

# Integrating Sanitation with Environment

by Zia-us-Sabur

THE Water and Sanitation Decade has drawn to a close. Globally, the policy-makers are opting for opening new horizons. Perhaps the reason behind this is everybody's concern for environment. Environment encompasses a wide range of issues involving our surroundings, circumstances and influences. Everybody seems to be pretty confused when it comes to launching programmes. As we are about to embark on the next decade, many are proposing an all-out attack on environmental problems. Looking back in anger the experts are tersely pointing out that in the race to service all people the environmental concerns were overlooked and now they are advocating to activate initiatives in that direction. The issue has gained further importance because many of the environment related activities will add value to the economy by generating income. On the paper, the idea seems to be quite impressive. But the have limited resources to spare and as the old saying goes we should indeed cut our coat as far as our cloth permits.

Speaking strictly from Forum's (NGO Forum for Drinking Water Supply and Sanitation is a service delivery organisation of NGOs engaged in water and sanitation related activities in the country) point of view the question is, should we keep our options open or continue to perform what we have been doing until now?

As the next decade is about to unfold we have to sketch out our future courses of action in a well planned pragmatic manner. One point is worth emphasising here that plans dwell in the future in the realm of uncertainty. Working out plans that completely fits in with reality is less often possible than not. Planners plan on the basis of certain assumption, important variables are taken into account in search of predictable patterns out of chaotic reality. Therefore, it is too much to expect formulation of a concrete frame work of action plans readily translatable in to practice.

Though there has been 32% increase during the third Five-Year-Plan compared to Second-Five-Year Plan, yet the sectoral allocation for this sector declined from 2.1% to 1.2%. Moreover, the rural/urban ratio in terms of budget allocation for the two key government sector were:

The above trend suggests a market increase of preference for urban sanitation. We do not expect a radical shift of priority during the Fourth-Five-Year Plan, therefore, it is highly probable that the allocation this time also won't fluctuate much. This is depressing as the targets to be achieved for

the next decade will be a highly formidable task to perform, to say the least. We will be having 47 million more people to serve by the end of the year 2000. If by any sudden stroke of miracle the population growth comes to a standstill, we will have to serve 30 million people for providing safe water. But it is more likely that there will be an addition of 47 million people bringing the number to 77 million. Let us draw a crude calculation; the material cost for each shallow tubewell is 3000 (approx) Taka. With 77 million to serve we will be needing 2566 million Taka excluding capital expenditures, transportation and

million Taka during this decade.

That was the good news, the bad news is, though, more than 70% coverage has been achieved yet only 12% of the beneficiaries use water for all purposes and the rest use safe water for drinking only. On the other hand, awareness for hygienic latrines can well be understood by only the 5% coverage.

The financial investments for motivational support will go to be equally handsome as material support. Therefore, considering the enormity of financial involvement for material support, changing the mind of the people should be

that 90 people has been provided access to safe water. Use of tubewells is community based. It is a meeting place and it is here that they discuss their problems, personal and of common interest. On the other hand, use of latrines are family-based and is a subject that is not often taken about. Moreover, latrines continues to remain low priority luxury item in villages. In fact, tracing back into our past we will be dismayed to see people of not only Bangladesh but the total sub-continent were, and still are, more or less oblivious of hygienic disposal of excreta. As Dr. Mishra, Consultant, Oxfam, Calcutta, observes, "the re-

interlinked with the operational aspects of implementing such projects, our problem will only deepen. For instance, resource mobilisation will require effective interagency collaboration but the institutional arrangements to expedite the process is riddled with too many loose ends and that does not make things any easier for us.

Therefore, only those challenges should be encountered which are reachable. By opening new frontiers in the environment sanitation related areas the Forum might find itself in the middle of nowhere.

NGO Forum is an organisation that specialises in water and sanitation. During all these years, with much trouble, the Forum has been able to create a carefully grafted organisational set-up and operational mechanism to expedite the water and sanitation equation at the grassroots. Diversifying efforts towards different directions might mean sacrificing the quality of service that Forum has been providing till now. Even in the water and sanitation sector we have to narrow down our priority and spearhead our major thrust of effort for the motivational activities. If we can make a successful sally out of it, we might as well be able to solve, specifically the sanitation problem to quite an extent. Hygienic disposal of human excreta does not really require prefabricated material support, the solution, in fact, lies in the mind of the people.

We have been subject to much of nice talks mingled with optimism since the very beginning but standing at the end of the decade it is disquieting to see things really did not turn around that way. Since the major support pours in from outside, we cannot anticipate what we will be having in our pockets for the next decade. If there is no substantial increase in financial investment, we cannot expect to have any substantial change not only in motivating people but we will also not be able to bring sanitation coverage at a minimum equitable position with safe water coverage.

But then again if the environmental issues are not taken into account we will be the losers in the long term. Keeping our first closed on the issue does not seem to be very wise.

Unfortunately, as said before, we have to compromise our position, but is not that we do not have anything to do about environment. We can mount, at least to a limited extent, motivational campaign to build awareness about environment related issues. Therefore, the key point is let the water and sanitation issues exist and environmental issues subsist, for the coming decade.

embarrassed that in a socialist society growth should harm the health of the proletariat.

In China's heavy industrial heartland of Liaoning Province, death from chronic obstructive pulmonary diseases is four or five times higher than in developed countries.

— Gemini News

Catherine Sampson is Beijing correspondent of the Times of London.

This is depressing as the targets to be achieved for the next decade will be a highly formidable task to perform, to say the least. We will be having 47 million more people to serve by the end of the year 2000.

administrative costs and of course, price hike of materials due to inflation that steadily increases at a galloping rate per annum.

On the other hand, the sanitation scenario is so grim that any worthwhile breakthrough is unthinkable. If we take the liberty to assume that there was a total absence of sanitation coverage before the decade, in that case, we have achieved 5% coverage during this decade. For the next decade we will have to bring 95 million plus 47 million people under sanitation coverage. Assuming it takes 400 Taka for a latrine to install with 10 people using a latrine, we will have to produce 14.2 million latrines by the year 2000 which will require an investment of 5680 million Taka, not to mention again the huge amount of capital expenditure for production centres and other charges, whereas the total budget allocation in water and sanitation combinedly amounted to 5,500

the prime point to ponder for the coming decade.

The idea is to keep things simple for maintaining the efficiency and effectiveness of our present undertakings steady all along the next decade. But then again, keeping things simple is not going to be that simple. Bringing the sanitation into an equitable position with water coverage is no easy task to perform.

Sanitation lacks certain advantage is comparison with water supply. Tubewells have demonstration effect. It is placed where people have easy access. Therefore, it speaks for itself. Install a tubewell in an area inhabited by 90 people, you can safely conclude

mains of our old forts and palaces throw enough light on luxurious way of living of the *rajahs* and *nawabs* and we take enough pride in showing cold and hot water hammams in these forts but probably, that is the limit to which the contemporary taste for good living had grown and it could not develop beyond that. There has been hardly any evidence of latrines in these places and one is only left to guess as to how the kings and queens used to ease themselves. If that be the situation with the rulers, it will be futile exercise to ask about the masses."

Again, if we consider the socio-economic dynamics of the country which is invariably

	Second FYP		Third FYP	
	1980 - 1985		1985 - 1990	
	Rural	Urban	Rural	Urban
WASA	36%	64%	26%	74%
DPHE	73%	28%	41%	58%

## Decade Targets and Achievement

Water and Sanitation Projects	Decade Target 1990	Present Coverage 1990	Remarks
A. Rural Subsector			The figures indicate persons per
1. Coastal Belt (DTW)	353	306	Operating tubewell
2. Low water table area (TARA)	396	651	
3. Shallow Water table area (STW) Total population Coverage/TW	93	91	DTW - deep tubewell
4. Sanitation: Using Latrines	13%	6%	
B. Urban Subsector:			Coverage includes sewage
1. Urban water supply	60%	42%	System septic tank and
2. Urban sanitation	50%	40%	pit latrine

Source: Planning Commission.

In winter, Beijing's air is filled with billions of soot particles as families light stoves fuelled by poor quality coal. The smog plays havoc with the environment and before long, visitors find they have a hoarse, rasping cough.

The cities of China are some of the most polluted in the world. In Eastern Europe, the extent of environmental disaster did not become clear until after the collapse of communism and the secrecy it bred. In China, officials waver between defensiveness and honesty.

Pollution has not grown as fast as the economy, they say. At the same time they admit that the situation is "grim" and have asked developed countries for money to help in the fight against environmental decay.

Beijing says it spent more than 11 billion yuan between 1986 and 1989 on environmental protection, and will invest a further 220 billion yuan over the next decade.

Heavy industry is only partly to blame. Ten years of economic reform have spawned myriad township enterprises which now employ nearly 100 million people and produce about 25 per cent of the country's GNP.

These enterprises also spew toxic emissions into the air and the water. They have neither the expertise nor the funding to reduce the pollution they cause and lie outside the more easily controlled state system.

Coal constitutes more than 70 per cent of China's total energy source and causes 70 per cent of pollution. Every year, burning coal in homes and enterprises releases 20 million tonnes of smog dust, 80 per cent of all solid wastes and 15 million tonnes of sulphur dioxide.

The Guangdong-Guangxi-Sichuan-Guizhou basin has become one of the three largest acid rain zones in the world. In addition, it is estimated that about 36 billion tonnes of waste water are discharged each year.

Solid industrial waste in 1988 amounted to 560 million

# As China Goes Private the Pollution Soars

by Catherine Sampson

tonnes. And the 12 million refrigerators China produces each year all use the dreaded chlorofluorocarbons (CFCs) that are creating holes in the earth's ozone layer.

Beijing has passed volumes of regulations on pollution control demanding that enterprises limit their waste emission and impose fines for vio-

lating the rules. But in China rules are made to be bent.

Enterprises are usually willing to risk fines. In one case, a handkerchief factory in Qingdao was closed for pumping out hazardous levels of poisonous gases — but only after 10,000 local residents had petitioned for the closure.

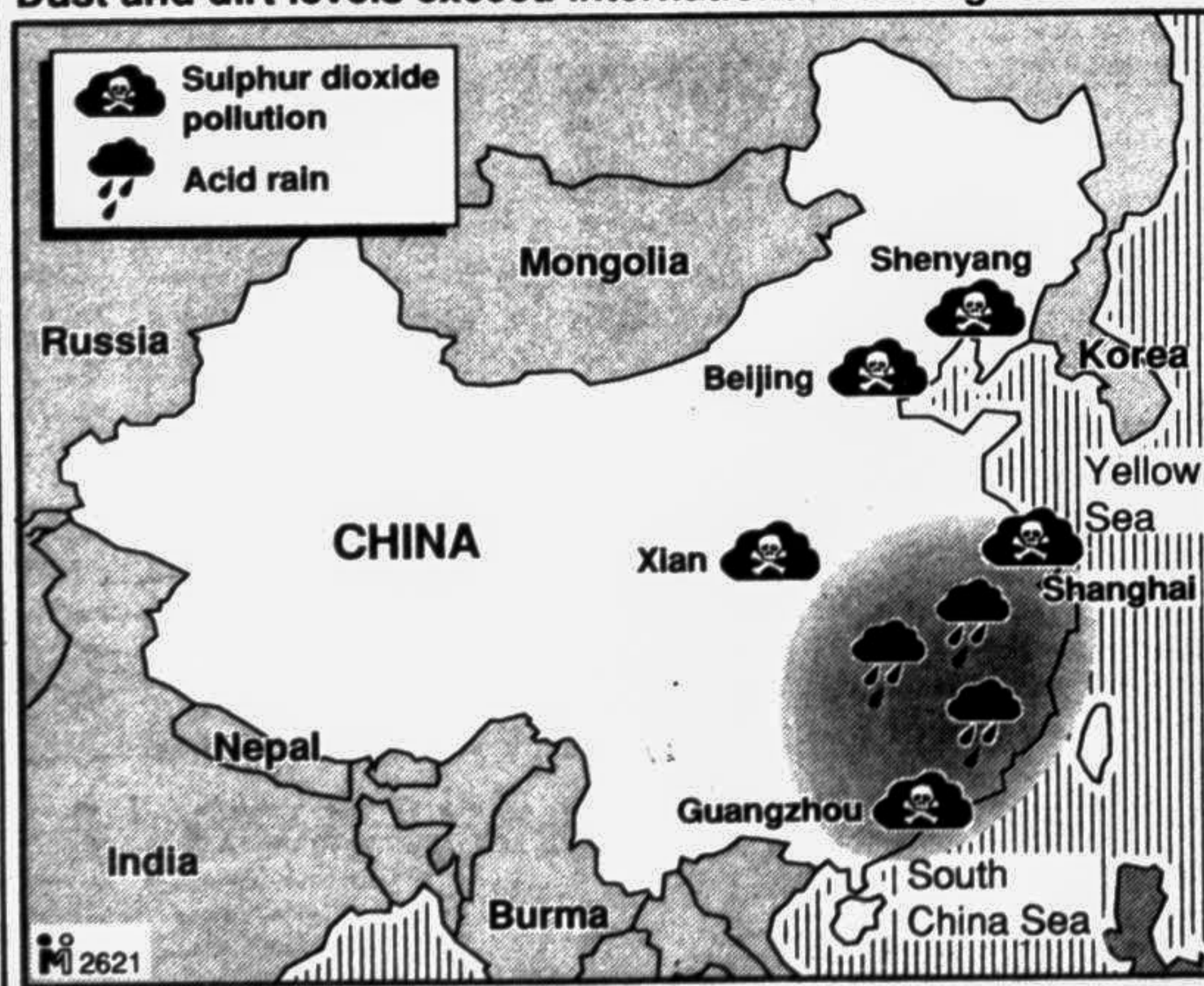
"Sometimes we give them

the assistance and do improvements and they can't manage the problem," says Professor Niu Shiru, director of the National Institute of Environmental Health and Engineering. "A year passes and we're back at square one."

Government officials try to avoid discussing the effects of pollution on health, perhaps

## China: the polluted cities

Dust and dirt levels exceed international health guidelines



China consumes more than 8% of world's energy (1987)

# 'Save People, Save Tigers'

by Prakash Chandra

In the man vs. tiger battle in the biggest sanctuary in the Sunderbans region of West Bengal, the threatened beast has won a reprieve.

Angry men and women were hunting tigers with poisoned darts, pick axes and guns to avenge the deaths of more than 600 people who were killed by the Royal Bengal tigers since the Sunderbans tiger project was set up in 1973.

In the Sunderbans, a vast forest area, 1,320 square kilometres was declared out of bounds to locals. In another 2,585 sq km, restrictions were imposed on the move-

from behind so that a mask at the back of the head offered relative safety. Fences were erected and linked with electric chargers so that the tigers would not stray into human habitats. But even these steps proved ineffective.

Angry villagers often attacked the "Save the Tiger" headquarters and one assistant field director was beaten.

Mr. Arin Ghosh, the field director of the "Save the Tiger" project, explains: "It took us about a year and a half to realise the crux of the



Tiger, Tiger burning bright

ment of tribals. And a 1,255-sq km area was marked as the buffer zone where fishermen, woodcutters and honey-collectors could enter only with passes issued by forest authorities.

Thousands of people lost their livelihood. As a local official explained, "Even the buffer zone was so small an area to provide anything substantial."

All this triggered a wave of anger against the "Save the Tiger" project and the animal threatened by angry tribals who saw the beast as a threat to jobs and lives.

Millions of rupees were spent on projects to keep the people out of the tiger sanctuary. Patrols moved around in motor boats to watch the locals. A wireless network was installed to keep track of people and tigers. Despite these precautions, some 40 tigers were killed by the locals.

Then the number of tigers recorded an increase. It jumped from 181 in 1976 to 269 in 1989. Naturally, the tigers began to stray into villages. Senior forest officials admitted that over a ten-year period between 1975 and 1985, 462 people were killed by tigers.

Local authorities asked villagers to wear masks to save themselves from tigers which had suddenly become man-eaters. The tigers never attack

problem. No electric fences will save the tiger or the people. We have got to enlist the support of the local people. We have to do everything to improve the living conditions of the locals and provide them work."

After nearly two years of a reform plan, now a significant change has occurred in the tiger-human equation. Now Mr. Ghosh's slogan is "Save People to Save Tiger."

Project officials have also built wooden fences at all the points where the forests and human habitation are separated by shallow rivers. Perinanda Mahato, a forestry officer, says: "We know that the wooden fences are not insurmountable barriers for a Royal Bengal Tiger. But some deterrent is better than no deterrent. Any breach in the fencing gives us the signal to tighten our vigil against straying tigers."

Even angry villagers are now pacified. Fifty-year-old Anil Krishna Mandal says: "In the last three months we have lost seven of our neighbours. They were all killed by tigers." But even Mr. Mandal pointed out that the tiger project has been doing some good work.

For instance, officials have set up several prawn culture points. This was done with the help of village councils to discourage villagers from moving

into jungles to collect prawn seedlings which fetch fabulous amounts.

The village councils provided the land and project authorities gave the money. Villagers have formed cooperative societies to make these projects viable. And the results are obvious.

According to Himanshu Mandal, secretary of a cooperative society, members can earn more than 2,500 rupees (US\$200) annually after meeting all expenses. Fishermen don't have to go into tiger-infested jungles and rivers to collect prawn seedlings.

Another step taken by the tiger project is to stop the reckless felling of trees. Now poor villagers are being provided with stoves. According to Kanchan Mukherjee, a local official, "It costs the authorities 100 rupees (US\$8) to provide a stove to the local farmer. Some 1,300 stoves have been provided in about a dozen villages. Next year the target is to set up 1,500 more stoves in other villages. The stoves use wood more efficiently, cutting down fuelwood consumption."

Officials had the bright idea of insuring fishermen and farmers against tiger attacks. A farmer, Kalyan Chakravarty, had persuaded the Life Insurance Corporation, a government-owned company, to float policies among fishermen, woodcutters and honey collectors.

Recently, Julabsi, the wife of a fisherman, received 15,000 rupees (US\$1,200) from the LIC when her husband died of a snake bite. Amalendu Biswas, station officer at the Forest Office, says the premium for each quarter is merely 12 rupees (US\$0.95).

Other development works have included the sinking of wells to provide drinking water. As there is no electricity in villages, project authorities have set up a solar-power lighting system — each costing 20,000 rupees (US\$1,600) — in nine villages.

A non-governmental organisation (NGO), the Calcutta-based Institute of Climbers and Nature Lovers, is providing medical service to local tribals. A team of young volunteers, including young doctors, tour the Sunderbans area with medicines worth 50,000 rupees (US\$4,000).

According to Bana Behari Maity, who was elected as the best forest guard in 1983, free distribution of medicines and the presence of doctors have greatly helped to change the attitude of villagers. Earlier, no amount of persuasion could quell the anger of the tribesmen.

Forest officials have been forbidden to shoot any tiger even if they have killed human beings. They have been advised to use a dart gun to tranquilise the Royal Bengal Tiger, then put it in a cage and send it out of the sanctuary. Or release it in tiger country.

All this has helped to make the Sunderbans tiger project the best in the country — Depthnews Science

# Nuke Plant Wakes up Town

by Ramon Isberto

THIS sleepy backwater town in Bataan province, a three-hour car ride from Manila, has been thrust anew into the centre of a bitter national debate over the Philippines' controversial nuclear power plant.

After mothballing the plant in 1986 due to fears over its safety, President Corason Aquino recently agreed to an out-of-court settlement that allows Westinghouse Electric Corp., builder of the 620 megawatt facility, to repair, upgrade and then run it for 30 years.

The decision has angered many supporters of Aquino who had pledged to close down the 2.3-billion-dollar plant when she ran for president in 1986. Among other reasons, Aquino had said it was the most corruption-ridden project of the Marcos regime.

Morong's 20,000 residents are divided over the presence of the skeletal concrete structures of the incomplete plant outside their town. Town Mayor Armando Quimlat is among those for opening the plant, which critics have dubbed the "Monster of Morong" or the "Lemon of Bataan."

"I'm for it," affirmed Quimlat, who is running for reelection in this may's general polls. "I think it will help our town which is one of the poorest in the country."

His opponent is against firing up the plant which sits in a fenced 300-hectare compound in the southern part of town.

The mayor said he does not expect resistance to be as fierce as before, when townsfolk demonstrated against the plant, because the army has cleared the province of the communist New People's Army.

Also, people are hard up, says Quimlat. Rice farming and fishing are the main occupations here. Harvests fell after the eruption of Mt. Pinatubo last year clogged irrigation

shut. "They shouldn't run the plant," he said. "If there's a (radioactive) leak, this town would be in danger. It may be true that it will give people jobs. But what good will that do if there is an accident?"

If the plant opens, Mayor Quimlat hopes to finally collect the roughly US\$40,000 a month in realty taxes and various municipal fees he is charging the National Power Corporation (NPC), the state-

With Manila on the verge of opening the controversial Philippine nuclear power plant after years of heated debate, townspeople around the plant site weight its pros and cons. Ramon Isberto of IPS reports.

dikes with ashfall. The townspeople's insecurities have also been stoked by the impending withdrawal of the US Navy from nearby Subic Bay Base where some residents work.

Percival Noriega, now jobless but who was briefly employed as a construction worker at the plant when it was being built, eagerly awaits the opening of the facility. "Of course we want the plant to operate," he said. "That would give jobs to many here."

Only about 50 Morong residents are currently employed at the plant, most of them as janitors.

Farmer Leonardo San Juan prefers the plant to remain

owned firm that owns the plant.

As his eyes focus on an invisible spot on the ceiling, Quimlat reckons the NPC owes Morong up to US\$700,000 — a windfall for a town with an annual income of only about US\$ 115,000.

But, he says, "we want assurances the plant is safe." Since the project started in 1976, the Philippine nuclear power plant has faced opposition from critics who claim Westinghouse won the contract by bribing then President Marcos and that the plant design and construction was defective. The Aquino government sued Westinghouse for

damages before a US court in 1988.

The roughly 300 NPC engineers and employees who have been maintaining the plant to keep it from deteriorating are pleased by the proposed settlement, which still has to be cleared by Congress. They claim the plant is safe.

Briefing newsmen touring the plant recently, Efrén Bantog, manager of the plant preservation project, said: "All the lessons of the accident at the Three Mile Island plant in the United States have been incorporated in this plant. "Plant operations manager Fidel Correa also said no major design changes are needed and that whatever defects there are "repairable."

"We can fast-track this and put the plant back in operation in two years," Bantog added.

By their count, repair and new equipment to replace obsolete ones would cost only about US\$200 million, half the amount being contemplated in the proposed out-of-court settlement being finalised by Westinghouse and Manila.

For the NPC employees, the prospect of Westinghouse taking over operation of the plant stirs mixed feelings.

The stakes are much higher for town residents opposed to the plant. "We are still concerned about the safety of the plant," says carpenter Maximo Diaz. "Unlike the NPC, we live here. We just cannot leave this place if something goes wrong." — IPS