

Macal River Chalillo Project

SOME FACTS AND FIGURES

The proposed new dam, with a 6 million watts power house, will cost Bz\$41 million (approximately). The Mollejon Dam and Power House cost Bz\$120 million. If the dam at Chalillo is built, it will increase output from the Macal River from 85 thousand million watts to 162 thousand million watts. More electricity will be produced to meet growing national demand.

The base of the proposed dam will be 365 meters (1,095 ft.) above sea level.

The dam height will be 30 meters (approximately 90 ft.)

The reservoir area will be about 3 sq. miles (approximately 1,920 acres).

By international standards, this means that it will not be a large dam. It will be a small to medium size dam.

Dams have been in use for over 6,000 years. Hydroelectric dams, some of them more than 165 years old, have been used in energy production to meet this demand in developing countries. There are 1,600 medium or very large dams in the United States of America. In many cases, dams cause no adverse environmental effect.

The environmental laws of Belize require a developer to prepare a full Environmental Impact Assessment. An EIA is being done at Chalillo to determine any impact. Transects will determine the surface area that will be flooded.

In Belize, consumer demand for electricity is growing at a rate 6.2 percent per year. By the year 2003, BEL hopes to produce about 250 thousand million watts. With the expansion of the national grid, there will eventually be a surplus of electricity to meet the increasing demand.

Exhaustive studies have been done on renewable sources of energy for Belize, including the co-generation of electricity from bagasse, co-generation from citrus waste, solar energy and wind energy. There have been other suggestions, such as wave motion energy, geothermal energy from hot springs, and others. Many of these alternative sources of energy have proven not to be economical, environmentally friendly, nor adaptable to the country's needs. For example, the manufacture of solar panels is not environmentally friendly. It causes pollution. It also uses lead/acid batteries. There are also other environmental implications and health hazards associated with the large-scale generation of electricity from this source.

A 1990 Power Market Study on Renewable Energy for Belize notes: *There is much evidence that indicates wind and solar technologies cannot be successfully incorporated into existing conventional systems based on simple economics and technical feasibility.*

It would also take five years or more, for such a plant to become operational. Other alternative sources of energy offer inadequately developed technology, or the transfer and application of other technology that would not be practical, environmentally friendly, nor economically feasible.

Hydropower, both traditional and small scale, is expected to play an important role in meeting, globally, future energy needs.

Present considerations being given by the Government of Belize and Belize Electricity Ltd., have been as a result of many studies. The United Nations Industrial Development Organization (circa 1979), on behalf of the Government of Belize, did a study on alternative sources of energy to replace the country's heavy reliance on fossil fuel, Bunker C, diesel, gasoline, and other derivatives of petroleum. An extensive study was also done of the country's rivers to determine the most suitable site for a hydro dam.

Belize today continues to be heavily dependent on the importation of fossil fuels. BEL alone imports 20 million gallons of diesel each year. The use of this to generate electricity has caused considerable negative impact on the environment. BEL, last year alone, spent more than \$10 million on the importation of fossil fuels. However, the projections are that this will gradually reduce as we buy electricity from Mexico. The cost of this is high, and is not likely to remain constant. Recent reports also indicate that world oil prices will be hiked. These is also a need for Belize to become self-reliant in meeting, in the future, its growing demand for electricity at reduced-cost to consumers.

BEL will shortly be spending nearly Bz\$1 million on the environmental cleanup and rehabilitation of the sites of its diesel generating stations countrywide.

The generation of electricity from fossil fuels is responsible for most of the world's environmental problems. Global climate change and greenhouse gas emissions and pollution are largely as a result of burning fossil fuels - diesel, coal, oil and

Natural gases. This situation continues to cause millions of respiratory illness each year. There is a global concern that this type of pollution will reach dangerous levels.

The positive social impact from increased hydropower generation for Belize should far outweigh the potential negative environmental impact, if any. The completion of the EIA for the proposed Chalillo dam will determine the environmental impact and suggest mitigating factors. Every consideration for the development of alternative sources of energy to meet the country's needs is consistent with the country's environmental laws.

Earlier scientific studies have concluded that most of the wildlife habitats of the Macal River area are in the Upper Raspaculo tributary. The Upper Raspaculo is not within the area of the proposed dam site. It will not be affected.

The Global Environmental Facility (GEF) regards hydropower as socially sound and clean.

Belize has a 60 percent forest cover, 40 percent of it is in protected areas. This contributes to the eco-tourism industry. Whether this country is getting the full benefits from this industry is questionable, despite the fact that it is one of the large consumers of the electricity we produce, or buy. The quid pro quo from this industry should be examined. Agriculture and agro industries continue to be the main contributors of GNP.

About 1/3 of the population of this country, approximately 75,000, continues to live in poverty. Of that amount, about 30,000 live in extreme poverty. These people too are a part of the bio-diversity - the endangered species of our kind. They too, like scarlet macaws, need food and home, and a right to live in a proper environment. There is an urgent need for the alleviation of poverty. Poverty is the greatest degrader of the environment.

A World Bank Study dated November 3, 1998, notes that: Clearly developing countries will not be able to lift themselves out of poverty without increased used of modern forms of energy. No one would expect people in the industrialized countries to give up the benefits of modern energy use, such as fast transport, heating at the flick of a switch, and unlimited access to electricity. For the same reason, no one should expect people in developing countries, over the long run, to have to put up with using dung and fuel wood to cook and keep themselves warm, to endure constant electricity blackouts or to have to walk everywhere, although the situation is likely to endure for many people over the next decade.

The government has a responsibility to bring economic betterment for the citizens of this country. This can be achieved within the framework of an equation that includes the environmental protection factor, as well as social and economic development for ALL of the citizenry.

The debate on the proposal for the construction of another reservoir at Chalillo, which is upstream of the Macal River, has been focussed only on the environmental aspect of the project. This is important; but so are the relevant socio/economic issues. The Feasibility Study and the Environmental Impact Assessment are being completed. The EIA has to take into consideration the stipulations under the EIA Regulations and the Environmental Protection Act, as well as the *International Convention on Biological Diversity* and *Agenda 21 - Towards A Sustainable World*. It also has to take into consideration the lower third of the population that is at the base of the social spectrum - the endangered species of Belizeans who live in conditions of extreme poverty, and who, in despair, have begun to create a new cultural wave for survival - crime.

If you would like further information, or wish to submit you comments, recommendations or concerns, please write to: Macal River Chalillo Project, c/o Central Bank of Belize, Gaol Lane, Belize City. Phone: 501-7-36149. Fax: 501-2-35097. E-mail: chalillo@bil.net. You will also soon be able to visit our website at: www.chalillo.belize.org.