
Conference Report

Nuclear-energy advocates intervene in Bangladesh to spoil solar-energy hoax

by Marjorie Mazel Hecht

Do developing nations choose low technology instead of advanced technology? The answer is that they are not given a choice. Malthusian institutions like the International Monetary Fund mandate that “appropriate technology” is all that poor countries will get.

How the no-growth lobby blocks industrialization was shown at an International Conference on Physics and Energy for Development held at Dhaka University in Bangladesh Jan. 26-29. At most international conferences like this in developing nations, the academic Malthusians predominate, spreading the lies that “small is beautiful” and that solar energy is most appropriate. Usually, they have a captive audience. But this time, the Malthusians met up with significant scientific opposition—a delegation from the Fusion Energy Foundation (FEF) and *Fusion Asia* magazine—and their game was spoiled.

The FEF group, including research director Uwe Parpart-Henke, FEF European coordinator Jonathan Tennenbaum, *Fusion Asia* editor Ramtanu Maitra, and fusion scientist Winston Bostick, was invited to participate in the conference by the Bangladesh Atomic Energy Commission, whose chairman, Dr. Anwar Hossain, is on the editorial board of *Fusion Asia* magazine.

From the very first session, the battle was on—nuclear versus solar power. The audience was mostly Bangladeshi, about 150 scientists and government officials, with three dozen or so foreigners, for the most part solar experts from Sweden, India, and the Trieste Center in Italy.

Uwe Parpart-Henke, an *EIR* contributing editor, led the attack with a hard-hitting presentation on the economics of energy, discussing the question from the standpoint of comparative energy flux density. By the time he finished showing how outlandishly expensive solar and biomass energy are compared to the more-energy-dense nuclear power, smoke was rising from the back of the room.

“It’s not true, what you said about solar,” shrieked the American solar expert Bernhard O. Seraphin, from the University of Arizona, now on sabbatical at the Trieste Center. But Seraphin could offer no facts to back up his shrieks.

Other solar advocates then argued that energy policies had to be adapted to the social and economic structure. “That’s precisely the question,” Parpart-Henke retorted. “Are you going to formulate your energy and science policy from the standpoint of adapting to and remaining in the existing social and economic structure, or from the standpoint of your future goals, your desired future economic structure?”

As the *Bangladesh Daily News* wrote in covering the conference, “Nuclear energy is the most efficient in terms of energy payback under the present technological development.” Of the presentation by Parpart-Henke, the *News* noted that the FEF scientific evaluation shows nuclear has a payback time of 1 year compared to 20.3 years for solar panels or 8.5 years for solar reflectors.

The extent to which the Malthusian solar advocates from the West have brainwashed their captive audiences in developing nations—using, among other things, “conditionalities” attached to grants from agencies like the U.S. Agency for International Development—could be seen in the next session: a fierce academic debate over how to measure the amount of solar energy falling on any given spot of land at any time! Not surprisingly, each of the developing sector participants on the panel had studied with one or another Western solar professor.

Solar fakery and the Trieste mafia

The message from the Malthusian scientists, particularly those connected to the Trieste Center in Italy, was stick to low technology, or else. For example, solar-expert Bernard O. Seraphin responded to the Parpart-Henke presentation: “These findings cannot be judged as the end of photovoltaics. A lot of research must be done. Bangladesh *must* join this club of researchers.”

This same message was conveyed via telegram to the conference by Abdus Salam, leading Malthusian ideologue at the Trieste Center: “Growing energy demands and the trend of increased fuel prices make it imperative for less developed countries to expand and control their indigenous resources. This . . . is particularly true of nonconventional energy—

solar energy conversion—whose final success will depend on high-level science.”

Salam brings many scientists from developing countries on scholarships to the Trieste Center, where a kind of solar club is formed to perpetuate the solar hoax when they return to their countries. The solar presentations by proponents of this hoax were marred by slipshod research and outright lies. One chap from the University of Kalyani in India, for instance, when his fishy data were questioned, replied that the figures for solar energy batteries as opposed to dry-cell batteries looked so attractive because “I favor solar energy.”

Other solar experts made it clear that they were not at all interested in supplying commercial or industrial power, but only agricultural power—and even then only “traditional”

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agriculture, a euphemism for manual labor and rudimentary tools. Another Indian professor from Kalyani University discussed a solar “power plant” composed of photovoltaic panels spread out over a vast area of land. One Bangladesh scientist politely asked what would happen to the acres of panels during the three months of the year when Bangladesh was subjected to severe hail storms. “Why, the solar panels would have rickshaw wheels, and could just be wheeled into a nearby warehouse,” the solar advocate said. Incredulously, the Bangladeshi replied, “You mean, every six hours for three months. . . .”

One of the Indians pompously put forward the thesis that Bangladesh—which uses only one-tenth the energy per capita as other Asian nations and is one of the most densely populated nations—actually uses as much energy as any developed nation, if you count the “hours of clothes drying in the Sun or sailboats sailing in the wind.” Another in the Indian delegation declared that India was “going solar” after

making the mistake of pursuing high technology solutions—a lie countered by Ramtanu Maitra, editor of *Fusion Asia* magazine in New Delhi.

Maitra also refuted the British study touted by the World Bank that says nuclear power costs \$2,930 per kilowatt, which is more than 2½ times what it cost India to build its nuclear plants. Will nuclear power prevail?

Despite its group of Trieste-Center-trained advocates of solar power at Dhaka University, Bangladesh also has a faction of scientists and leaders who understand that nuclear energy is the only way to industrialize and bring Bangladesh out of the Dark Ages. As these pro-nuclear spokesmen noted, for Bangladesh, the question of going nuclear is far from academic; it is one of life or death. Bangladesh is the most densely populated nation in Asia, and yet consumes a miniscule amount of energy, about one-tenth of the average for Asia, according to Atomic Energy Commission head Dr. Hossain.

There are indications that the nuclear faction will win the battle. The conference was opened by Bangladesh President Lt. General Ershad, who made a strong argument for advanced technology. “In view of the high oil prices, we have to think of the alternative of producing nuclear power at a low cost,” Ershad said.

“We believe it is a necessity to install an atomic reactor in the Western region of our country. Of course, the problem is to arrange the initial funding for the installation. The government has been continuing efforts to procure funds. . . . The country’s first experimental atomic research reactor is being installed at Savar. Undoubtedly, it is a laudable effort. I believe that this reactor will provide the training and infrastructure for our nuclear power program.”

The vice chancellor of the University of Dhaka, Prof. Shamsul Huq, also argued for advanced technology in his opening remarks to the conference. “The slogan of appropriate technology was created a few years ago as a euphemism for updated traditional technology. The concept was probably well intentioned, but it was based on the unacceptable premise that the technology gap cannot be bridged.”

Without a doubt, the FEF intervention at the conference polarized the situation, and will continue to have an effect. After the first panel, for example, the panel chairman, Dr. Nazrul Islam, invited Parpart-Henke to speak further with the Bangladesh Planning Commission on the question of energy flux density. The commission is drafting its Third Plan, including a major new policy on science and technology.

At the plenary session of the conference, Dr. Anwar Hossain spoke for an hour, summarizing all the energy options and then endorsing nuclear as the most advantageous for Bangladesh. Hossain, who has been fighting to develop a nuclear plant in Bangladesh for more than a decade, described the specifics of nuclear economics. “Admittedly, nuclear plants are capital intensive, but the fuel cost is so low that the extra investment can be recovered in a matter of a



NSIPS/Uwe Parpapart

Ramtanu Maitra of the Fusion Energy Foundation examines a solar pump which cost \$16,000 to build and stops working whenever a cloud passes overhead.

few years. . . . The further development of atomic power, especially the fast reactor and fusion, will lead to inexhaustible sources of energy.”

The nuclear option

Already the advantages of nuclear power are being explored and practiced at the Institute of Food and Radiation Biology at Savar, where the Bangladeshis are beginning to commercialize food irradiation for preserving crops and fish and to develop other advanced nuclear technologies. Fresh fish, potentially a major source of protein in the area, for example, will keep refrigerated for 21 days once irradiated. At present, the Bangladeshis are exploring packaging materials to prevent the reinfestation of irradiated dried fish, and are studying large-scale storage and transportation.

The economics of such research are obvious in a tropical country, where a large percentage of basic crops and foodstuffs are lost to insects and rot. To take one example, at an international conference on food irradiation in Washington, D.C. March 4, the Bangladesh Atomic Energy Commission presented a paper summarizing the results of their studies of low-level irradiation of onions. Onions are a seasonal crop, with the peak harvest in late March, and during the next several months in storage, between 30% and 50% of the crop is lost. There is then a shortage of supplies and a price hike for this basic commodity, and the government then has to import onions. Low-level irradiation completely inhibits the

sprouting of the onions, thus eliminating the high loss of the crop.

In contrast to the advanced nuclear research, there is also a solar-powered pump project at Savar, which costs \$16,000 to build and puts out a peak 1.5 kilowatts—about \$10,500 per kilowatt installation cost. As Ramtanu Maitra noted when the FEF delegation visited Savar, the solar panels were coated with dust and had to be cleaned constantly. Furthermore, as soon as a thin cloud covered the Sun, the pump went limp. “A solar power plant would have to be 500 times this size,” Maitra said. “That’s the epitome of ridiculousness.”

Documentation

Excerpts from the inaugural speech at the International Conference on Physics and Energy for Development by Lieutenant General Hossain Muhammad Ershad, President and Chief Martial Law Administrator of the People’s Republic of Bangladesh.

. . . The appropriate use of energy and power is not only the yardstick of the progress of a country, it is also the key to development. I hope this seminar will succeed in generating fresh enthusiasm and initiatives among the scientists and technologists toward making greater contributions to national advancement.

Today’s civilization bears testimony to the talents and sacrifices of the scientists and technologists. Only those nations which have been able to make proper application of the knowledge of science and technology have been able to accelerate their pace of development. An urge and determination to improve the quality of life are the main inspiration behind the work of scientists and technologists. The time-honored contributions and potentialities of science and technology cannot remain limited to a particular class, geographical boundary, or time frame. They are the means to achieve welfare of the entire mankind for all times to come. For this reason, I would make an appeal to the scientists and technologists to rededicate themselves to the welfare of humanity from a universal point of view. I would particularly appeal to them to come forward to the well-being of the teeming millions in the developing countries.

We are engaged in building a happy and prosperous new Bangladesh. This calls for achieving self-sufficiency in all spheres of our national life. We are determined to utilize the fruit of advanced knowledge of science and technology of the world for improving the living condition of our people. We need skilled manpower and a suitable infrastructure for higher science and technology to ensure proper use of the latest developments in this field. . . . We cannot perpetually depend on financial and technological assistance from abroad. . . .



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More than half of Bangladesh's onion crop is now lost through spoilage, but with low-level irradiation the sprouting of the onions can be completely eliminated. Uwe Parpart of the Fusion Energy Foundation (r) is shown here with an official of the Institute of Food and Radiation Biology at Sakar.

You are aware that the paucity of the source of energy stands in the way of our overall development. At present, natural gas is our main commercial fuel. The country's natural gas wealth has to be used in such a way as to derive maximum benefit out of it. . . . In view of the high oil prices, we have to think of the alternative source of nuclear power production at low cost. We believe that there is a necessity for installation of an atomic reactor in the western region of our country. Of course, it is a problem to arrange initial funds for the installation of such project. The government, however, has been continuing its efforts to procure funds for the project. I am happy to know that this conference will discuss various aspects of the use of this technology. I believe the deliberations of this conference will go a long way in helping the developing countries in the peaceful use of atomic energy.

The country's first experimental atomic research center is being installed at Savar shortly. A substantial part of the implementation work of this project has been done by our own scientists and technologists. This is undoubtedly a laudable effort. I believe this reactor will provide training facilities and help build infrastructure for our programme in this regard. . . .

Excerpts from the address of welcome to the conference by Dr. Anwar Hossain, chairman, Bangladesh Atomic Energy Commission and president, Bangladesh Physical Society.

. . . The per capita commercial energy use of Bangladesh is about 50 kg of coal equivalent and per capita electricity

consumption is about 30 Kwh. In comparison, the Asian average per capita consumption in 1981 was 597 kg and 519 Kwh, while the world average was 1,893 kg and 1,862 Kwh, respectively. Our energy consumption is roughly 0.5% of that of developed countries and only one-fourth of the consumption in the neighboring countries like India and Pakistan. On top of this, most of the energy used is noncommercial. Since agricultural and forest resources account for a substantial part of traditional sources, our ecology and environment is being adversely affected with the increasing use of noncommercial energy. We cannot afford to lose our agricultural and forest wealth any further. For faster growth of energy consumption, we have, therefore, to develop commercial energy sources. This calls for intensifying efforts to

“Are you going to formulate your energy and science policy from the standpoint of adapting to and remaining in the existing social and economic structure,” the speaker asked, “or from the standpoint of your future goals, your desired future economic structure?”

explore and exploit conventional energy sources and then look for new and renewable resources. . . .

While we keep on exploring our land for new conventional sources, we should realize that the presently known reserve of exploitable resources are much less than our needs for energy that can ensure even a modest growth of our economy. With imported oil prices beyond the reach of our economy, we have to look for alternate fuel. Nuclear energy is now considered to be proven technology for production of electricity. Nuclear power plants are highly capital intensive, no doubt, but the fuel cost is so low that the generation cost is comparable if not cheaper than other alternatives. The extra investment for a nuclear plant could be recovered in a matter of a few years' savings on fuel cost. It is true that a number of technical and other issues have constantly to be attended to, but we have to make a beginning with this source of energy, which has a big potential and is expected to last a long time globally. The conference has devoted a full session to discuss all aspects of nuclear power, including the spin-off benefits. Further development of the power of the atom, especially in the fields of fast reactor technology and fusion energy, will lead to almost inexhaustible source of energy. . . .