

Cheap electricity from someone's backyard!

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Island

By Hemantha Withanage
Environmental Scientist

Continued from yesterday

Environmental Ranking of new energy sources

The world bank in the publication quoted earlier accepts that Coal is not a clean source of energy. It is also not sustainable. The following table shows hydro is best among the large scale sources But the potential is now very low. It also shows that gas is more cleaner than coal or oil. It is unfortunate that the energy planners of Sri Lanka do not understand this reality.

The best

1 Efficiency and conservation

2 Solar

3 Photovoltaic Renewable and sustainable

4 Wind

5 Tidal and Waves

6 Biomass (+ alcohol)

7 Hydro Potentially sustainable

8 Geothermal

9 Gas Non Renewable Unsustainable

10 Oil

11 Coal

12 Nuclear

The worst

(Source Goodland, R 1994)

According to the statistics, Diesel power generation is more expensive while pollution from it is very high. But as a response to the past power cuts it is the CEB who commissioned small generators, more and more oil plants for heavy bribes. Lot of unsuitable power plants were installed without considering the overall impact. One 150 MW power plant was installed at Kelanitissa without following the environmental regulations. Etul Kotte is another power plant which was subjected to heavy protest even for law suits and was later relocated.

Who is suffering?

Under the Mahaweli project 13,000 families from Kotmale and 45,000 families from Victoria were displaced. Majority of them are living in the Mahaweli area and suffering various problems. Most of them get water for only one season, human-wildlife conflict, Malaria, lack of basic living needs kill them gradually. They have to sacrifice their sustainable life for few people to get rich. Now they have become "development refugees" in Sri Lanka. The commissioners of the World Dam Commission visited them in December 1998 and Dr. Jan A. Veltrop P. E. who is the Honorary President of International Committee on Large Dams (ICOLD) said that he was shocked to see the "development refugees" of the Mahaweli project.

They're Scudder of the California Institute of Technology, a consultant on a number of Dam schemes around the world, wrote in 1990 — "what is becoming distressingly clear is the systematic way governing elite may use river basin development projects not just to transfer resources to themselves and their supporters but also to pursue self-governing political goals at the expense of riverine populations, and of ethnic and religious minorities and oppositions groups at regional and national levels."

Consultants, Bureaucrats and the politicians who take decisions for forced relocation,

who got commission or consultancy fees, do not suffer from the affects of these dams. Therefore one should consider the point of view of those affected before creating more and more projects.

Are we denying the right to electricity for the public?

The intention of the environment movement is not the denying the right of the public to electricity. Our goal is to protect the voiceless public becoming "development refugees" and to protect the environment of the country. We try to advocate the planners.

to provide clean electricity,

to promote renewable rather than unsustainable Diesel, coal etc., and

to promote efficient use,

to reduce transmission loss which is about 22% of the generated electricity (this is about 8% in developed countries);

to use efficient electric equipments rather than dumping non-efficient electric equipments from Japan etc., and to provide low cost electricity.

Who promoted oil power plants?

Dr. Siyambalapitya claims that the environment movement is not against commissioning oil-fired power plants. This is not true at all. It is the politician and the oil lobbyist in the CEB who promote oil power plants. One of the 150 MW power plants which was installed in 1998 at Kelanitissa was not even granted the necessary approval. More and more small power plants were installed in many places, without obtaining environmental approvals. None of them are satisfying environmental standards. The environment moment is not happy with installing more and more power plants in the city of Colombo as the air pollution levels are already alarmingly high. We cautioned that the Barge Mounted plant which is to be installed at the Colombo harbour and the proposed AES 165 MW plant will further reduce the air quality in the city of Colombo.

No use of UKHP in the dry period

Kotmala Oya doesn't bring enough water in the dry season. The UKHP project is a Run of river project. Therefore their is no use of UKHP in a dry period even if they implement it.

Train your own staff

Coal-fired project was subjected to heavy protest due to the lack of public relation. The public discussion was conducted by the engineers of the CEB who do not have skills on this subject. Consulting the public is very vital and hence CEB staff, has to be trained on this aspect. Although Dr. Siyambalapitya states that they cannot wait until regulating authorities train their staff, we believe that they are well trained but CEB own staff are not properly trained.

This is very clear when we look at project implementation. Mau Ara diversion project which is implemented by the Irrigation Department and the Kukul Ganga project are devastating the environment. Some of the components which was not in the EIA such as road construction and road widening are now happening creating many environmental impacts. According to the EIA it was supposed to relocate only 17 families but now it is relocating 50 families.

This problem is not the lack of training of the staff of the regulating authorities, but

they are not free to carry out their duties as trained. Many politicians and high level bureaucrats interfere in their work. For example many electricity project did not follow the EIA process. UKHP project which was rejected by the regulating authorities was approved due to the political pressure. Therefore it is the CEB who should be trained to follow the guidelines and not to use politicians to threaten officers, who carry out their legitimate duties in the proper manner.

Upper Kotmale Approval and decision error

Anyone can easily cost the loss to the economy. But the cost of destroying our natural heritage and the environment can not be costed. A very recent publication of the Institute of Policy Studies (Malik Ranasinghe's Analysis of Unique Natural, Environmental and Cultural Assets threatened by Infrastructure Projects: The case of Upper Kotmale Hydropower project April 1999) state that 'the two issues, contingent valuation of waterfalls, and the decisions bound on the economic values of waterfalls, on which the implementation or rejection of the selected alternative for UKHP has to be based are full of risk and uncertainty. For example, even if a contingent valuation exercise is carried out, the estimated economic value of the waterfalls will always be disputed and may not be reliable to the decision maker at the end. Similarly, even if the decision to implement UKHP is based on a decision bound estimate through a reverse analysis, or the supposed upperbound of the economic value that the society has to place on waterfalls to preserve them, there is no certainty that the estimated upper bound is actual indifference value of the society.'

The study further state in the conclusion that "even if the decision maker is to assume that there is no economic value of the waterfalls, the probability of the decision error in implementation UKHP could still be as high as 22% for the uncertainty scenarios of the base case. Against the incremental economic value of hydropower generation at EIRR, the decision error is about 28%. In addition, the decision bound to implement or reject UKHP could be US \$ 0 (zero) at a discount rate between 12% and 14%. The uncertainty associated with a decision to implement UKHP, relative to the policy objective of minimising the adverse effects on the environment, is too high for a prudent decision-maker to approve UKHP.

This shows how wrong the decision taken by the Secretary to approve the UKHP project.

Do you get cheap electricity?

Cost for installed kilowatt of different forms of electrical generation capacity.

Technology	Cost per kW (US\$)
Upgrading hydro	70-700
Adding turbines to existing dams	6 0 0 - 2,500
Natural gas	700
Coal	1,200
Wind	1,200
Small Hydropower	1,000-5,000
Large Hydropower	2,000-5,000
Fuel Cells	3,000
Photovoltaic cells	5,000

Patrick McCauly, Silence Rivers, 1998

This shows that the options CEB is promoting are not the cheap ones. Although CEB

expects over 2000 MW capacity in the next five years more cheap and environmentally less harmful Natural Gas is not an option for them. If one says that we do not have our own Natural Gas deposits, we do not have even our own Coal deposits.

Who aid electricity projects?

As dam-building agencies grow in size and power gradually, they lose sight of their original aims and comes to confuse means with ends a process which social theorists such as Max Weber and Ivan Illich have argued is typical with bureaucracies. Without new projects the agencies would have their budgets slashed and their prestige diminished. The prime purpose therefore tends to become the securing of funds for building more dams — often in alliance with pork-hungry politicians — in order to ensure their own perpetuation, rather than to improve social welfare. The overriding need to find projects to build encourages increasingly desperate and dishonest tactics. The corrupt methods that the Army Corps of Engineers used to win approval for their projects were explained to a Los Angeles audience in 1997 by the then Governor Georgia, Jummy Carter: "In many of the corps of Engineers' dam projects around the nation, the benefit/cost ratio have been grossly distorted. Data and premises on which projects approvals are sought are erroneous and outdated. Falls justifications are attempted. Construction costs were underestimated, extremely low interests rates were assumed, nearby lakes were ignored, population projections are exaggerated, environmental damage was concealed, power production estimates were based on overloaded generator ratings, no archaeological losses were included, and major recreational benefits were claimed inspite of official opposition from state and federal recreation agencies." (Silenced Rivers, Patrick McCauly, 1996).

Both UKHP and the Coal power project will be funded by Japanese OECF. This will be a loan and not a grant which should be repaid within 40 or more years. As you are aware, although the projects such as Kirinda Harbour, Samanlawewa hydropower project, and Lunugamwehera projects are failures but we still repay the loans. It does not matter whether such projects are failures or whether they are environmentally sound or economically viable. Although most of the money returned to their countries, just add to the debt of Sri Lanka.

Whether it is World Bank, ADB or OECF the staff are very keen to approve loans for dams and other projects because of the contract for their companies; those from southern countries are keen on project loans as they mean large sum of cheap money moving in their directions. An important reason is that staff of the funding agencies are keen on mega-projects is that promotion within the institution has historically been on the volume of money which an employee shifts out the door-and projects allow a lot of money to move.

Therefore one should consider whether it is correct to carry out unsuitable projects just to utilise this ill gotten money which will further increase our foreign debt.

President Richard M. Nixon in 1968 said that "Let us remember that the main purpose of aid is not to help other nations but to help ourselves."

It is very clear that the funding for these projects come from the developed nations and 2/3 of the funding goes back to their countries for consultants, equipments etc. They dump all the old technologies and sometimes conduct experiments such as Victoria Dam in our countries. We will have to repay the loan even if their experiments fail.

They also dump their non-energy-efficient electric equipments here and then we build more and more power plants to meet the unnecessary demand created by these equipments.

Are our plans real?

According to Patrick Macauly, in 'silenced River', 1996, phasing out destructive hydro, nuclear and fossil-fuel technologies will obviously mean bringing on-line new electricity generating methods. The renewable, especially wind and solar power have great technological and economic potential. In the next few decades these technologies will be further developed and the infrastructure will be constructed. Natural gas is the cheap, safe and relatively environmentally benign transition fuel. Extracting and transporting natural gas is relatively easy and non-polluting compared with other fossil fuels. Emission from power plants also compare favourably to those from oil, diesel coal Co2 emission from modern gas turbines can be half those from the most advanced new coal plants, Nitrogen oxide emissions 90% less, and sulphur dioxide emissions 99% less. Constructing a gas plant currently costs \$700 per installed kilowatt-half as much as the average coal-fired power station.

According to CEB estimates the annual increase of energy demand is 8%, but the World Bank estimates only a 5% increase. To meet this overestimated demand, the solution of CEB is more and more power plants, which increases our foreign debt.

Although the CEB promotes coal, hydro and oil plants, still they do not consider promoting renewables. We agree that the renewables cannot play a major role but it can help to reduce the pressure on the grid with more environmentally sound electricity. The cost of wind plants are very much equal to a coal plant. But it is sustainable.

Sri Lanka is a dumping ground for non efficient electric equipments. That is why countries like Japan provide so much of funds to install power plants. However studies show that 20% of the current production can be saved by using energy efficient electric equipments and through proper energy saving.

Sri Lanka has one of the highest technical transmission losses i.e. about 22% from the generated electricity. This level is 8-10% in most developed countries. Although there was a programme to reduce this level it was unsuccessful. This is one of the ways of saving lot of money and the resources.

As the CEB is trying to meet the energy demand, we are also trying to protect the public from improper development. We are fighting for good governance and our right to clean environment which are more basic for human and other creatures. Therefore one cannot easily identify the real culprits. What we should do is not to waste time in identifying the culprits but to find ways and means to develop the country in a sustainable manner respecting the rights of each other.

Concluded