Feature   ═══ Education ═══

Education For All Summit

IN a major effort to provide their citizens with basic education as a fundamental human right, and as a way to slow the population explosion, stimulate development and ensure child survival, the leaders of Bangladesh, Brazil, China, Egypt, Inia, Indonesia, Mexico, Nigeria and Pakistan will gather in New Delhi, 16 December 1993, at the world's first Education Summit. Through an unprecedented education drive, the heads of state or government are expected to pledge to universalize primary education, and massively reduce illiteracy in their countries.

Hosted by India, and sponsored by UNESCO, UNICEF and the United Nations Population Fund (UNFPA), the Summit represents an historic opportunity to mobilize high-level political support, as well as financial and technical resources for primary education and literacy programmes.

The Summit will be preceded by a "pre-Summit" 13-15 December, at which key aspects such as popular participation, the imperative of popular participation, the link between population and education and the mobilization of funds will be discussed among ministers, other dignitaries, and donors.

If present trends continue, the total population of these countries — 2.7 billion, or half the world's total, is expected to grow to about 3.265 billion by the year 2000. Education, especially for women, is generally believed to be the key to slowing this development. Says Dr Nafis Sadik, Executive Director of UNFPA: "Every large-scale survey in developing countries has discovered that education of women is one of the most universal and reliable predictors both of their own fertility and of their children's health." The nine countries together account for over 70 per cent of the world's adult illiterates and more than half of its out-of-school children. UNESCO estimates that there are together some 70 million children in these countries excluded from primary education. If correct trends continue, this number would jump to a staggering 83 million by the year 2000.

"The Summit is an extraordinary opportunity to advance the cause of education in the nine countries", says Victor Ordonez, head of the inter-agency Summit task force at UNESCO. "Several of them have already increased their budgets for basic education in the past three years. The summit will be

an opportunity to accelerate action and make a real difference."

Commitment and Mobilization

The Summit is expected to reaffirm and advance the international goals of Education for All established by the World Conference on Education for All (Jomtien, Thailand 1990) which launched a world-wide initiative to meet basic learning needs.

Says James P Grant, Executive Director of UNICEF: "Basic Education for all has been defined by Jomtien not only in terms of universal access but also in terms of achievement of a minimum level of basic learning as defined appropriately by each country. This attention to learning resources is one of the most creative legacies of the Jomtien conference which will have an enduring impact. The focus on actual learning achievement will have revolutionary implications for the way countries plan, manage and organize basic education programmes."

The goals of the Summit are (1) to commit leaders and governments of these countries to implement action plans that, while bold and ambitious, are also realistic, achievable and capable of being monitored, and (2) to enable countries to compare approaches, strategies and results and ways of mobilizing resources. The Summit also aims at re-engaging the commitment of the international community to the goals of Jomtien, particularly through increased donor support.

While each country will set its own targets, the summit goals will cover primary education for all children, and elimination of gender as well as social, ethnic and economic disparities in education. Top priority will be given to girls and women.

The Summit aims to remove the disparity between male and female literacy before the year 2000, an especially challenging task for some countries. In Bangladesh, for example, 52 per cent of adult males are illiterate against 78 per cent of women. In almost every country, educated mothers have been found to have fewer and healthier children than their less educated or uneducated sisters. In Brazil, for instance, uneducated women have an average of 6.5 children each, compared to those with a secondary education, who have 2.5. And accord-

ing to one study of Nigerian villages, mothers' education alone was associated with 20 per cent fewer child deaths. Most of those nine countries need to address the challenges of access, quality, drop-out, effectiveness of the education system and resource constraints. But there are huge differences between countries. China, Mexico and Indonesia have

	1990					
Least Developed Countries / South Asia / Sub-Saharan Africa / Arab States / East Asia / Latin America / Caribbean / Developed Countries / World Total — Literacy Rate (%) 0 20 40 60 80 100

■ Total □ Male ▨ Female

more or less solved the problem of access, while in Pakistan, for example, only 29 per cent of children of primary school age have a place in school.

Of those children who are enroled, large numbers drop out or repeat classes before completion. In Brazil, for example, only 63 per cent of children who start primary school reach second grade, and only 47 per cent

make it to the fourth grade.

A huge effort will therefore be needed to educate the young and get them to stay in school. Says James P Grant, Executive Director of UNICEF: "Primary education is the core and cutting edge of any Education for All strategy. I welcome the strong response already given by the nine largest countries.

A Question of Quality

A great many of those who are either out of school or dropouts are girls who live in rural areas and/or belong to ethnic minority groups. And among those who do not finish the primary cycle, many do not acquire the basic skills to improve their own and their families, lives.

"The quality of education provided (...) is sometimes so distressingly poor that even pupils who persist in school for several years may never achieve an enduring level of literacy," says Federico Mayor, Director-General of UNESCO.

Moreover, education in most of the nine countries is overly centralized and bureaucracy-driven, with little direct participation of communities and families. Energy, enthusiasm and resources are not tapped, and conditions for mobilizing them are often not created. Also, most of the countries have been spending much less on educating their people than on meeting military bills and debt-serving obligations, despite the fact that education for all is today believed to be a better guarantee of a nation's security and prosperity than guns and military might.

While it is difficult to assess the exact cost of providing

Education for All before the year 2000, the additional cost of reaching the goal of primary education for all children in the nine countries by the year 2000 has been estimated at between US $4-5 billion. A vast amount, yes, but not beyond our means. According to the Stockholm International Peace Research Institute (SIPRI), the sum is equivalent to twenty medium-sized non-nuclear submarines.
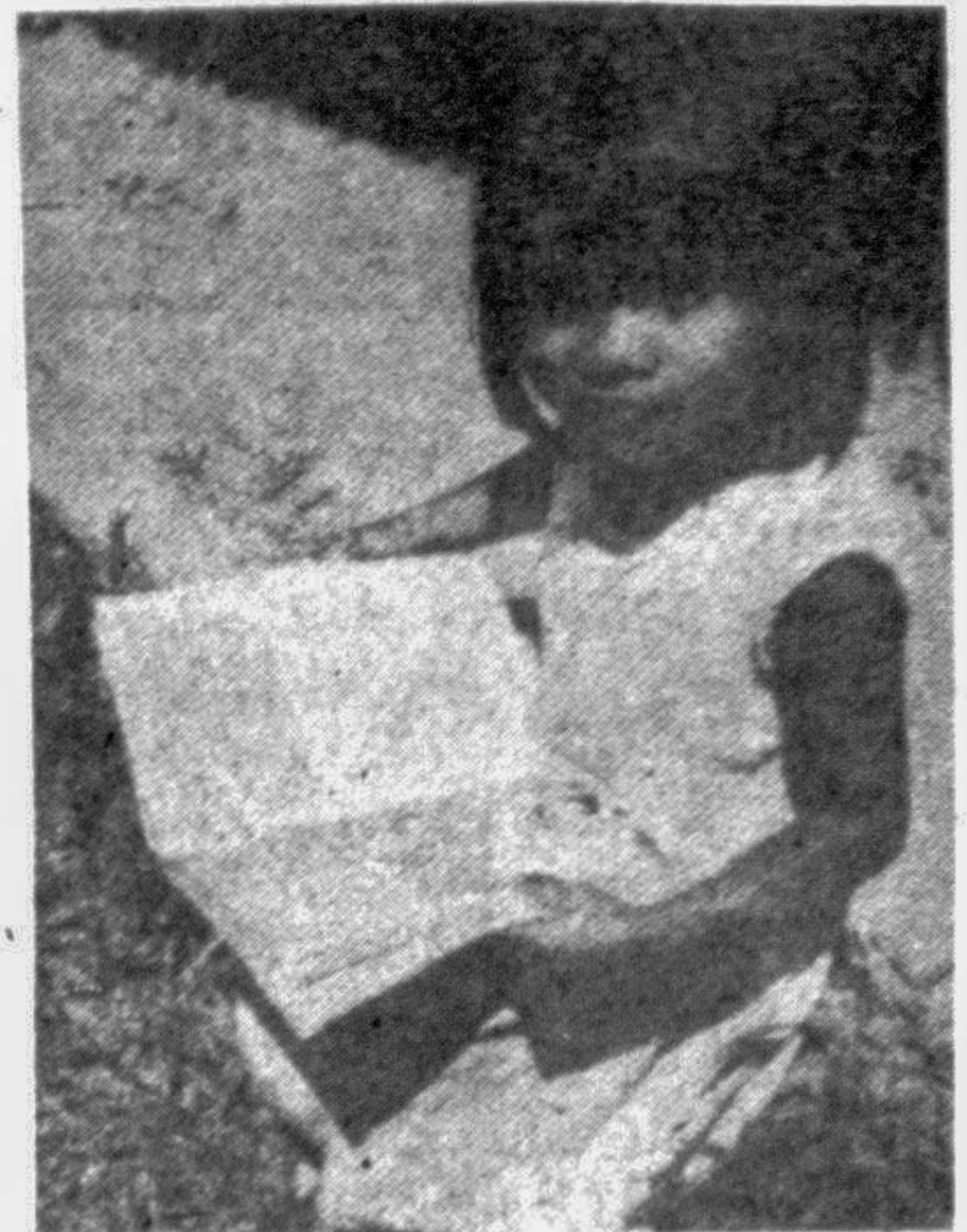
An Overwhelming Argument

Few of the nine countries have made basic education a budget priority, but if they want to achieve the goals of Education for All, they'll have to. There is an overwhelmingly strong argument for restructuring government budgets and pouring more money into basic education," says Ordonez. "Basic education increases economic productivity, enhances social and cultural awareness, promotes health and child survival and slows down population growth. What better case could be made for investing in education?"

The goal of achieving Education for All is more reachable than ever before. The countries are not helpless giants but possess substantial means and enormous potential. Some, such as India, Brazil and China, are even among the most scientifically and technologically advanced nations on earth. "Advances in knowledge and technology mean that many of the most daunting challenges can be overcome," says Ordonez. "And in recent years, many countries have built up an infrastructure and outreach capacity which, if rightly tapped, could bring good quality education to virtually all its citizens."

Courtesy-Unicef

═══ Strategies effective in improving girls' participation in primary education ═══

When girls participate in the educational system, two important variables are present: parental demand for girl's schooling, and supply of services by the public and private sectors that respond to the nature of that demand and to community aspirations.

The following strategies have been found to affect supply and demand factors so as to be particularly effective in improving girls' participation in primary education :

- Locate school closer to communities.
- Promote hiring of female teachers.
- Lower the costs to parents (make school attendance more affordable).
- Develop a relevant curriculum, linking it to the local environment and language, economy, rural life, health, and nutrition.
- Increase community participation.
- Promote localization and decentralization.
- Promote advocacy and social mobilization.
- Design systems that accommodate the needs of female students.
- Support multiple delivery systems that involve formal, informal and "third channel" programs, with a focus on the formal system.
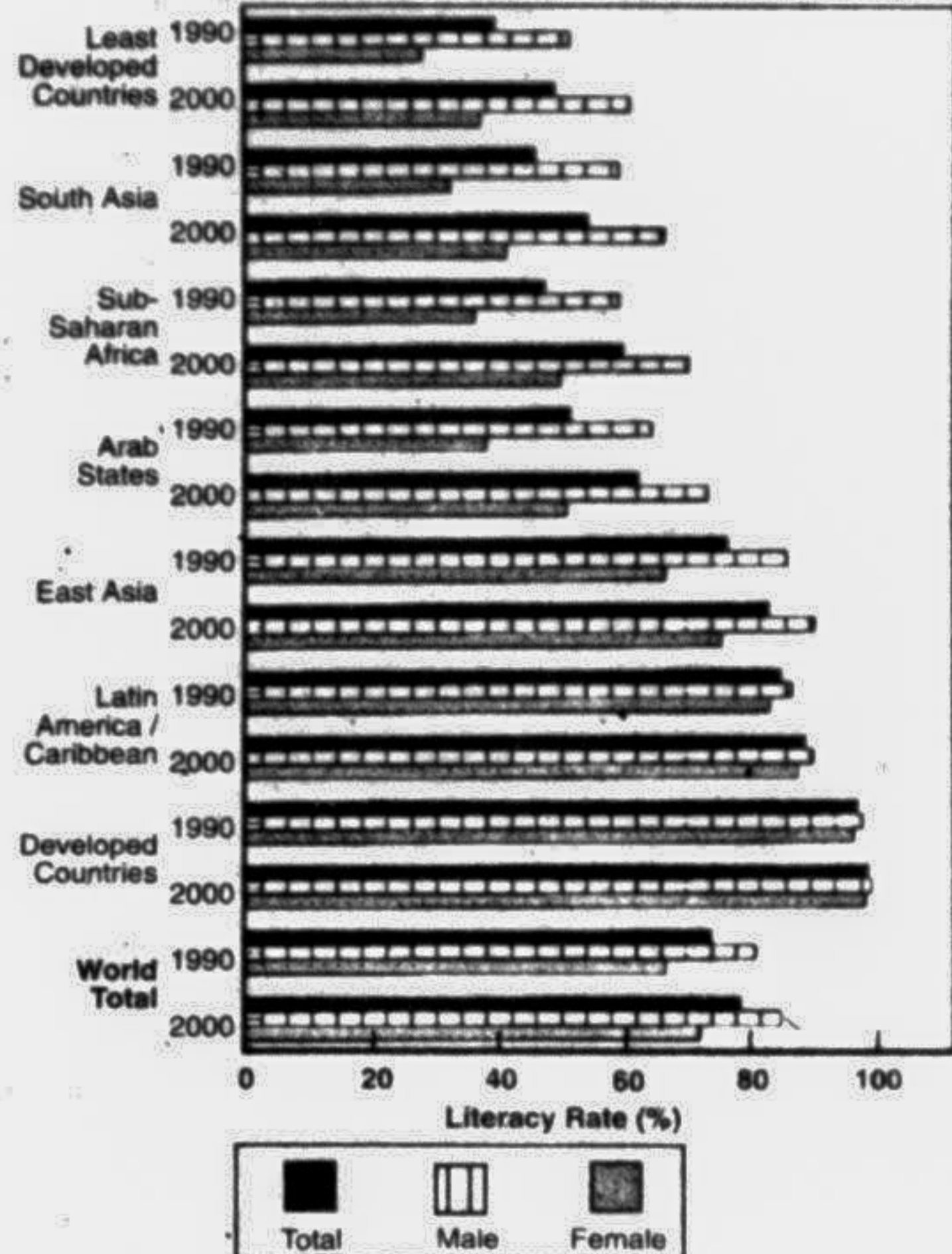
Special alert on girls' education

UNICEF, UNESCO and UNDP are determined to reduce illiteracy by half in Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan by the year 2000.

Because nearly two-thirds of the children not in school in these countries are girls, and because the education of girls is so vital to the social and economic well-being of nations, the NGO Working Group on Education has decided to focus on education of the girl child. With the knowledge that many programs already exist, the group plans to publish a newsletter in forming a wide network of NGOs about these programs.
   — Courtesy Unicef

Meena — SEND GIRLS TO SCHOOL

Primary Education

DESPITE significant progress in the state of education world wide during the past 20 years, in 1990 an estimated 948 million adults — about a quarter of the world's population — were still illiterate, and basic education had yet to become a reality for millions of children.

Too often, those who are left out are girls and women. About two-thirds of illiterate adults are women. In 1990, 130 million children had no access to primary education; 81 million of those children were girls. In the period 1986-89, primary school enrollment of girls trailed that

of boys by 29% in South Asia, 20% in Sub-Saharan Africa and 18% in the Middle East.

Although the global literacy rate is expected to reach at least 78% by the year 2000, the literacy rate is projected to be 60% in Sub-Saharan Africa, and less than 50% for those countries designated by the United Nations as least developed countries, most of which are located in our three designated regions, where the gender gaps are greatest.

The evidence is clear. If universal basic education is to become a reality, educating girls will have to become a priority.

Star Special ═══════ Computer ═══════

Computing Bytes

The Daily Star Computer Awareness Course

by Yousuf M Islam
(Continued from last session)

Permanent Memory Device (Fig. 1.8)

Programmes would need to be permanently stored in slow electro-mechanical memories. To run or execute a programme at electronic speed, the programme would first need to be copied or LOADED into the RAM. Afterwards, the CU would transfer each individual instruction to the ALU and work at electronic speed. The CU would also record results into the RAM or if instructed into the permanent memory.

As the RAM needs electric power to operate, programmes and results residing in it would be erased/lost when switched off.

Q.1.8.1 What would we then need to do if we wanted to record/SAVE the programme or the results permanently?

Q.1.8.2 What device would control the transfer of the programme from the permanent memory into RAM? What device would control the transfer of the results into the permanent memory?

Q.1.8.3 How will the CU know how to
— find a particular programme in the permanent memory,
— load it into RAM,
— send it to the ALU,
— record the results in the RAM and
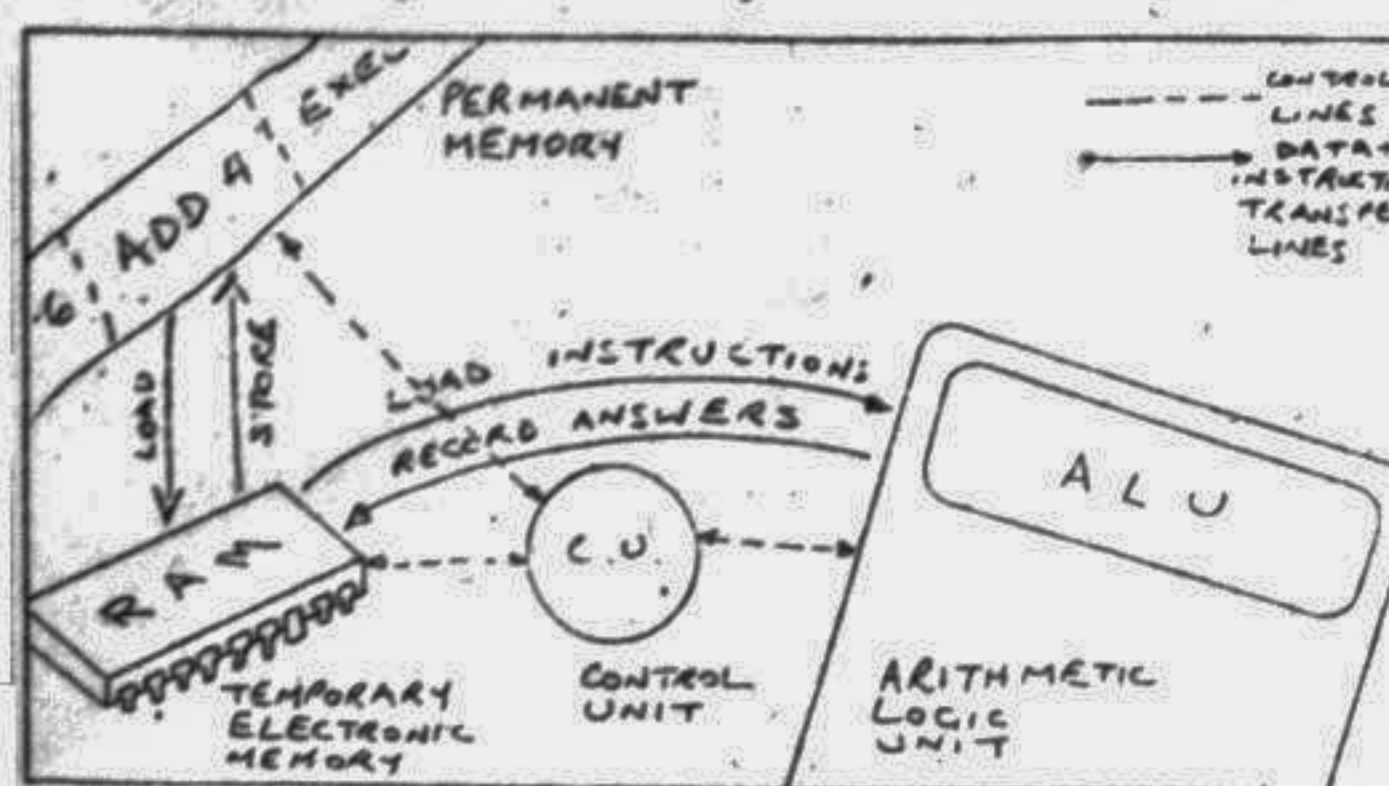— finally save it in the permanent memory?

Fig.1.8 A Computer with Permanent Memory

CU Needs Operating Instructions (Fig. 1.9)

Just as an intending driver needs instructions on how to operate the parts of a car, the CU needs to be told how to operate the different parts of a CPU and the different permanent memories. Indeed, it would need operating instructions on how to operate any additional device if it were connected to the CPU.

The most familiar operating instructions have been written by a company called Microsoft. These instructions are supplied saved on a floppy disc and known as the Microsoft Disc Operating System or MS-DOS with Microsoft has written these instructions for the CU inside the IBM Personal Computer or IBM PC. Each type of computing machine would need its own set of operating instructions. The availability of operating instructions has made computers easy to use as the CU performs all the routine tasks as per the operating instructions given.

Unlike a driver, however, the CU cannot remember these instructions once the computer is switched off. This is because like other instructions, the operating instructions have also to be loaded into the RAM. Every time we want to use the CPU, the

operating instructions must be loaded into the RAM initially before the CPU can be used for any other purpose.

Q.1.9.1 Can the computer function without an operating system?

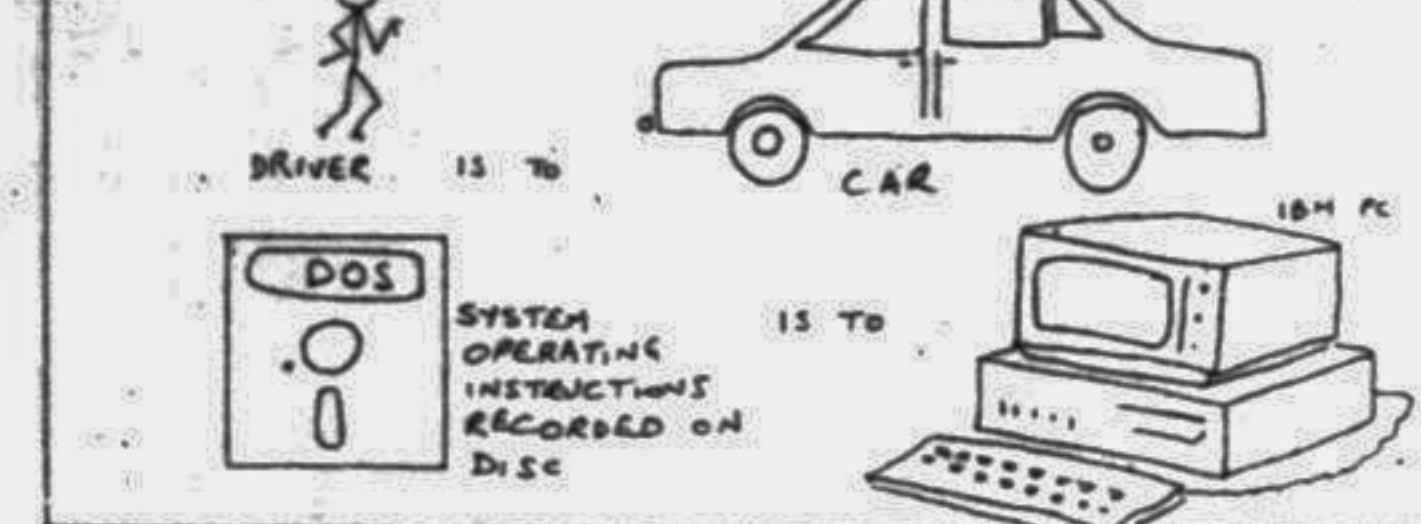Q.1.9.2 How can we use the computer that we have put together?

Fig.1.9 The Computer needs Operating Instructions

A Processor of Information (Fig. 1.10)

The output/result given by the computer is useful as it is new information. We need this information for a particular purpose. To get this information we need to input data and instructions on how to work on this data. The computer can therefore be called a PROCESSOR OF INFORMATION.

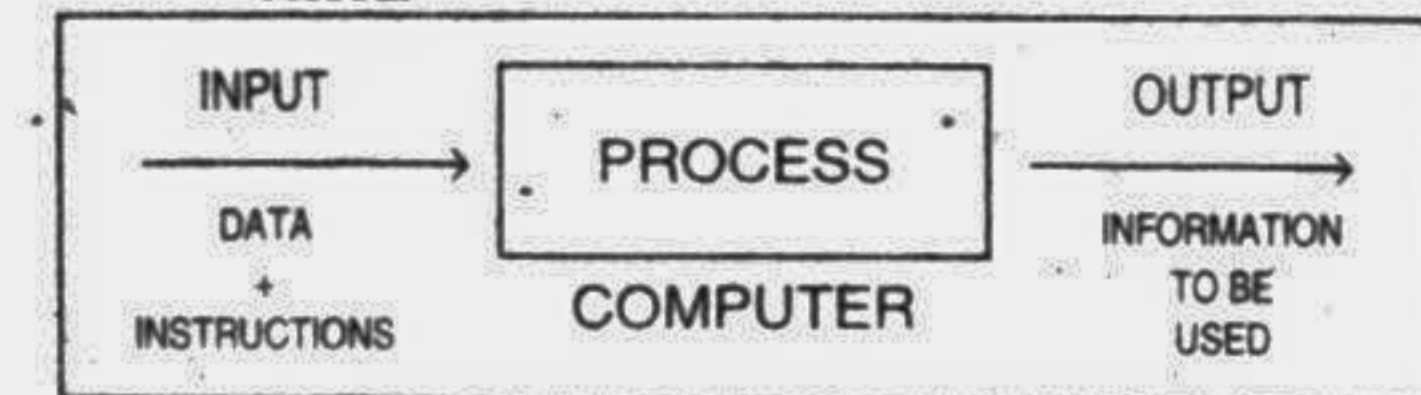Q.1.10 Name at least three ways in which data may be processed.

INPUT		OUTPUT
DATA + INSTRUCTIONS	PROCESS COMPUTER	INFORMATION TO BE USED

FIG 1.10 PROCESSOR OF INFORMATION

Ans.1.8.1 They would need to be saved in a form of permanent memory.

Ans.1.8.2 The Control Unit or CU would also control the external transfer to and from a selected permanent memory.

Ans.1.8.3 The CU would need operating instructions on how to do all these things.

Ans.1.9.1 No! The CU would not know how to operate the different parts of the CPU and the other devices connected to it.

Ans.1.9.2 Like a calculator, the computer is a tool and can be used to process instructions. However, as many instructions/data may be stored, the computer can process large amount of instructions and data quickly.

Ans. 1.10 Data may be processed by classifying, adding, subtracting, multiplying, dividing, sorting into a particular order, etc.

The author is the Systems Director of Raft Computer Systems Ltd.
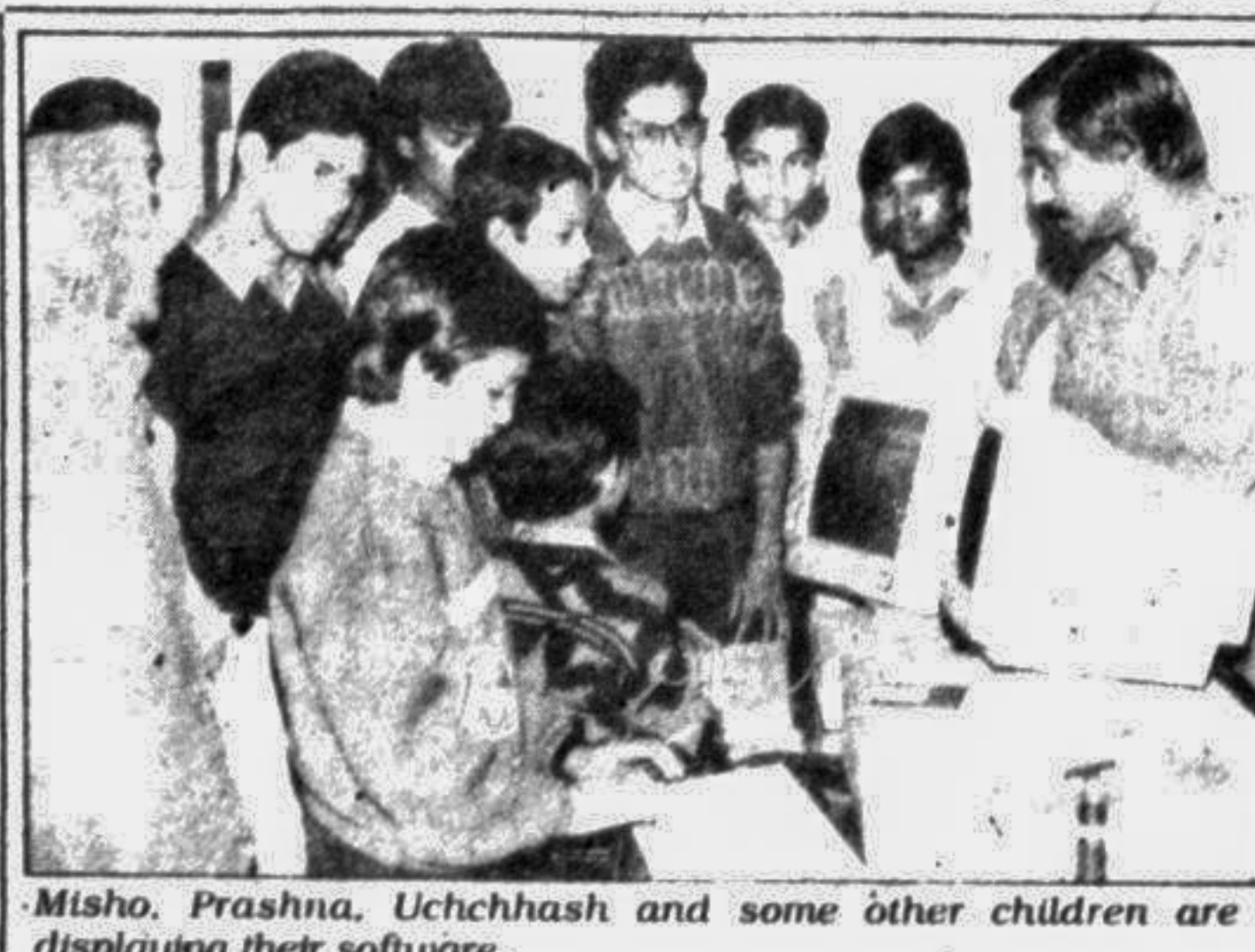
Misho, Prashna, Uchchhash and some other children are displaying their software.

PENTIUM PRICES MAY DROP

INTEL Corp is staring straight at a pincerlike move that could force it to lower its prices and shift its Pentium strategy in 1994.

Surrounding Intel are the PowerPC initiative from IBM, Apple Computer, Inc. and Motorola, Inc. and Cyrix Corp's coming M1 chip design, that company planned to detail at the Microprocessor Forum held on October 18.

The first PowerPC systems started shipping in late September. The various PowerPC partners have the potential to ship well over one million systems next year, according to analyst estimates. That could make PowerPC a solid volume competitor to Pentium, which analysts expect will ship in the two million to three million unit range in 1994.

Moreover, the PowerPC alliance remains on schedule for the second part of the project, the 603 chip. Sources said the partners will announce at the Microprocessor Forum that they have developed the first implementation of the chip.

Intel also will face pressure from Cyrix. Like the Pentium, the M1 features a superscalar design. But unlike the Pentium, it does not require 486 code to be recompiled for top performance. Sources said Cyrix claims that a 66MHZ chip

based on the M1 design will run most 486 code 30 percent to 50 percent faster than today's 66MHZ Pentium. Cyrix declined to comment on possible performance numbers.

The double whammy of PowerPC and the M1 means that "things are getting much more interesting for Intel in the market, said Linley Gwennap, editor in chief of the "Microprocessor Report" in Sebastopol, Calif. But Gwennap said the multiple 486 clone efforts are of more immediate concern to Intel and will have a bigger near-term impact on users.

IBM has already beaten Intel to market with a clock-tripling 486 clone, and analysts said Cyrix and Advanced Micro Devices, Inc. will likely bring similar chips to market in 1994. With competitors keeping pace with Intel's coming DX3, Intel may find its current cash cows threatened before Pentium ships in high enough volumes to replace them as profit-generators.

"Intel is going to start to get squeezed [in the 486 market]. I think 486 prices will be dropping rapidly in 1994, which will be the most significant thing to 90 percent of the users out there," Gwennap said.

We expect to see 486 pricing drop due to competition and the

new (DX3s)." Said Jim McDonnell, marketing manager at Hewlett-Packard Co, in Sunnyvale, Calif. However, he said HP does not expect dramatic price cuts until the second half of 1994. Some analysts suggested that sharp reductions in 486 pricing could lead to systems priced less than $1,000.

Users trying to decide whether to buy 486 workstations now or wait for Pentium pricing to drop may opt for the 486 with the price cuts.

"With the software requirements we see on the horizon, we'll probably need to move beyond the 486, but if prices drop, we can buy the higher-level 486s," said Abraham Chait, a team lead at Pacific Gas & Electric Co. in San Francisco.

Because its competitors appear unlikely to ship chips until the second half of 1994, Intel has time to react, analysts said. The chip maker plans to shift Pentium production to a new process known as 0.6 micron, which will let it bring out higher-performance Pentiums.

Those Pentium parts, code-named P54C, should match the M1's expected performance levels, though this will still mark the first time Intel has not been a generation ahead of the cloners.

Seeking to nip PowerPC in the bud, Intel plans a frontal

assault on its target market: Macintosh users. Intel has started advertising in major Macintosh user publications to persuade those users to move to Intel platforms.

"They see a chance to get this market in a transition time," said Tom Thornhill, an analyst at Montgomery Securities in San Francisco.

Also in Intel's favour: Several sources said the Cyrix M1 chips will not be pin-and-socket-compatible with Intel's chips, which may create design and software compatibility issues.

Courtesy: C&C

First Powerpc-based workstation from IBM

The first Powerpc-based workstation made its debut at the Unix Expo held in the last week of September.

IBM's Advanced Workstation Division announced its Rs/6000 workstation based on the 601 PowerPC processor, with the entry level system expected to be priced in the $5,000 range.

The system has 15 MB of RAM, local bus-based graphics, two slots, and a 1-gigabyte hard drive, sources said. The system is expected to run a version of IBM's AIX Unit operating system optimised for the PowerPC.

"Computer kids" Develop Software

by Staff Correspondent

"Computer kids" showed their skill in handling computer and explained their developed software at a crowded press conference at the Press Club VIP lounge.

Misho, Sawchchha, Prashna and **Uchchhash**, aged between 10 and 14 years, showed their international-standard software at the conference. Some of them developed software using the latest object-oriented programming language c++.

Computer Jagat magazine organised the press conference.

Abdul Kader, editorial adviser of the magazine said that these kids proved what the new generation can do for the development of computer technology in the country. He appealed to the government to take necessary steps to export the software to the international market.

ORACLE7 Offers PQO

ORACLE Corp. recently unveiled Release 7.1 of the Oracle7 relational database management system, which includes two technologies said to be key to the continuing acceptance of distributed processing.

The company detailed for some 6,000 users attending the International Oracle Users Group meeting, its new Parallel Query Option(PQO) and Enhanced Data Replication technologies. PQO automatically decomposes SQL queries into operations that can be simultaneously executed across parallel processors in a single machine. The process is transparent to users and programmers, and begins to resolve one of the problems of parallel processing: how to automatically split tasks between processors without requiring custom programming. Oracle is expected to present dramatic price/performance arguments backed by test results demonstrating decreased processing times for complex queries.

In addition, parallel queries coupled with parallel systems will enable customers to do decision support queries on massive amounts of data. The company will cite one example where a report that formerly took hours to run is now running in approximately two minutes.

"PQO is a very big deal for the industry," said Peter Kastner, vice president of corporate computing for Aberdeen Group, Inc. a Boston consulting firm. Other database vendors are close to announcing similar technology, the arrival of which will likely spark debate about the "correct" mechanism for implementing parallelism.

Informix Software, Inc. which for two and a half years has been jointly developing parallel processing software with Sequent Computer Systems, Inc in Portland, Ore has code in alpha stage and expects to release in the first quarter of 1994 a parallel processing version of its relational DBMS for Sequent

computers. Versions for other machines, including those from Hewlett-Packard Co and IBM, are expected to be available in the second half of 1994. Informix will formally announce its product plans at the end of November.

Sybase, Inc's parallel processing entry, the Navigation Server, will debut in January. The product is currently in alphatest. Selected customers have the code and are beginning the process of building databases and applications. Sybase expects the product to enter beta in the first quarter of 1994 and to ship production code by the second half of 1994.

The other technology, Enhanced Data Replication, is an upgrade of Oracle's approach to synchronising data in a distributed environment.

Oracle7 includes the distributed option that combines two-phase commit and replication technologies in a larger architecture, letting customers use either technique to ensure data concurrency when distributing databases throughout a net.