

'Rethink dam plan'

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have been adequately compensated. "The Orang Asli affected by the Temenggor Dam are still, after 18 years, waiting to be compensated. The Temuans from Sungai Batu who were moved for the Batu Dam still have not received the RM500 compensation they were each promised for their huts," he said at a Press Conference to announce the launch of S.O.S. Selangor, a coalition of 29 non-governmental organisations (NGOs) opposed to the building of the Sungai Selangor Dam.

In the case of the Selangor Dam project that might soon be underway, Nicholas says that although the Temuans of Gerachi and Pertak will receive land as compensation, there will be a 70 per cent loss of what they now have.

Another concern about dams is that they have a definite life-span. "Dams will dry up one day through sedimentation," says Dr Chan Ngai Weng, president of Water Watch Penang (WWP), possibly the only water NGO in Malaysia.

Meena Raman from the Consumer's Association of Penang states, "Dams will have to be decommissioned after some time because they will be silted up, due to soil erosion and sedimentation in the catchment area. They will, over time, become large silt traps that will have to be dismantled, almost an impossible thing to do."

Subramaniam however points out that if the catchment areas are properly protected by the various authorities against logging and development, there will be no definite lifespan.

However, going by the Malaysian experience, as in the cases of the catchment areas of Sungai Langat and Sungai Semenyih in Selangor; Bukit Tunggai in Malacca and also Cameron Highlands (to mention just a few), protection has not been forthcoming, not only from logging and development but also serious pollution.

Large dams also cause irreversible damage to the environment.

"WWP has never been in favour of large dams as

they can be destructive not only to the environment but also water catchments," says Chan.

"The floodplain soils which reservoirs inundate provide the world's most fertile farmlands, their marshes and forests the most diverse wildlife habitats," says McCully.

According to the International River Network, dams are the main reason why more than one-fifth of the world's freshwater fish are now either endangered or extinct.

Raman concurs that dams are harmful because of the "destruction to biodiversity like natural forests and wildlife, loss of fisheries, decreased amounts of water in rivers downstream and thus a reduction of fertility of farmlands and forests due to loss of natural fertilisers and irrigation in seasonal floods and so on."

Dam opponents also refute the claim that dams help to prevent floods.

McCully says, "Dams seem in fact to have worsened flood damage. One example is on the lower Parana and Uruguay Rivers in Argentina and Uruguay where the destructiveness of flooding seems to have increased greatly since the building of Itaipu on the Parana and Salto Grande on the Uruguay."

Other reasons to oppose dams: they cause water-logging, salinity and spread diseases. There is also mounting evidence by scientists to link big dams to earthquakes. Dams also break, the last being in 1975 when a series of dams burst in the Henan province of China, killing 230,000 people.

Are there alternatives to dams?

Dam opponents insist that there are better, cleaner, cheaper and safer alternatives to water supply.

Both CAP and WWP suggest smaller dams.

"Much smaller dams and reservoirs which are closer to where the demands are and do not involve major destruction of the environment and the displacement of people is a way to tap water from the rivers," says Raman.

Chan agrees. "WWP feels that we will still need some

Table 1: Water resources in Malaysia

Annual rainfall:	990 billion m ³
Surface runoff:	566 billion m ³
Evapo-transpiration:	360 billion m ³
Groundwater recharge:	64 billion m ³
Surface artificial storages (dams):	25 billion m ³
Groundwater storage (aquifers):	5000 billion m ³

Table 2: Dams in Malaysia

Single purpose dams	
Water supply	34
Hydropower	7
Irrigation	3
Silt retention	3
Sub-total	47
Multi purpose dams	
Water supply + Irrigation	6
Water supply + Flood Mitigation	5
Water supply + Irrigation + Flood mitigation	2
Hydropower + Flood mitigation	2
Hydropower + Water supply	1
Sub-total	16

new but small dams which are more like reservoirs. These are not as destructive as large dams and can be built fairly quickly."

Chan however stresses the need for sustainable water policies, demand management and conservation of water catchments to complement small dams.

Syed Muhammad also admits that "you can build less dams, or delay building dams, if we manage demand, distribute the location of industries which use a lot of water, and conserve water."

Raman stresses the importance of protecting our forests, because without forests there will be no rain.

"The first thing to ensure is for States to protect and conserve their forests and gazette them as permanent forests for water catchment purposes. Then comes highland conservation."

Other alternatives as suggested by McCully are to use underground storage; localised schemes like rooftop storage and small scale tanks to collect rainwater; reducing waste and

making existing systems and water usage efficient.

Other issues

Dam opponents feel that only until the States have shown that they have enough concern and political will to protect our forests and water catchment areas and have explored other possibilities, can the need for dams be fully justified.

Says Raman, "There is definitely not much being done in addressing the demand-side management."

"There are no serious water conservation campaigns in the country," says Dr Kua Kia Soong of Suaram.

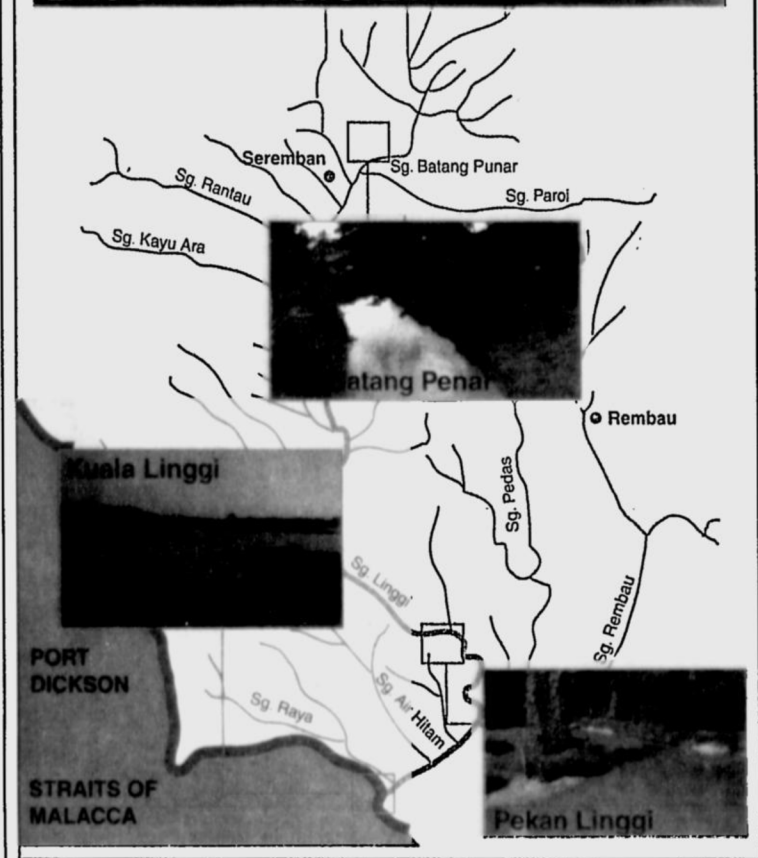
However in conclusion, as Subramaniam says, "You cannot just rule out dams. We need water."

But perhaps instead of building large dams, the Government will consider looking into the alternatives as a more viable and long term approach to solving our water woes.

The use of smaller dams and conservation efforts cannot be ruled out, since they are more sound environmentally, economically and socially.

As Philip Williams, president of International Rivers Network, writes, "It is possible to start planning now for more sophisticated long-term and sustainable river management. The starting point of such planning would be to fully compare the economic, social and ecological costs and benefits of managing a river in a more natural way, one which meets the needs of the larger community, with the costs over time of building, maintaining, repairing and replacing obsolete large dams" (World Rivers Review, Volume 12, Number 4.)

LINGGI RIVER SYSTEM



SUNGAI Linggi is one of Negri Sembilan's most vital rivers. It flows from the eastern mountain ranges for 65km before entering the Straits of Malacca at Kuala Linggi.

A major portion of its 1,250 km catchment area is planted with rubber and oil palm while its upper reaches is still covered with forest.

Sungai Linggi is such an important source of water to Negri Sembilan that the State has gone to great lengths to keep it clean.

But because of its close proximity to the Kuala Lumpur International

KNOW YOUR RIVER

Airport, the area around the river has attracted industrial, commercial and housing development. This has decreased the river's capacity to absorb water from surface run-off and increased the frequency of floods.

At one time the river was well-known among anglers for its tiger prawns.

However, as the river becomes more polluted and

changed its make-up, the prawns and other original fishes have been replaced by more pollution-hardy fish such tilapia and ikan bandaraya.

In view of its deteriorating quality, the Drainage and Irrigation Department is undertaking various steps to rehabilitate the river into its former splendour.

CONGRATULATIONS

INTEL MALAYSIA GRANT RECIPIENTS