

## Appropriate Technology

In recent times the issue of the choice of technology has been hotly debated in different forums. Questions have been raised about which technology is appropriate for the economy. Should the country try to evolve some kind of intermediate technology which is in between labour-intensive and capital-intensive technologies or how to induce the people in adopting newer kinds of technology etc. But in all these debates it has been universally recognized that technology is as important a factor of production as labour and capital and, secondly, technological advancement is a prerequisite to economic and social development.

The basic rationale for adopting a better technology is to increase productivity and, secondly, in a labour-surplus economy like ours, to give employment to an increased number of people. With a view to meeting these dual objectives whatever technology we adopt has to be, on the one hand, modern and efficient and, on the other, relatively labour-intensive. Sometimes we have a notion that modern technology invariably means capital-intensive technology, which is not true. Labour-intensive technologies can also be modernized to yield higher productivity. In China, for instance, even in atomic reactors they are using a technology which is relatively labour-intensive by the western standard.

But one thing is often forgotten in the technology debate. One cannot speak of either labour-intensive or capital-intensive technology across the economy. The question of appropriate technology must be sector-specific. We must identify, first, which are the sectors or the sub-sectors, or, for that matter, where there is a critical need for technological advancement and then try to adopt a technology appropriate to that particular sector. In choosing the appropriate technology one has to take into considerations the given situation of the sector in terms of factor endowments, the production structure and also the future need of the sector in terms of its targets, the future expansion etc.

In Bangladesh there is a need for technological development in almost every sector of the economy. But the critical needs are in agriculture, industry and energy. Within the industrial sector itself there are some sub-sectors which demand more attention than others. Garments, printing, distribution of news are some of such sub-sectors. In those sectors the technologies that are currently used are quite old and out of time and there is a strong need for technological innovations. In the energy sector also with the increased demand for energy due to rapid population growth as well as the growth in the industrial and the services sector we are depleting our traditional sources of energy very rapidly. Only a significant technological advancement in this sector can reverse the trend.

But the utmost need for technological advancement is in the agricultural sector, the backbone of our economy. Technological innovations are needed in seeds, fertilizers, irrigation and in the techniques of cultivation. With development in genetic research, improved seeds suitable to our soil and climatic conditions can be evolved. Chemical fertilizers have been found in many instances to have a number of side-effects both on the quality of produce as well as on soil condition. Attempts should be made to have improved fertilizers from natural and traditional sources. Even in the case of chemical fertilizers and pesticides auxiliary research can be undertaken to preserve the quality, the taste and the food value of the produce.

In irrigation also the amount of natural water we get between April and November, if evenly distributed, is enough to cover the country with 80 inches of water throughout the whole year. That is sufficient to meet our water requirements in the agricultural sector. We have to find out the technique to conserve this water during the monsoon and distribute it evenly throughout the year, specially during the dry season. Our traditional beels and haors can serve as the reservoirs. Historically they have served our irrigation needs and supplied us with fish. But over the years due to sedimentation and negligence they have gradually lost their usefulness. In our irrigation and water resources planning, techniques must be evolved to use them more efficiently. In that case they can meet our irrigation needs throughout the year and also supply us with necessary protein in terms of fish. In Kuwait and Saudi Arabia where the water is saline, they are desalinizing the water through proper technology and are using the resultant sweet water for fruit and agricultural production.

In livestock also today one can have a better breed of cattle through artificial insemination. One cow of such a breed can give more milk than five or ten cows of an ordinary breed. Technological innovations should be undertaken in livestock development also.

A question is often raised whether in a traditional society it is easy to induce people to adopt new technologies. The answer is obviously 'no'. But if it can be demonstrated to them that technological advancement means higher profit and better ways of life, that will serve as a natural inducement to the people to adopt new technologies.