## Priority to Technical Education Accelerates Human Development

M. A. Sattar

HE socio-economic development of a country depends on the development of its human resources. Man is at the centre of all kinds of development and progress. Progress is basically the result of human efforts.

Human resources development is a more realistic and reliable indicator of modernization and development than any other single measure. It is one of the necessary conditions for all kinds of growth - social political, cultural or economic.

Human resource development is a process of increasing the knowledge, skills and the capacities of all the people in the society. In economic terms it can be described as the accumulation of human capital and its effective investment in the development of an economy. In political terms human resource development prepares people for participation in political processes, particularly as citizens in a democracy. From social and cultural points of view, development of human resources help people to lead fuller and richer lives.

In short, the process of human resource development unlocks the door to modernization.

The goals of modern societies are political, cultural and social as well as economic.

Human resources development is a necessary condition for achieving all of them. A country needs educated political leaders, lawyers, judges, teachers, engineers, doctors. nurses, agriculturists, technocrats, public servants, administration managers, artists, writers, craftsmen and journalists to spur its development.

Countries are underdeveloped because most of their peoples are underdeveloped having had no opportunity of expanding their potentials. It takes human agents to mobilize capital to exploit natural resources, to create markets and to carry on trade. In a very real sense, the wealth of a nation and its potential for social, economic and political growth stem from power to develop and effectively utilize its human re-

Human resources are developed in many ways, the most obvious one being by formal education. Human resources are also developed through on the job formal and informal training programmes and through memberships in various political, social, religious and cultural groups. Radio. television, newspaper and such other media also play an important role in human resource development. A third process is self-development as individuals seek to acquire greater knowledge, skills or capacities on their own initiative by taking formal and correspondence courses, by reading or by learning from others in informal contacts.

Bangladesh is a very densely populated country with about 12 crore people living on about 55,000 square miles of land. The population is growing at the rate of 2.7% a year. A vast majority of the people live below subsistence level. About 70% of the people are still un-

able to read and write Institutions

Two types of formal education institutions existing Bangladesh for its human resources development. They are classified as institutions under (i) General Education and (ii) Technical Education. The system is in conformity with those of the developed countries. The formal institutions under general education system are Primary (44,000) Secondary (10,000) Colleges (1.000). Universities (7) including 2 at Sylhet and Khulna.

The institutions under Technical Education are Vocational Training Institutes/ Technical Training Centres (63). Polytechnics (22). Engineering Colleges (4) and University (1) . Besides, there are Medical Colleges (8). Agricultural Colleges (2) and Agricultural University (1). In addition to the above there are a large number of institutions for professional and inservice training and institutions for religious education.

A well planned and efficient system of technical education can make the largest contribution towards development of

human resources and thereby help transform part of our vast manpower into a productive force. This is an age of science and technology. The great nations which are at the peak of modern civilization and economy have a well-knit system of technical education and training. It will not be wrong to say that the system of technical education of a country is an index of its progress and devel-

In the broadest sense, technical education includes programmes for the training of technical manpower of all levels from semi-skilled workers to professional engineers.

It connotes a three-tier system. Engineering education which is at the apex of the system primarily aims at giving the students all round competence in the application of the principles of physical sciences and mathematics for the solution of problems related to control of the forces of nature and harnessing natural resources, design of new products and processes. Engineers are capable of analysing a problem, design a solution and implement it through their comrades known as technicians and skilled workers.

Technician education is the 2nd tier in the system. It aims at preparing the students to take supervisory positions in support of engineering activities. They acquire a certain level of proficiency in mathematics and application of physical sciences and understand ing of the commonly used technical materials and processes, communication skills and extensive knowledge of field specialization.

The lowest tier in the system of technical education is what is known as Vocational education. It aims at producing semiskilled and skilled manpower for self employment or to work in factories, industries and construction jobs under the supervision of technicians

### Priority

In a poor country like ours where paucity of financial resources is the predominant factor in planning economic development, extreme care has to be exercised in fixing priorities and strategies for human resources development

Investment in education will not promote continuous economic growth unless it is done in accordance with the needs of the productive enterprises.

The nation must be equipped with the right type of education, knowledge and skills required for harnessing natural resources, using indigenous raw materials, initiating a green revolution for self sufficiency in food, building a modern communication and transport system, augmenting the process of industrialization and in increasing productivity in all sectors of the economy. All these need primarily the application of science and technology and therefore scientific and technological education should be given the highest priority in developing our human resources.

M. A. Sattar is a former Director of Technical Education.

he addressed the 26th meeting of the Southeast Asian Ministers of Education Council

of Education Organisation

current and prospective language teachers, including scholarships for in-country tra-Dr Johnston cited these examples of important changes in Australian education when

Australia's New Drive

on Asian Languages

ian languages and studies pro-

grammes. Another A82 million

will be available annually for

(SEAMEC). SEAMEC is the highest policy-making body of the Southeast Asian Ministers hn Dawkins has pledged more than A\$2.5 million (US\$1.9 million) to improve links between institutions in the reg-

"Even though Australia's population is small," said Dr Johnston, "our combined scientific and technological capability is at the leading edge of international research. We feel that to keep pace with rapid scientific and technological change it is of benefit to ourselves and to our neighbours to continue to exchange students and scholars."

Regional factors now loom large in Canberra's educational priorities, with an enhanced stress on language studies. by Rudy Fernandez

language courses throughout the school and university sys-

USTRALIA, increasingly

aware that its location

I down under means

just down under Asia, is

committed to becoming more

Asian - at least linguistically.

In a few years' time Asian stud-

ies, including language

courses, will be a regular fea-

ture of the curricula of all Aus-

Asian language courses are

already widely available at the

tertiary (college or university)

level. The country's educa-

tional authorities are now

framing a policy for intensified

tralian schools.

This policy, strongly advocated by the Asian Studies Council of Australia, will be finalised by 1995. Its implications are far-reaching, according to Dr Neil Johnston, deputy secretary of the Australian Department of Employment, Education and Tra-

Dr Johnston, speaking at a regional gathering here in Manila, said that to spur Australians to achieve a competent level of familiarity with Asian languages, economics and politics, the government aims to have 5 per cent of college students enrolled in Asian language courses by 1995.

The States will also provide continuous language instruction in the principal Asian languages, from primary to college. "Institutions will be encouraged to allocate over 4,800 new places for Asian studies and languages," Dr Johnston said.

To ensure high-quality programmes, A\$2 million (US\$1.5 million) will be devoted to the development of innovative As(SEAMEO)

SEAMEO was founded in 1965 to promote co-operation among Southeast Asian countries through education, science and culture. Member nations are Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Laos and Cambodia. Associate members are Australia, Canada, France, Germany and New Zealand. SEAMEC is composed of the ministers of education of the SEAMEO countries.

Dr Johnston, who headed his country's delegation, also spoke of another new priority - the strengthening of Australia's educational co-operation with her neighbours. "We seek dialogues between countries to produce tangible and practical results," he stressed.

Australia has found that one of the most practical methods of forging strong educational links is through programmes that bring together key people in each field.

Asian research and education institutions have already been the agents of communication and change, he said. To build on this strength, Australian Education Minister Jo-

Australia has opened its universities to qualified Asian students who are free to choose their preferred seh-

It has established Australian Education Centres (AECs) throughout Asia. These AECs provide students with information, counselling, and the first steps of visa processing.

"We have taken education and training issues into our dialogues with ASEAN countries," Dr Johnston said. "They have agreed to the destrability of a regional approach to language training resources and facilities. The Australia-ASEAN Forum is discussing approaches to research and academic links, the reciprocal recognition of qualifications and skills and has commenced work on a framework for increased regional education, research and training interac-

"We are facing great challenges, among them the fulfillment of the educational, social, and cultural potentials of our people. Australians understand that we cannot in isolation meet the challenges of the future. The key is educationalco-operation." - Depthnews

## Young French People and Science

Jacques Baudeneau

NEW DELHI: Juzar Ahmed. 12, had developed early in life

a hatred for academic studies. He believed he was more suited to technical work. Eventually, he completed a mechanic's course. And yet whenever he

applied for a job, after that, he was always confronted with one, single question: "Have you finished your schooling ?"

This is the daunting problem of millions of Indians which night schools mercifully help solve. Without them, a great number of teenagers would forever be haulers of wood and fetchers of waters, if not outright mendicants.

Night schools in India are not new but today they constitute a vital link in the education of millions of dropouts, workers and the underprivileged who would otherwise remain just that for the

remainder of their lives.

workers, mechanics, electrito rise above their present states in life.

education schemes."

There are some 300

In fact, without them, India's huge army of hotel cians and shop assistants, among others, would never have the educational qualification so necessary if they hope

closed than open throughout the year

As an education expert remarks, "The night school phenomenon has reached out to the underprivileged people through non-formal and adult

schools in Bombay alone. For students who are migrants from villages to the harsh city life, the three-hour evening class schedule is highly practical. They work during the day to support their families and then spend the evenings learning their lessons and try to pass their exams.

The regimen, of course, has its disadvantage. After a hard day's work, the schoolers sometimes could hardly stay

The Arts building of Dhaka University, hub of students' political activities that keeps it more

According to M. Roy, a teacher for over 20 years in a South Bombay night school, "Initially, I was disgusted when saw a boy sleeping in my class. I was very harsh with him. But then over the years I have realised that these children are exhausted after the day's work. And it is quite remarkable that such boys are trying to get education in the fact of many odds. Indeed, it is

sheer heroism." Most education experts agree that the task of keeping a night school running is

formidable. Recently, the Maharashtra government ruled that English and mathematics will be com-

pulsory subjects in all sec-

ondary schools. For night schools, this rule was devastating. The number of successful candidates at high school exams dropped from 55 per cent to just 10 per cent.

The night school employees are also paid low wages. They have taken the matter to court. Now, the Bombay High Court has ordered that school teachers should be paid salaries according to scale.

One of the big problems, according to Father Anthony d'Souza of St. Xavier's Night High School, is the task of imbuing school students with a sense of dignity and healthy self-esteem.

He explains that he has met hundreds of night school students who are afflicted by a poor self-image and strong feelings of inferiority. This is because of their past experience of expulsion from former

schools, poverty and exploita-

Thus, these schools have been encouraged to sponsor a variety of programmes. Now. elocution and story-telling festivals are organised by schools.

A 12-year-old Ram Shetty says: "For many boys the very act of coming up to the stage and speaking before the whole school is an unbelievably affirming experience."

Analysts say that the Indian government's new education policy - which had predicted that all children who attain the age of 11 years by 1990 will have five years of schooling or its equivalent through the nonformal system — is no more than a pipe dream.

The record of non-formal education centres is disgraceful, they say. "They cannot form a viable education alternative for millions of children

who cannot attend regular schools for the simple reason that they belong to the disadvantaged class."

The government's non-formal centres, the experts point out, are not accountable to any monitoring organisation.

In contrast, the night schools, purely a non-government effort, have the undisputed advantage of regular monitoring. You can evaluate their progress or failure.

As another education expert says, "The fact that these schools operate in more than 10 different languages is an ample proof of their success."

Some officials in New Delhi are so impressed by the success of Bombay night schools that they believe it could be an answer to the problem of growing illiteracy in the metro

## Literacy School With a Difference

by Inam Ahmed

It was just one of the many thatched houses in the slum. In it about a dozen people, all of them above 20 years of age. were learning how to read and write Bangla.

A school for adults it was being run by the Bangladesh Inter-religious Council for Peace and Justice (BICPAJ) at Nakhalpara in Dhaka city.

"I am a rickshawpuller." said Malek, a student of the school, "but I attend classes here on two to three days a week. Now I can sign my name after two months of schooling."

The BICPAJ school is a bit different from other adult schools. Here the trainers are not outsiders, but slum dwellers. "When a school is established, we select one of the literate parsons from among the slum dwellers to teach others" says Brother De Suja, the director of the organisation. "He might be one reading upto class VIII. We train him and then send him to his own slum to start taxing classes".

The newly trained person then organises a group of 30 persons and starts teaching them. He gets Taka 250 for teaching each group. He may teach as many groups as he

BICPAJ's education programme needs little fund. The slum dwellers have to provide the school house. Sometimes, BICPAJ gives some money for buying cheap house building material. Students get free books and writing pads. Each day the school functions for about an hour.

The book with which lesson starts is very thin and is named "Ja Chai" (Things that I want). The book is unconventional so is the process of teaching. The lesson does not start with the alphabets in the chronological order like "Ka", "Kha" and so on. But the first word on the book is Taka, the name of the currency. The first sentence says "Taka Chai" (need money). The lesson explains how to earn money, and

"The book deals with the problems of life," Suja says, "like how to deal with a businessman. And if someone follows the text he or she will learn how to read and write within three months", he

why it is needed.

The process of teaching which BICPAJ follows was invented by Paolo Freire, a South American social scientist. This process of teaching is called "conscientization", because it awakes the conscience of the pupil to have a craving for learning. The book BICPAJ follows was written in Bengali by John Hastings a British language specialist. The same version is being used in UK for literacy among the Bengalees living there, says Suja.

At present BICPAJ is running the literacy programme in 30 centres mainly in Dhaka city. "The main problem we are facing is lack of follow up books," Suja says. "If the newly literate people can not find more reading materials to keep up their reading habit, they again fall back to illiteracy." BICPAJ has manuscripts for three such follow up books but cannot print those due to

shortage of fund. "May be one day we will have the chance to print these materials and our literacy campaign will be more successful," Suja hopes.

### Headmaster Gets Rare Honour

Our Correspondent

Mohammad Nurul Islam, Headmaster, Rani Bilashmoni Government Boys' High School, Gazipur, earned a rare honour during the Education Week, 1991, observed in

Dhaka recently. Nurul Islam received not only a best teacher award for himself for the year 1990, his school was also awarded for being one of the 18 educational institutions adjudged best for the year.

Both the awards were handed ever to him. Islam got the best teacher

award for the second time. He was awarded first for his performances as a teacher during 1987. Islam has a brilliant academic background. He has

written a number of books in Bangla and English for secondary level students. He has a good reputation for

his consistent efforts to check all sorts of unfair means in examinations.

# Bombay's Night Schools Bring Relief To Youth

by Prakash Chandra

HE laser, Ariane and Pasteur are the scientific stars of young French people aged 11 to 17. This popularity no doubt comes from school for Pasteur, electronic games and comics for the laser and wide media

coverage for Ariane. What they are mostly interested in is life, the history of man and of living species, (above all, animals (67% of young people), even before the human body and medical discoveries (60%), space exploration (52%), and the sky, stars and universe (50%). Prehistory and nature only

come after these. From their usual and partly contradictory references (school and often fantastic or stereotyped fiction), for 60% of young people a scientist "is not like a professor", but more like an inventor (88%), an explorer (74%) or a doctor (71%).

But, first of all, what do they call science? Systematically, physics, biology and, among the older ones, mathematics. Less often, data-processing and meteorology. The following are not considered as science at all; politics (90%), history (77%) and ... horoscopes (60%). The belief in astrology, in young people just as

in adults, is stronger in lower

science, one may be surprised that to the question "do you think that one day science will make it possible to build a machine to travel in time?" 20% replied "yes certainly" and

and middle classes.

As for the possibilities of

UNCRD-UNDP and IFCDR, BUET, recently.

42% "yes perhaps". Similarly, the same percentage believe that one day there will be machines as intelligent as man. In this one may see the influence of science fiction. Moreover, these certainties tend to de-

crease with age. in fact, they generally have

Prof M Shahjahan, Vice-Chancellor, BUET, addressing at a Training Course on "GIS and

Remote Sensing for Flood Disaster Management in Bangladesh" jointly organized by

good opinion of science. They have confidence in it (87%) and they are interested in it (84%). Only 10% are "very afraid" of it and 32% "a little afraid". They are rarely indif-.

It can be noted that the cultural model found in adults

> ability for such matters in girls than in boys. Does science "make men better" or does it rather contribute good or bad? On this score answers were more cautious. At any rate, they are not unaware of the moral side of scientific activities. They think that it should not be practised without restrictions. The inventors of the atom bomb are even considered as being "a little" (37%) or "completely" responsible for its use. 95% of young people are against meals in the form of pills, and 87% hostile to the creation of a new

Thus, scientists appear to them as sometimes historical agents in the development of

and a dog".

is also found very early in children. First of all, while the gap between girls and boys in narrow, it remains constant (46% of boys "feel a great deal of interest in science", compared with 38% of girls). This interest, which is around 50% when the father has followed secondary or university studtelligent and concerned ies, falls to 36% when he only help mankind, but, in this studied in primary school. This case, he is misunderstood, an difference is also found in the admitted interest in school eccentric or even outcast, sometimes given in to pride or scientific subjects even though there is nothing to show less an unbounded quest for power.

Young French people consider themselves as "good at sport" (36%), a qualification which comes far ahead of "good with their hands" (17%), "good at arts subjects" (15%) and "good at sciences" (13%), with the girls being often more interested in arts subjects and the boys in science. 54% of them admit that

they obtain their basic knowledge of science at school, but 51% prefer to learn about it from television, and this becomes sharply more the case with age and the school level. This is a paradox when one knows that scientific programmes are rare and poor on television, but in that case, it is, no doubt, the entertainment side which prevails.

### science brilliant and disinterested, and devoted to the good of mankind. The great models they admire and respect, particularly due to the influence of school books, are Louis Pasteur, or Pierre and Marie Curie. But, at the same time, a more ambiguous figure comes from fiction. He is certainly in-

animal "at the same time a cat