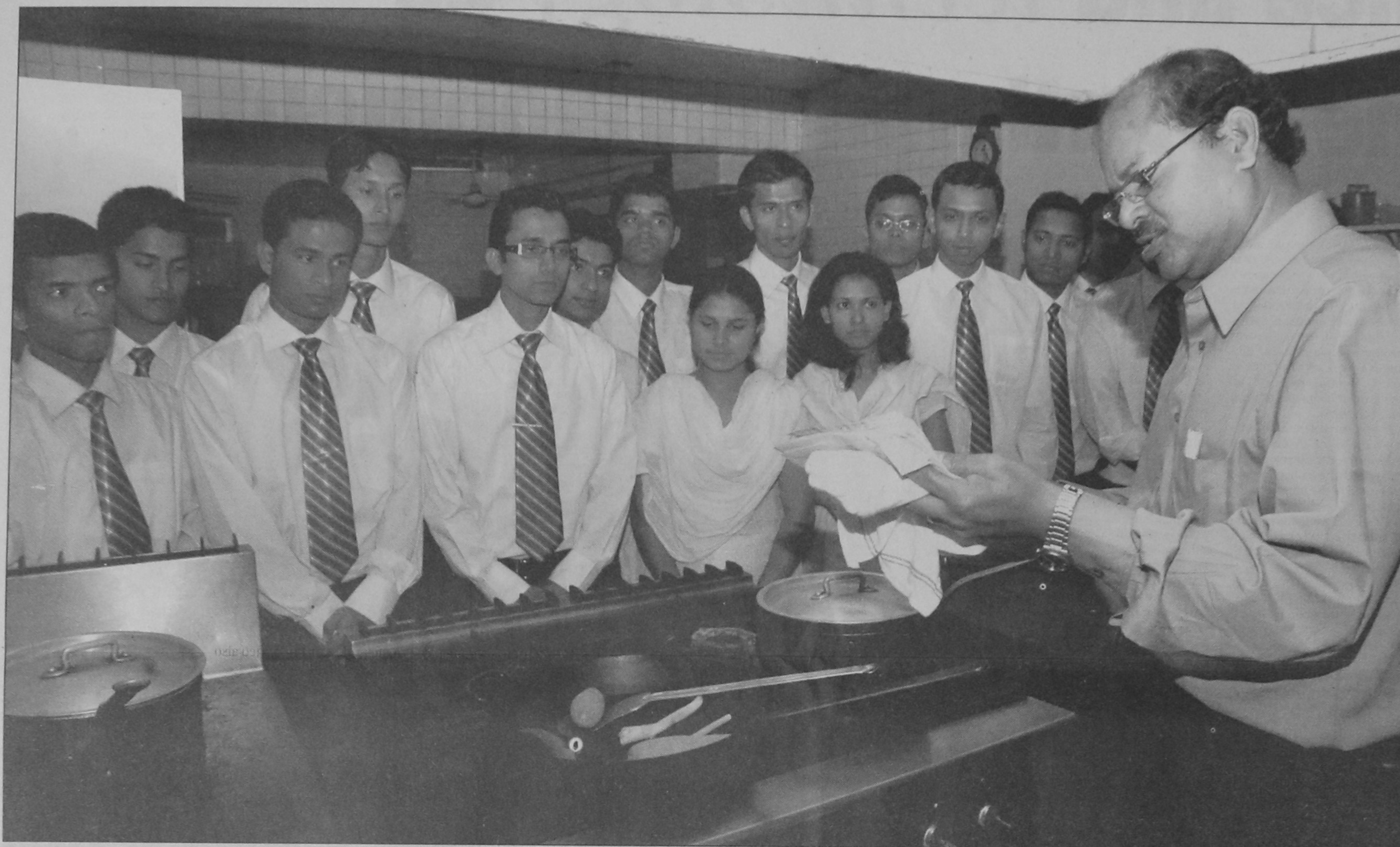


...national development



FROM PAGE 45

and similar bodies can extend their support by increasing scholarships; the private sector can also help, either as a service to the country or through collaborative projects between research groups and industry. The Bangladesh Atomic Energy Commission and the Bangladesh Council of Scientific and Industrial Research have played important roles in Research and Development for decades. There is room and need for further improvement. It is very important, in the various research groups, in addition to providing the appropriate facilities, to maintain a relaxed and congenial research environment, in which there is a spirit of cooperation for pursuing truth and knowledge and suitable applications to benefit society, rather than competition for personal advancement.

At the Second General Conference of the Third World Academy of Sciences held in Beijing, China in 1987, the late Prof. Abdus Salam made the following remarks:

"I had the privilege of meeting Chairman Deng last year, when I came to China for preparations of this meeting. I was deeply impressed by his insistence on science transfer in addition to technology transfer. He remarked that the science of today is the technology of tomorrow, and that China and the Third World must build tomorrow's science for tomorrow's technology. In this respect, we of the Third World Academy of Sciences follow Chairman Deng's lead in humble way."

Prof. Salam went on to explain the main purpose of the meeting:

"... to honour the recent achievements of scientists of the South, by making presti-

gious awards in the basic sciences of Physics, Chemistry, Biology and Mathematics; to listen to them..."

"... to reflect on the growing gap in sciences between the South and the North which, in our view, is the real reason behind the disparity in economic well-being and influence."

"It is a sad fact that the South, while it spends similar proportions of its GNP on defence, education and health as the North, does not spend more than one twelfth of the proportionate amount on science and technology. To highlight this, let us remember that if, like the North, the South was to spend 4% of its educational budget on basic sciences, this would amount to 3.5 billion dollars to be used for building up self-reliant basic sciences in the South. We shall be pleading for the allocation of 4% of the educational budget for basic sciences from the leadership of the South."

"... (A) most important reason for our being here in this beautiful city of Beijing is to study Chinese science in depth. As we all know, China was the world leader in creative technology until about 1600. Since 1949, it has had a state policy of enhancing science which has enabled China to increase its researchers' population from 500 in 1949 to 300,000 in 1985 -- an incredible growth factor of 1:600 in 36 years, with a high impact on China's development!"

The enormous 'growth factor', because of China's size and situation, is, of course, unrealistic for Bangladesh, but the emphasis on science is important. I remember the Chairman of the Local Organizing Committee, Prof. Lu Jiaxi, gave the following reasons for China's success in

science: "Self-reliance and collective spirit". This could well be emulated in Bangladesh.

It is well-known that there are some negative aspects of science and technology, which arise from their misuse. I wrote some years ago:

"It is clear even to the casual observer that a certain aspect of science has been highly successful. We have television, jet airliners, space

travel, and the many advances in medicine. The list is endless and well-known. As is also well-known, science and technology have brought in their wake weapons of destruction on an unprecedented scale which have raised acute political, social and moral problems, as well as purely scientific ones. The tackling of these problems presumably require considerations other than purely

scientific ones; in other words, the advance of science and technology has given rise to problems which cannot be solved by scientists alone. Even in the putative beneficial aspects of science there are problems. Technical developments have caused a proliferation of consumer and luxury items far beyond the needs of society, with consequent depletion of the - - - and valuable resources of

the planet and concomitant danger to the environment, not to mention the dehumanizing effect of the ethos of the consumer society.

One of the things I want to stress is that we must get away from the idea of catching up with the First or the Second World. There are many aspects of the advanced world, which are direct results of technological innovations, which I believe are or would be undesirable for

many of the societies of the Third World. I do not simply mean things like nuclear weapons, which are obviously a threat to the whole of mankind, but more mundane things, such as the proliferation of automobiles in the advanced countries, with the concomitant pollution and nervous strain and road deaths. Another example is the unprecedented increase in mindless television and video programmes, which is a direct result of technical advance. There are many such examples of so-called scientific development which would be, and in some cases already are, harmful for our societies."

Let me now add a few somewhat pessimistic remarks, first by the late Nobel Laureate radio astronomer Sir Martin Ryle:

"Our world is one yet evolution has now reached the stage where as a species we may soon die... We, as scientists should be able to see this more clearly than most and must use our influence to change the too limited aspirations of governments."

The following is a quote from Bertrand Russell

"So long as national states exist and fight each other, only inefficiency can preserve the human race. To improve the fighting quality of separate states without having any means of preventing war is the road to universal destruction."

One of the starkest examples of what Russell had in mind is, presumably, the existence of nuclear weapons, which can destroy humanity many times over. Although scientists are not, in the main, responsible for this state of affairs, I believe, as Ryle implies, they cannot be absolved completely from their responsibility in this matter. Ryle's remark reminds us of the two world wars in which, at every stage, the governments involved thought they were following the right steps, leading eventually, to what the sociologists would call 'unintended consequences of purposive action'. Over fifty million innocent people around the world lost their lives!

CONTINUED ON PAGE 47

