The devastating effects of tsunamis, big hydroelectric dams and other “clean” energies

Over the last decade, as the effects of climate change have become increasingly visible, there has been a lot of talk from big companies, banks and governments about promoting “clean” energy projects – meaning energy that is not produced from fossil fuels.

As a result, a number of countries have, for example, been developing or expanding nuclear power production.

Obviously, the first thing this brings to mind today is the tragedy suffered by the Japanese people, with whose plight we deeply sympathize. The recent earthquake and tsunami that triggered the current nuclear disaster in Japan clearly illustrate that the reality faced by the Japanese people in connection with the Fukushima nuclear power plant is a far cry from what could genuinely be viewed as clean energy.

At the same time, investments in another supposedly “clean” energy source have also been stepped up significantly over the last 10 years: the construction of dams to produce hydroelectric power.

This is the theme of this month’s bulletin, in light of the fact that March 14 is the International Day of Action against Dams and for Rivers, Water and Life, while March 22 is World Water Day. Numerous articles in this issue demonstrate that the new wave of supposedly “clean” hydroelectric power production is nothing more than talk. In practice, it has been clearly shown that the serious negative impacts continue in the new dam projects planned and those already in operation.

A number of key points are especially worth considering. First, there is a continued emphasis on large-scale hydroelectric dams, which obviously cause large-scale impacts. One example is the destruction of significant areas of native forests. As such, these large dams remain one of the direct causes of deforestation.

Second, hydroelectric dams continue destroying the livelihoods of families who live near the rivers while producing energy that doesn’t benefit them in any way. Instead these dams serve to supply electricity to distant urban centres and, above all, to high energy-consuming industries. For example, in the Mekong delta in Southeast Asia, the construction of large-scale dams threatens the food security of local communities, which depends on the fish they are able to catch freely from the river today. What’s more, riverside communities are often forced to migrate to cities, towards an uncertain future. Governments claim that they are raising these people out of a situation of “poverty” and offering them a new future of “progress”. But the reality tends to be very different: hydroelectric dams generate greater poverty and have significant negative impacts both on the human population, especially women, and on the environment.

Third, hydroelectric power is in no way “clean” if we consider the problem of global warming and climate change. Greenhouse gas emissions produced by dam projects stem from several different sources. The trees cut down to make way for hydropower projects as well as those that die when the

area is flooded release carbon dioxide into the atmosphere. In addition, the submerged trees and other vegetation decompose and produce another greenhouse gas, methane, which is mainly released through the dam's turbines and spillways. According to studies, methane could have 25 to 34 times more of an impact on the climate than carbon dioxide. It should be stressed that this particular impact is generally not considered in environmental impact assessments (EIAs) of dam projects, such as the EIA conducted for the Belo Monte dam in Brazil.(1) So it is clearly absurd to permit the sale of carbon credits from hydroelectric power plant projects through the "Clean" Development Mechanism (CDM) of the Kyoto Protocol.

And if all of this were not enough, there are other studies, from China for example, which show that large-scale dams could even contribute to seismic stress, thus increasing the risk of earthquakes and tsunamis.

Another highly trumpeted category of "clean" energy is energy produced with so-called "biofuels" or agrofuels. This usually involves the establishment of large-scale monoculture plantations of different crops such as soybeans, oil palm and sugar cane. The devastating social, economic and environmental impacts of plantations like these have already been widely studied and demonstrated.

Ultimately, the tragedy in Japan will have even more tragic consequences if investments in nuclear energy are shifted towards investments in supposedly "cleaner" sources of energy, such as large-scale monoculture plantations for agrofuel production or the construction of more hydroelectric dams.

In conclusion, so-called "clean" energies are not clean when they are produced on a large scale and have devastating effects of various kinds. They end up resembling earthquakes and tsunamis when they destroy people's lives. And in the meantime, they continue to increase corporate profits. It should be stressed that big hydroelectric dams, like large-scale agrofuel production and nuclear power plants, continue to be major sources of profits for the companies involved.

The logic behind the discourse of the defenders of these supposedly "clean" energies is based on the principle that we need them to maintain the present model of production, trade and consumption. It has become clear that this model is socially and environmentally unjust – in other words, it is a failed model. By promoting the use of erroneously labelled "clean" energy without questioning the current model, our governments continue working for the enrichment of corporations while provoking suffering for millions of people from current and future generations, given the deep and long-lasting environmental impacts.

Moving in a completely different direction from the defenders of this energy model, different small-scale local and regional energy production initiatives tend to offer a more promising future. These include initiatives controlled by organizations and social movements which satisfy their basic needs without causing damages that compromise the future of these populations and the environment. However, these initiatives receive little or no financial support compared with the vast sums of money that corporations and governments receive and spend on genuinely dirty energies.

What is needed is a structural change in our energy model towards a popular energy model, in which energy and water are considered basic rights. As the Brazilian Movement of Dam-Affected People (MAB) rightly declares, Water and Energy are Not Commodities!

(1) Fearnside, Philip. "Hidrelétricas Amazônicas como Emissoras de Gases de Efeito Estufa". In: Revista Proposta, Year 35 – No. 122.