

The Damaging Impacts of Densification

Dr Muhammad Z Mamun writes on development strategy to mitigate riverbank erosion disaster in Bangladesh

Due to population pressure, human settlements have spread to marginal lands and disaster-prone areas in many developing countries. Yet settlement planning issues continue to be largely ignored in national development planning. This is the case notwithstanding the fact that material and human losses are endemic for building settlements in the disaster-prone areas.

Human living in the frequently devastated floodplain and riverbank erosion-prone areas manifest stark realities of life. While living in floodplain allows easy access to fertile land, excess flooding routinely destroys crops and damages property. But most devastating effect takes place from loss of land due to river encroachment since land is the main, if not only, source of living for the people who live in erosion-prone areas. Once that is gone the motion of impoverishment and marginalisation sets in.

This problem is manifestly present in the large river and coastal belt of the deltaic area that comprises Bangladesh. Population displacement due to riverbank erosion is endemic in many parts of the country. Although some households do move to safer areas and build safer settlements, many merely relocate within the same area that has either been already affected or bear known vulnerable characteristics. Thus, there is a good basis to hypothesise that post-disaster coping mechanisms and economic outcomes vary among the riverbank erosion displaces in terms of their settlement choice. This provided the basic inspiration of investigating the scope of policy and planning support for a settlement pattern that would enable the vulnerable people to build their homesteads in relatively safer areas near to their original settlements, where from it will still be possible to make best utilisation of land and other natural resources.

The study of this scope was undertaken by investigating the (a) awareness and adjustment behaviour of vulnerable people, (b) prospects of safe distance

cultivation and resource management, and (c) potential of enterprise development using local resources.

The field research for the purpose was conducted in 1994, in a severely affected riverbank erosion area — the Hizla thana in Barisal. Interestingly despite known vulnerability, the thana does also have areas that are comparatively safer and suitable for permanent settlement building. The safe-vulnerable differentiation of the area was made on the basis of four criteria: the nearness to river, the erosion history, the present state of erosion, and the existing embankment protection. Discriminate analysis was also conducted on the basis of characteristics of the locality and the households to check the validity of this categorisation. Eight spots were then selected from the two distinct zones on the basis of their population density, infrastructure condition and functional characteristics.

Finally, a sample of 381 households, from both the safer and vulnerable zones, was obtained to study (a) the relationship between household socio-economic characteristics and settlement decision; (b) preparedness against riverbank erosion; (c) attitudes toward settlement in safer areas, adoption of non-farm employment practices and safe distance cultivation; and (d) adjustment behaviour of the households who were already affected by erosion.

The socio-economic characteristics of households show that safe area residents are economically better-off. They are found to participate more in salaried jobs businesses and other non-farm activities; whereas, the vulnerable area residents are more involved in fishing, farming and as agricultural labour. Better educated households, mostly settled in the safer areas, are found to dominate the higher income range.

The major factors that influence the settlement decision of riverbank erosion displaces are their education, skills, oc-

cupation and financial state. It is found that the displaces solely relying on agriculture and having no education or non-farm skills are the ones who tend to stay near to their eroded land. This is the group who plunge into a downward spiral in terms of socio-economic condition and overall well-being.

On the other hand, displaces having some non-farm occupation, education and skills migrate to safer areas and are able to improve their economic condition. The survey findings also reveal that the safer area households are economically better-off than the vulnerable area inhabitants. This is not only because of the former's greater reliance on non-agricultural occupations; even those who are engaged in farming in the safer area are better-off than their counterparts in the vulnerable area.

The data clearly show that the majority of households are aware of the damaging impacts of erosion for settling in vulnerable areas and succeed in realising the fruits from settling in safer places. Many of them seem to succeed because of adoption of non-farm occupations as their livelihoods in the new settlement. The households who decide to continue within the vulnerable area reflect kin attachment, financial disadvantage and total dependence on farming for living.

Other significant deterrents on moving are lack of marketable education and skills and the hope of getting back the lost land soon from possible land accretion which often proves to be delusional. Being frustrated by continuous erosion and their helplessness to prevent it, they pay more attention to immediate interests (e.g. raising a quick crop) rather than erosion itself. This helplessness tends to nurture fatalism.

On the whole, however, the respondents show eagerness to staying in safer areas, conducting farming by commuting from a safe distance and starting business along with farming. They are also eager to move to safer places for deriving ben-

efits from the infrastructure and utilities that are present in the safer area.

Those who settle near to their farmland, despite the risk of erosion, does this mainly for convenience of access to land saving time on travel and avoiding risk of commuting by slow-moving and unsafe river transports. The encourage densification in safer areas, there is therefore a need for a good transportation system, especially the water transportation, which should be modernized for safe, timely and fast movement of people and goods between the safe and vulnerable areas. Total local employment effect from modernisation of the transportation will be positive since it will create many new economic activities and support services.

The migration and adjustment behaviour of dislocated residents show that after the experience of the first couple of erosions, the majority of households settle near to their eroded land in an of the first couple of erosions, the majority of households settle near to their eroded land in an unplanned manner. But gradually with the increase in erosion effects, they realise the risk of living in vulnerable area, especially from the distressing experience from early erosions, and move in a planned fashion and avoid staying in vulnerable lands.

However, as households are very much dependent on agriculture they cannot think of moving to distant urban lands. The erosion-affected households are found to gradually decrease their dependence on farming as sole occupation and get involved more in small businesses and fishing as time passes. Data on occupational adjustments of both the affected and unaffected groups show that the majority households adopt one or more secondary occupations. This clearly suggests the growing awareness of households of the need to bring down reliance on only one occupation and adoption of contingency measures for coping with the consequences of land losses from erosion.



Disaster looms, but it's always safe to settle down

Thus, the findings of the study lend support to scope and desirability of densification and economic diversification. There is wide scope of concentration of vulnerable people to safer areas due to uneven population distribution. Adoption of safe distance cultivation practices, which needs to be supported by developing and modernising water transportation is crucial as a development strategy for an erosion-prone area like Hizla.

Development strategy should make use of (a) the natural route for goods and human transportation, (b) the local resources for enterprise development, (c) rich and numerous local waterbodies for developing the fishing industry, (d) the embankment management for income generating employment, and (e) the local literate and enterprising group to pioneer the densification of settlements in the safer area.

For giving support to the already-prevailing signs of eco-

omic diversification, small-scale enterprises (e.g. ice plants, rice mills, 'hogla' productions) relying on the local resources need to be supported by the provision of credit. Other forms of support required are assistance in promotion and marketing of local produce.

Enterprise development alone will not create enough employment for the locality. Safe distance land cultivation can be a mean to generate significant employment, utilise the experienced farm labour existing in the area and thereby maintain basic farm employment. High fertility of the charlands can be basis for a well-planned seasonal cropping and creation of additional farm employment. These charlands which grow natural pastures can effectively be used for cattle grazing and livestock raising. Regular monitoring and development of fresh water swamp forestry along the embankment will generate employment and strengthen the safety against

erosion. The area's vast expanse of riverlines and numerous waterbodies offer an excellent scope for strengthening the fishing industry. Fishing cooperatives, with capacity of financing and marketing effectively, can help fishing to flourish in this area.

The basic land-man ratio has led to human settlements to marginal lands that can only be altered through settlement building in the safer areas. But it can take place smoothly only in an evolutionary pattern through the interplay of socio-economic forces and policy and planning support. The resilience of the people to adopt and adjust is a fundamental strength that should be the basis for moving in this direction. The uneven population distribution in safer areas suggests scope for absorption of new settlers in these areas without necessarily threatening anybody's interest. Also, the people realise the risk of living in erosion-prone zones and want to change

their circumstances. Thus, densification of settlements in safer areas and diversification of economic activities are not something vastly different than what has already been taking place (in terms of new settlements and economic activities) or what people would like to do. This makes the proposition of safer settlement building development strategy of this study realistic and feasible.

Indeed, the suitable place of living for the riverbank erosion-prone people is near to their original homestead so that they will not be totally uprooted from their roots, soils and source of living. All these can be preserved and promoted with policy and planning support to settlement building in relatively safer area and encouraging diversification of economic activities.

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Buddhist Miracles in Bangkok

by Satya Sivaraman

The drive was preceded in September last with claims of a "miracle" at the Dhammakaya temple site. According to a temple publication, tens of thousands of people who had gathered for a mass meditation are believed to have seen the sun disappear, replaced by a crystal ball.

It is a Thai sect that seeks to put up the equivalent of Mecca or the Vatican for the world's Buddhists, but its critics say the Dhammakaya group is creating a "spiritual casino" more than anything else.

Since 1989, the group has been dead set on putting up a centre here in Thailand for Buddhists all over the world. But its methods of achieving that goal have been questioned by devout Buddhists here and other Thai observers.

For one, it raised funds from its followers by promising religious merit in return for money. For another, the sect's acquisition of land measuring more than 400 hectares led to the forcible eviction of farmers.

The Dhammakaya sect has also attracted criticism for its penchant for exchanging "holy merchandise", religious merit and promises of prosperity for hard cash.

However, the group is facing even more scrutiny from media and the government after launching a controversial plan to raise more than 300 million dollars from its estimated half-a-million followers for the construction of a platinum pagoda that will be the attraction of its sprawling complex.

In November '98, the Ministry of Education, which oversees Thailand's Buddhist monasteries, voiced concern that the sect was using "improper methods" to solicit donations.

The Sangha Supreme Council, the highest Buddhist authority, has appointed a senior monk to review Dhammakaya's activities.

About 95 per cent of Thailand's more than 60 million people are Theravada Bud-

dhist. The Dhammakaya sect's history goes back to 1969 when a small group of devout Theravada Buddhists began a meditation centre 50 km outside Bangkok. By the mid-1970s, the centre had become an officially recognised monastery.

As part of the fund-raising drive for the Maha Dhammakaya Chedi, sect devotees have been asked to contribute 800 dollars each in exchange for the installation of an icon representing them inside the pagoda. For 280 dollars, the icons will be installed at the pagoda's base.

In recent weeks, Thai media have been flooded with tales of devotees giving up savings during economic crisis to the temple. The sect also sells amulets to help people do well in business by "sucking away money" from "people with low merit".

The drive was preceded in September last with claims of a "miracle" at the Dhammakaya temple site. According to a temple publication, tens of thousands of people who had gathered for a mass meditation are believed to have seen the sun disappear, replaced by a crystal ball.

The publication also says they claim to have seen an image of the late Luang Por Wat Paknam, the monk whose meditation techniques the sect espouses.

The group's latest scheme comes as no surprise. After all, the Dhammakaya Foundation's aggressive business-like approach had won the group a 1988 award from the Business Management Association that extolled its "market planning strategies".

The religious group is practically a business empire, with

influential politicians like former Thai Prime Minister Chavalit Yongchaiyudh and businessmen said to be followers.

But many Thai intellectuals have just about had enough of the sect's corporate approach to faith. Comments well-respected social critic Sulak Sivaraksa: "The Sangha Supreme Council will do Buddhism a service by having the Dhammakaya temple's assets audited."

He says the sect teaches its followers greed and promotes a consumerist, materialist culture far cry from basic Buddhist principles. Buddhist scholar Sathinpong Wannapruek says the temple's teachings are dangerous because they contribute to the false belief that religious merit can be bought with money.

Many Thais apparently agree. In a poll conducted by Bangkok University, nearly 90 per cent of 1,300 respondents rejected the sect's method of soliciting donations by promoting "miracles".

Some 85.5 per cent also said the temple's tactics of having worshippers "buy merit" was not right, while 87 per cent said construction of the expensive Maha Dhammakaya Chedi was not the right way of propagating Buddhism.

Deputy Education Minister Arkom Engchuan has said the Sangha Supreme Council will soon rule on what constitutes a "proper" limit to solicitation, the promotion of religious objects and temple buildings.

But the Dhammakaya sect's publications justify the commercial approach to religion by claiming devotees need simplistic ways of getting merit because they are not "spiritually strong".

"People need something to have faith for morale and support," argues one such publication. "Patients don't like swallowing bitter pills even though they know the medicine is healing. But pills coated with sugar are easier to swallow."

Dhammakaya follower Luchan Vongyanij, scion of a prominent Thai business clan, adds: "There is a growing realisation throughout the Buddhist world of the need to adapt religious values to the modern world of high technology driven life."

Indeed, some observers say the rise of modern, materialist sects like the Dhammakaya is a response to the changing social and economic realities of Thailand, which in just a few decades has grown from a rural, agriculture-based society to one dominated by an urban, industrial culture.

The sudden shift in the pace of life, say observers, has produced material insecurity and spiritual confusion that traditional religious approaches have failed to address adequately.

Interestingly, another Buddhist religious sect whose popularity has run parallel to the Dhammakaya's rise is the Santi Asoke sect, which preaches simple, austere living and a rejection of material wealth.

Observers say a failure by Buddhist authorities to crack down on the Dhammakaya sect's "grand sale" of religious merit will confirm growing suspicions that the real problem lies as much with mainstream Buddhism as with the sect.

— IPS/APB

Italy Makes Headway on HIV Vaccine

Susanna Jacona Salfia writes from Palermo

There was a time in the history of AIDS when a vaccine against the disease seemed so remote. While it will still be a few years before anything is on the market, much progress has been made. Gemini News Service reports on work by Italian researchers, who believe they may be on the way to finding the key to cheap protection against HIV.

ITALIAN researchers have come a step closer to a vaccine against HIV, the Human Immunodeficiency Virus which leads to AIDS, after recent successful trials on animals and humans.

In two different trials — one on monkeys by Barbara Benfili of ISS, the Italian Institute of Health, and one of 14 HIV-positive volunteers by Alessandro Gringeri at the Policlinic Hospital of Milan — a new HIV vaccine seems to have proved effective both in the prevention and therapy of the disease.

The Italian vaccine is based on an "inactive" protein that is, deprived of its biological activity — of HIV, isolated from the virus of infected people.

The Tat protein — the HIV transcriptional activation protein — is essential for HIV replication. It is the "core" protein of the virus, feeding it and allowing it to grow and expand, passing from an infected cell to a healthy one.

The Anti-Tat vaccine neutralises the Tat protein, which — according to the Italian researchers who developed it — effectively robs HIV of its malignant characteristics.

The Italian researchers believe that this is the only really effective way to stop the virus.

Currently, there are several vaccine candidates being researched worldwide that could be given to uninfected people exposed to HIV. However, none are expected to be available for at least a few years.

Most recently, on 27 November, the International AIDS Vaccine Initiative launched two

projects to develop vaccines: one a partnership between Nairobi and Oxford universities, the other a collaboration between a US biotechnology company and the University of Cape Town.

In the first Italian trial, the vaccine was injected in a group of seven uninfected monkeys. After two months, the researchers injected the vaccinated monkeys with HIV; five out of seven proved resistant.

"The Italians have prevented a high percentage of monkeys from getting the disease," commented Marc Girard, of the Pasteur Institute in Paris. "It is a great result, and nobody has managed to do the same. The Tat-protein should be added to the vaccines scheduled for human trials in 2000."

Their choice of active ingredient makes it different from previous vaccines, many of which have proved unsuccessful in trials. Most were based on parts of the Env-protein, the substance which coats the surface of HIV.

In the wake of the first trials on monkeys, research from now on will be directed at finding the right dose of Tat protein to implement the vaccine, with further trials to be conducted on monkeys in the next few months.

While the ISS has taken the cautious route of working on monkeys, the Policlinic Hospital in Milan has headed straight for human volunteers.

Gringeri, a researcher at the Policlinic's "Angelo Bonomi" Emphyli Institute, gave 14 HIV-positive volunteers the

Policlinic's version of the vaccine.

Unlike the monkeys, the volunteer's immune systems were already affected and their T-cells — the cells in the body that produce the antibodies which resist disease — were already devastated by the virus. But even so, tests showed that they produced specific antibodies to HIV. The results have been sufficiently encouraging that similar experiments will soon be conducted in the USA as well.

Gringeri is leading a pool of Italian and foreign researchers who have been working on Tat for the past year. Those involved include US researcher Robert Gallo, one of the early pioneers in AIDS research; Daniel Sazary of the Pasteur Institute in Paris, and scientists at the University of Brussels in Belgium and the Rehovot research institute in Israel.

The Gringeri vaccine is intended to be an immunisation therapy supporting the conventional "tridrug" treatment using protease inhibitor drugs (such as zalcitabine, zidovudine and indinavir), currently used on HIV-positive patients in developed countries.

The second phase of experiments with the Gringeri vaccine will continue with other HIV-positive people, to identify the right amount for the best response from the immune system. This phase will be probably concluded within the first few months of next year.

From there, though both projects must move on to the most important, and most risky, segment of testing —

mass trials on human subjects.

Ensol's team from the ISS are already planning trials late next year both in Italian hospitals and in Africa, where both the prevalence of the virus and the need for a vaccine is most severe. In the worst hit African countries, about 20 to 25 per cent of adults are infected.

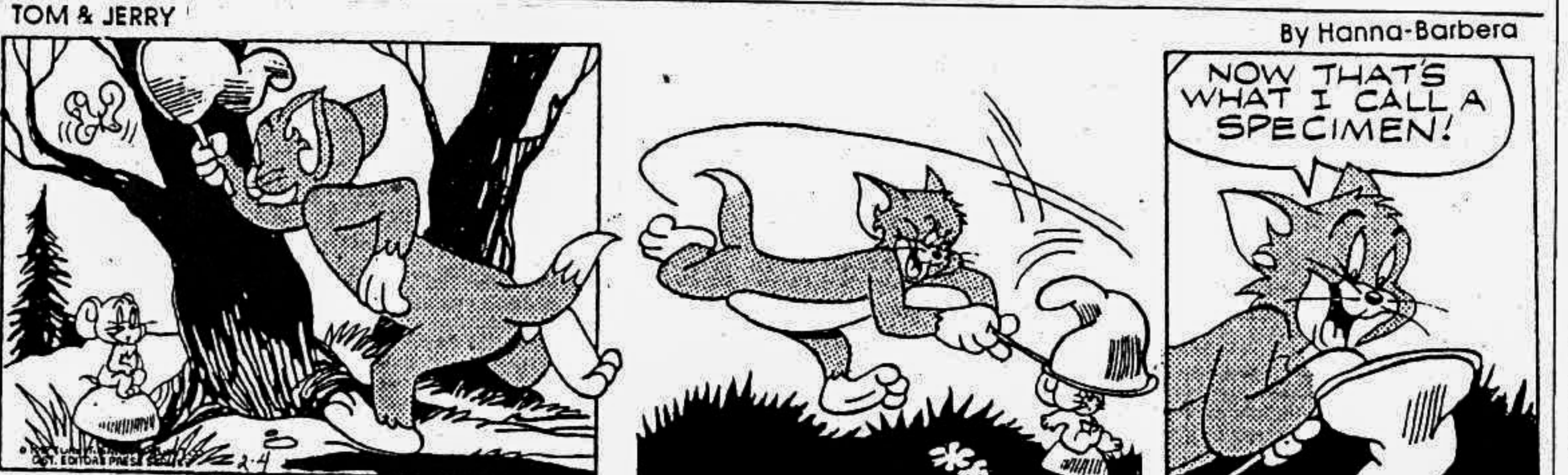
Whereas the cost of existing treatments for pre-existing HIV cases is way beyond the means of the countries in Africa and Asia who most need them, Ensol is determined to make her vaccine more widely available.

While the vaccine formula will be sold to a pharmaceutical firm, Ensol has said she will negotiate with the firm to ensure it is available at an affordable price.

"When all the human trials have been concluded and the right dose identified, the new vaccine has to be sold at a very low fee in developing countries," she said.

Likewise, Gringeri's team is also in the process of planning mass human trials in collaboration with hospitals in the developing world, scheduled for the end of next year. If all goes well, the Anti-Tat vaccine will be given to healthy volunteers who are regarded as "at risk" — for instance, those with an HIV-positive partner, or those living in sub-Saharan Africa.

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Report Disproves Myths of Indian Primary Education

Lalit K. Jha writes from New Delhi

According to the latest National Sample Survey Organisation statistics, India's literacy rate is estimated to have increased from 52 per cent in 1991 to 62 per cent in 1997. However, according to UNESCO estimates, by the turn of the century more than half of the world's illiterates would be in India, which currently has a population of over 960 million.

A private report on the status of elementary education in India has exploded popular myths that are frequently cited as reasons for the massive number of unlettered people in this country.

The report, which has sought to examine the elementary education policy's relevance to underprivileged sections, concludes that a direct link between child labour and schooling is too simplistic and that contrary to popular notion, most parents attach importance to their children's education. The report is based on a survey of four states — Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh — which represent 40 per cent of the Indian population and more than half of the country's out-of-school children. The "Public Report on Basic Education in India" (PROBE) calls for elementary education to be made a fundamental right. Published by the Oxford University Press in as-

sociation with the Delhi-based Centre for Development Economics, the report was released here by 1998 Nobel economics laureate Amartya Sen yesterday.

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"Each of these myths contains a grain of truth, but this grain of truth has often been bloated out of proportion in public debates, leading to much confusion," the report says. As

many as 98 per cent of the parents interviewed by the PROBE team said it was important for a boy to be educated while 89 per cent said it was essential for a girl attend school.

"The typical father and mother are very keen that their children should receive a good education. It is another matter that they do not always have much faith in the schooling system's ability to impart such education," the report notes.

The report, claimed to be the first attempt to look at India's elementary education from the viewpoint of the underprivileged, disproves the myth that "most of out-of-school children are unable to study because they have to work." It argues that only a small minority of Indian children are full-time labourers and a vast majority of them works in their own families' fields. Children take up full-time jobs after they drop out of school for a variety of reasons, it says.

Despite a constitutional di-

rection that elementary education be made free, poor families in rural areas need to spend what to many of them are princely sums to send their children to school. Families in the rural parts of northern India need to spend at least Rs. 318 (\$7.5) on each child's education in government-run schools.

"Recent surveys indicate that the cash cost of education plays a major role in discouraging poor families from sending children to school, especially when the quality of schooling is low," the report says. According to it, even when schools were available at a convenient distance, they are often found inadequate in terms of both quality and quantity. "It is little use living within one kilometre of a primary school if the school is already overcrowded, if it has a single teacher, or if the school is deprived of basic facilities such as a blackboard," the report says.

— India Abroad News Service