and is favourably located for the supply of energy to the power markets within Thailand and Myanmar."



Black and red beans harvested from the bank of the Salween River.

The Asean energy grid along with the Salween dam plans have received a boost from Thailand's Prime Minister Thaksin Shinawatra who declared his support for the dams after visiting Burma in February 2003. He also an-

nounced recently that the Salween dams were essential elements in plans by the eight Asean members to develop a power grid, and they should go ahead despite the concerns about the possible environmental and social impacts.

However, opposition to the Salween dam plans is gaining momentum with diverse people and groups including senators, environmentalists, human rights activists and advocates of ethnic groups based in Thailand and Burma voicing concerns about the serious impacts of the dams.

Over the last few years, there has been extensive documentation of how the Burmese military junta has waged specifically-targeted military and psychological warfare that involves killing, raping, and forcibly displacing ethnic peoples particularly Shan communities living inside and along the border areas. Human rights groups have also documented the Burmese military's use of forced labour as well as the random destruction of people's homes and

farmlands particularly near the Ta Sarng dam to clear the areas for dam construction.

Salween Watch, a network of nongovernmental organisations (NGOs) based in Thailand, has reported that over 300,000 Shan and other ethnic people have been forced by the Burmese military to relocate from central Shan state to make way for the Ta Sarng dam.

Thailand's NGOs are also concerned about the effects of the dams on Thailand-Burma relations due to the possible physical changes to the river that demarcates the border as well as the influx of ethnic communities fleeing the impacts of the dam such as the inundation of their homes and farmlands.

Thailand's Senator Kraisaak Chunhavan, chairperson of the Senate Foreign Affairs Committee, who visited the Salween area earlier this year said that the project would exacerbate the problem of illegal labour and refugees. There are already more than four million Burmese immigrants living illegally in Thailand. He also warned that the government would come in for international condemnation if it decided to do business with the Burmese military junta.

Burma's opposition National League for Democracy led by its leader Aung San Suu Kyi and 69 Thai and Burmese NGOs submitted a letter in December last year to Kraisaak Choonhavan demanding that the government scrap the project.

The letter stated that: "The Salween dams are large-scale projects which will have major impacts on communities in the area. "Whether the dams are built in Shan state or on the Thai-Burmese border, they will involve human rights violations. Up until now, Thai politicians, EGAT and private companies have claimed that the Salween River Basin is not populated. In fact, over 10 million people of 13 different ethnicities are living in the basin and relying on the river, which is one of the richest river ecosystems in the world."



A fisher shows a fish that he caught from the Salween River.

The dams would result in massive ecological damage to the rich tropical forest ecosystems of the Salween that is habitat to many rare and endangered animal and fish species.

Thailand's environmental groups state that the Upper and Lower Salween dams would cause major damage to the river's rich biodiversity and the lush forest of the Salween river basin. The area of forest that would be destroyed in Burma is yet to be determined until field surveys and an environmental impact assessment are carried out after an agreement is reached by the Thai and Burmese governments.

Noel Rajesh has been researching environmental issues in the Mekong Region for the past 10 years.

Project details ¹	Upper Salween Dam	Lower Salween Dam
Location	Latitude 18 19' north Longitude 97 33' east Above the O Loh Checkpoint of Salween Sanctuary and 14 km upstream away from Sob Ngae, Mae Sariang District of Mae Hong Son Province	Latitude 18 04' north Longitude 97 41' east At Ban Tha Ta Fang, 15 km upstream away from Ban Mae Sam Lab, Mae Sariang District of Mae Hong Son Province
Catchments Area (sq.km.)	293,200	294,500
Annual inflow (million cubic metres)	118,600	119,200
High water level (m. MSL)	220	86
Gross storage capacity (million cubic metres)	21,000	245
Reservoir area (rai) [1 rai = 0.16 hectares]	600,000 ² (in Thailand) 19,101 ³ 51,700 ⁴	(in Thailand) 1,340 ³ 3,540 ⁴
Type of dam	Storage dam	Regulating dam (run off river)
Height (m)	168	49
Length (m)	570	379.5
Net water height (m)	116.8	20.9
Installed capacity (MW)	4,540.00	792.00
Firm power (MW)	2,139.75	476.61
Annual energy production (GWh)	29,271.04	5,422.49
Firm energy (GWh)	18,744.15	4,175.12
Investment Cost	277,000 million Baht (US\$ 6,150 million)	
First year of power generation	2012	

1. EGAT. Salween Hydro-Electrical Power Plant along the Thai-Burma Border. Presented to the Senate Commission on Foreign Affairs. 12 February 2003

2. Sittiporn Rattanopas, EGAT Governor. Thai Electrical Business: Development of Salween Watershed, an Alternative for the Development of Thai and Asian Electrical Business. Presented to the Senate Commission on People's Participation. 21 May 2003.

3. EGAT. Salween Hydro-Electrical Power Plant along the Thai-Burma Border. Presented to the Senate Commission on Foreign Affairs. 12 February 2003, p. 21

4. Ibid., p. 20