

Development and Environment

Interface in South Asia: A Kerala Case Study

by Quamrul Islam Chowdhury

Political democracy is not a necessary condition for 'economic efficiency' of a full-fledged market economy.

SUSTAINABLE development is still elusive for the South Asian countries. Over a billion people of the SAARC region have a per capita income of less than one dollar per day. Many development models have been used in the past 50 years without any significant dent in the labyrinth of poverty in these countries. But some approaches and interventions in some areas of the region have earned global commendation for their successes in some specific localities. But those also couldn't be sustained in the long run.

The SAARC region of late earned worldwide reputation for successful participatory decentralisation, says elderly economist Prof K N Raj who was involved in framing the first three year plans of India. Political democracy is not a necessary condition for 'economic efficiency' of a full-fledged market economy. Planning in our conceptualisation is an essentially democratic and humanistic concept.

Prof K N Raj recalls once Kerala was a backward state and had a very oppressive social practices. But, social transformation of Kerala has been phenomenal. The bottom-up people's campaign for decentralised planning, and experiment in participatory development, environmental awareness is bound to receive an impetus with the people's planning campaign. Implemented from August 1996, the campaign has decentralised planning and empowered the state's panchayats to make decisions about their own development. The campaign seeks to replace the 'trickle-down approach' where the state's bureaucrats made all the planning decisions. "Decentralisation of planning is a prerequisite for unleashing local initiatives with people's participation and the mobilisation of local resources", says Dr T M Thomas Isaacs from the State Planning Board.

Kerala Scenario
If we look at Kerala, the most advanced state of India in terms

of social indicators and rich heritage of progressive movements that have held sway in the state for most of the past 50 years, we will find it falls far short in economic terms. The most densely populated this coastal state has a per capita income of less than \$200. Kerala is now facing a major environmental crisis from severe deforestation in the western mountains, leading to coastal soil erosion and waterlogging in low land areas. Polluted rivers and foreign hi-tech offshore fishing operations are reducing the fish catch.

And, like other places, Kerala faces the menace of the New World Order with its third world avatar: structural adjustment. Lagging industrial growth has combined with stagnant agricultural output to produce low incomes and high unemployment. Low economic growth has resulted a series of fiscal crises for this Indian state government forcing it to reduce public spending in some of the most cherished areas of the Kerala model: education, school lunches, subsidised food prices for the poor, access to medical care.

Within India, Kerala is much better-off than other more industrialised states in terms of environmental degradation and pollution. In states like Maharashtra for instance, water bodies are being increasingly reclaimed or polluted. However, the pressures of urbanisation, population growth and pollution are taking their toll on this economically backward state.

The backwaters are shrinking as land is reclaimed for construction. The rampant destruction of mangrove forests is bound to have serious repercussions on coastal erosion, which in the words of Dr M Baba, Director of Centre for Earth Science Studies (CESS), is the number one problem of Kerala, which faced the most severe coastal erosion in 1950s. Dr Baba who is critical of the engineering solutions of the coastal erosion, sees management solution as the best option for Kerala.

Law of the land is: you have erosion on the one side, accretion is on the other. Mangrove is the protector in the low wave coast-side. In high-energy high wave coast like Kerala mangrove alone is not your protector. It is also true for the high-energy high-wave coasts of Bangladesh, Sri Lanka, Maldives and Pakistan. But for the low-wave low-lying coastal areas like parts of Kerala and parts of coastal SAARC countries including Bangladesh,

mangrove is a protector. Kerala was worst hit by a severe fish disease because of the adverse impacts of chemical fertilizers and pesticides. Waterbodies are also being polluted by industrial effluents and fertilizers. Sand mining has been cited as another threat to Kerala's rivers. Coastal wealth in terms of fish catch and lime-shell deposits is fast depleting. Pollution and over-fishing has had dangerously shrunk from 365 to 127 square kilometres over the last 50 years. U.K. Gopalan, a former Director of the National Institute of Oceanography estimates, Dr Gopalan estimates that there were 70,000 hectares of mangroves on the low-lying coastal estuaries in Kerala. But over the last 50 years, the mangrove swamps have reduced to just 70 hectares, as he says: "Estimates

bowl of Kerala) has been badly hit as a result. Almost 600 tonnes of pesticides were used annually for paddy cultivation during the last 25 years, CESS has estimated. True, the Bund did not allow saline water to enter and wash away pesticide deposits which have accumulated in the backwater. Dr D K Dutta a hydro engineer who has been involved with the Indian water resource management told this writer to evaluate the Bund from his objectives rather than blaming it for the woes of the farmers, fishermen and others. He, however, maintains the Bund did not operate as planned. One must choose between hard and soft engineering options, he adds.

N S Narjary, a retired central government official said that on the side of the Bund that he had mixed impression about

was a mangrove shrub. Extensive damage has already been done to the mangrove forests.

The Congress Party's Youth Front had agitated against the upcoming hotels last year on the grounds that the construction would destroy mangrove forests and upset the bird sanctuary inside the KTDC grounds. They also said that dredging work undertaken to build jetties close to the hotel will damage the lake and destroy its lime-shell deposits. These deposits are used for the manufacture of white cement.

However, the Taj and KTDC representatives claim they had not destroyed a single mangrove shrub. In fact, their resorts had planted several trees within their premises and there is lot of greenery to make the spot as an eco-friendly one, representatives say.

cludes scampi and the giant freshwater shrimp. (Around 4000 tonnes of this species was available annually in the 1960s, Dr Gopalan says.)

Government estimates also reflect this declining trend. Shrimp catch has declined from 70,000 tonnes in 1994-95 to 46,000 tonnes in 1996-97. In the last 20 years, 27 species of fish have reduced while 19 species of fish have disappeared. In order to reduce over-fishing, the government has stopped licensing new mechanised boats and is helping traditional fishermen to modernise their craft.

'Rape and Run' Aquaculture!

Dr Ghosh informs the area under aquaculture in Kerala is minuscule compared to the neighbouring states of Tamil

Catching too much of fishes is a common problem along the coasts from Bangladesh to Pakistan. Fishing piracy by other countries are also common in the SAARC region. Indian state of Kerala is no exception.

by the CESS studies also indicate that most of the mangrove deforestation occurred in the last 50 years. CESS estimates that there are just 100 hectares of mangrove forest left in Kerala a development which is bound to affect coastal erosion."

A wise old landless man K Pokkudan has initiated a pioneering work for greening Puzhayangadi area by planting mangroves. An old comrade Pokkudan who spent in prison for decades on charges of 90 different cases as once was a paid CPM cadre, initially started it six years back to protect a narrow road and large pond in the valley and now he wants to green the area for future generation. Having no formal schooling and father of three boys and three girls, he has already completed very difficult plantation in two kilometers along the road and pond-side.

Thanneermukkam Bund and a Sordid Tale
The Kerala state government built the Thanneermukkam Bund on the estuary to keep saline water out of Vembanad lake which has been hit by saline intrusion in 1950s. The objective was to promote the cultivation of a second paddy crop which does not grow in saline water. But fertilizer pollution has devastated the backwaters of the Vembanad Lake.

According to local farmers, paddy yield in Kuttanad (rice

it as the Bund has achieved some of its objectives and failed to meet some others. Local people, especially fishermen, were helped through the Thanneermukkam salt water barrage opened to traffic on December 30, 1985 but some other people at the upstream have been affected badly, he observes. The local people are also divided. Some are now demanding demolition of the Bund to save some of their paddy fields and fisheries. All human pollutions are passing through the Bund. A campaign to clean the river is also mounting.

Conflict Between Tourism and Environment

There is a growing conflict of interests between tourism and environment in Kerala as elsewhere in India, Bangladesh, Maldives, Sri Lanka, Nepal and Pakistan. Local resistance against environmentally destructive tourism development is growing in Kerala.

At the Kumarkom on Vembanad Lake, for instance, there have been local demonstrations against the Taj and Kerala Tourism Development Corporation (KTDC) Hotels which are under construction. Standing a few yards from the hotel site, a local lady with her cut-grasses and goat, said: because of the hotel construction she now has to go miles away to cut grass and earn her living which she used to do by cutting grasses right from the site where there

Catching Too Much Fish

Catching too much of fishes is a common problem along the coasts from Bangladesh to Pakistan. Fishing piracy by other countries are also common in the SAARC region. Indian state of Kerala is no exception. This problem is getting more acute as large trawlers enter fishing waters. Large deep-sea trawlers from other countries are also common, the KSSP says. According to Dr Gopalan, the Kalava commission recommended that not more than 1,145 trawlers be allowed in Kerala's coastal waters. However, the current number is more than five times this amount, he says.

Like other coastal countries, Kerala with its 590 kilometre coastline has a potential for marine culture. The destruction of mangroves has also affected breeding since a number of fish spawn in mangrove swamps. As a result of overfishing, several species of fish have disappeared from the Kerala coast. This in-

Nadu and Andhra Pradesh in India. The Indian Coastal Regulation Zone rules of 1991, have inhibited the development of mechanised aquaculture farms within 500 metres of the coastline. This has checked the spread of mechanised aquaculture. There are around 65,000 hectares of brackish water areas in Kerala. Around 15,000 hectares have been utilised for aquaculture. Around 12,600 hectares are under the traditional pokkali cultivation (shrimps are farmed in pools of saline water that collect in paddy fields.)

Dr Sanjeewa says Kerala's topography does not permit semi-intensive or intensive culture. Dr Vandana Shiva, a leading scientist and ecologist of India argues that industrial farming is not sustainable. In country after country where it has been tried, commercial shrimp farming has proved impossible to sustain for a variety of reasons, such as degradation of the environment, pollution and diseases, she maintains

adding the degraded ponds can rarely be used for any kind of agriculture. And for this reason, this industry is known as the 'rape and run' industry.

Debate over Indian Coastal Regulation Zone

The Indian Supreme Court in its judgement had asked all Indian coastal states for strict implementation of the Coastal Regulation Zone (CRZ) notification. In another landmark judgement of December 11, 1996, Indian Supreme Court ordered demolition of all aquaculture/prawn farms within 500 meters of high tide line. Environmentalists are concerned about the state government's vehement opposition to the CRZ notification. The state government feels that given the density of population in Kerala, implementing the ruling will be disastrous.

The density of population is much higher near the coast. The average density is 749 per square km but close to the coast, it goes up to 2176 per square km. The ruling interferes with any construction activity they may undertake for housing or their livelihood, says Dr Sanjeewa. The nature of Kerala's waterbodies is such that a majority of available land come under the CRZ. The ruling will inhibit most developmental activity the government feels. Dr Sanjeewa also feels the CRZ has certain inherent contradictions. The CRZ exemptions permit salt water extrusion projects which are perhaps damaging to the eco-system. However the 32-km stretch of natural saline water in Kerala has been included in the "Coastal Zone Management Plan," he adds.

The CRZ has acted as check on several tourism mega-projects. Projects such as the Bekal resorts have been seriously hindered by the CRZ. Environmentalists had opposed the project which involves building a resort complex including a chain of five star hotels close to the beach front. The Indian Rs 265 crore project has been scaled down to Rs 165 crore. The proposed project areas has been halved from 500 hectares

to 250 hectares. The tussle between coastal communities and people's groups on the one hand and the big industries on the other centres the CRZ notification.

People's Participation and Environmental Awareness

People's participation and environmental awareness go hand in hand in the SAARC region: Bangladesh has developed a people's participation globally proclaimed National Environment Management Action Plan (NEMAP) which has entered in its implementation phase. The SAARC region has been endowed with strong civil society groups. People's participation and environmental awareness is also quite high with non-governmental organisations like the Kerala Sastra Sahitya Parishad making it one of their chief concerns. The KSSP, movement which began by trying to popularise science, has over 25,000 members in the state.

Among the environmentally destructive projects it has successfully opposed is the Goshree project. The Indian Rs 500 crore project envisaged building four bridges to link the populous islands of Vypeen, Bolghatty, Vallarpadam and Thanthanni to the mainland. Around 250 hectares were to be reclaimed from the sea. The bridges were to be constructed by private firms which would be given a share in reclaimed land. The KSSP opposed the reclamation and said that it would upset the region's ecological balance. It pointed out that the reclamation would further cause the Vembanad Lake in the Cochin backwaters to shrink further. The project was stayed following an adverse NEEER report.

Chairman of Forum of Environmental Journalists of Bangladesh (FEJB), the writer is also Secretary General of Association for Green Accounting in Bangladesh (AGAB).
This article is based on field trip for SAARC journalists to Kerala organised by FEJI/World Bank from April 12-18, 1998.

Indian Census Not to Include Citizens Living Abroad

THE next decennial headcount in India, the world's second most populous nation, will not include citizens living abroad, a top census official has said.

The census only accounts for people on Indian soil at sunrise on March 1, 2001, Census Commissioner M Vijayanunni said.

The census operations will begin in the third week of February that year and the provisional census figures would be available within a week, he said. At 953 million, India is the second most populous country in the world after China.

The Indian census, held for the first time in 1872, has never accounted for its citizens living abroad. "We cannot send enumerators abroad," Vijayanunni told reporters on June 22, adding that "this has never been the practice." Millions of Indians are spread around the globe with large concentrations in the Gulf, European, American and Southeast Asian nations.

Asked if some other countries followed the practice of including citizens abroad, he told IANS: "It may be. Every country has developed its own methodology for census. But I am not aware of it."

In India over two million enumerators will fan out across the country quizzing members of some 200 million households. The official said unlike in India, China's population count was village-based.

The budget for the mega exercise is expected to be more than Rs. one billion (about \$23 million), which is a quarter of what the US spends on its census exercise for a population which is about a third of India's, the official informed.

The 14th census will also include new areas of the Indian economy and society in its data collection. The detailed questionnaire is being prepared and would be ready very soon, the commissioner said. "But the emphasis would be on compatibility," he added.

The commission has put up a website,

www/censusindia.com, giving all the details of the census. "We already had more than 3,700 hits so far," he informed.

If the present trend of population growth continues, India is expected to emerge as the most populous country by year 2040, Vijayanunni said.

For the first time, India's annual population growth has dropped below two percent, to 1.98 percent, in 1996, says the latest United Nations Population Fund report.

Given the large population base of 953 million, the drop in growth rate doesn't bring much cheer. It translates into an addition of 18 million people a year, accounting for more than 20 percent of the world growth of 88 million, "the largest annual increment of any country, says the report.

While the report doesn't elaborate on why there has been a marginal decline in the population growth rate, it notes that the total fertility rate has been reduced substantially from 4.8 in 1978-82, to 3.3 in '92. "Estimates of fertility rates at the district level have suggested that a major demographic transition is already underway," it says.

In 1980 not a single district in India had achieved the replacement level of two children per couple, but in the next decade 12 districts had met the target. Apart from Calcutta in the eastern state of West Bengal, all others belonged to the southern states of Kerala and Tamil Nadu.

The report, however, adds that the population may not actually double in 35 years since the maximum addition is likely to take place in the current decade. "At a high estimate, it is projected that by the year 2010, India's population could reach 1.2 billion," it says.

The UNFPA records the increasing migration from rural to urban areas. Though more than 75 percent of the population still resides in the 600,000 villages in India, at the present rate of urbanisation half the population would be in cities by the year 2021.

The western Indian metropolis of Mumbai is set to become the world's second largest city by the turn of the millennium, and there will be three Indian cities with a population of over 10 million each.

"A major feature of India's urbanisation process is the lopsided concentration of economic activity in towns and cities," the report says. "Given the present macroeconomic policies, the pace of urbanisation is likely to intensify, fed by rural-urban migration."

This has a flip side too. Migration has led to an increase in urban poverty, with half the people living in slums in some cities. They are deprived of basic amenities like sanitation and safe water.

Quoting a UNICEF estimate on the sex ratio, the report says that there are 40-50 million "missing" females in the country today.

The most striking factor for the alarming sex ratio — 927 females to 1000 males recorded last in 1991 — was the preference for boys.

This attitude has spawned a range of practices like female foeticide and infanticide, discrimination in matters of food

and education. Citing a recent study of amniocentesis, the report says that 96 percent of the foetuses aborted were female.

"In all but a few countries of the world, there are typically 1,050 women for every 1,000 men," says the UNFPA report. Only Kerala defies the national average and comes close to the global standards.

The UNFPA stresses on the need for better coordination between the Centre and the states, and says the government should "give explicit attention to the formulation of a social action plan to protect the most vulnerable groups, especially women, form the short-term and medium-term impact of economic adjustment policies".

It says that the government should work through non-governmental organisations (NGOs), women's groups and local communities for wider development. Regretting that women are rarely a part of the development process, the report says, "Women's empowerment should be both an objective in itself and a mechanism to achieve the government's family welfare goals".

— India Abroad News Service

Philippines Elects New Populist President

by A S M Nurunnabi

According to impartial observers, the trouble with populists is that there is no predicting what policy stand they might take.

A day after polls closed — and some weeks before official election results could be known — Philippines Vice President Joseph Estrada declared himself the country's new president. He also appointed cabinet members, outlined his embryonic administration's populist priorities — and risked offending the Congress.

All this swift work might have seemed rather premature. But preliminary tallies of the May 11 vote as well as exit polls, strongly indicated that "Erap" (as popularly nicknamed), the action-movie star-turned politician, would become the Philippines chief on June 30. A citizens' watchdog group conducting preliminary vote counts put Estrada's portion of the total at 37 per cent. That was far ahead of his closest rival, House Speaker Jose de Venecia. It was clear that Estrada would ride a landslide into office for a six-year term.

The victory seemed galling to the country's ruling elite, many of whom considered the paunchy ex-screen idol, leader of the populist opposition party, to be uneducated, unskilled, untested and uncouth. The powerful Catholic Church refused to support Estrada because of a long and notorious personal life. Though the screen idol freely admitted his lapses in personal life, such peccadilloes didn't matter to the poor majority, who identified Estrada as one of them. This time voters repudiated both church and traps — the traditional politicians — by electing outsiders and unconventional

candidates for various elective offices under the administration. While business interests fretted that Estrada would scrap economic reform efforts that boosted the nation's growth rates in recent years, the stock market and the peso steadied after polls closed. "The peaceful conduct of the elections puts us back on the growth path," said the president of the Philippine Chamber of Commerce and Industry. "What is important is that we have elected a legitimate president."

Estrada certainly lost no time reinforcing his claim. He named an investor friendly cabinet. The new administration's priorities include: ensuring an ample food supply in the drought-stricken country, a war on crime and corruption. "I guarantee that all Filipinos will have three meals a day", Estrada said. Congressional support for his policies may be hard to find. Yet Estrada was anything but conciliatory in victory. "Congress is a den of corruption," he said. "I will not horse-trade with Congress. I will not play politics."

Political observers point out that Estrada had taken on the Catholic Church, the ruling party, the government machinery, the military — all formidable institutions of political power — and Estrada seemed to have triumphed. An observer commented: "Popularity smashes the machine, with Erap as President, there is hope that the poor will have a better life."

Despite his limitations, Estrada does have political views, apparently forged during

the making of dozens of movies in which he played the roles of poor and uneducated, but strong-willed, antiheros and underdogs. "I took a college drop-out like Erap to understand class politics and to plan a strategy to exploit it," says a researcher at the University of British Columbia's Institute of Asian Research. "Erap's strategy was to ignore the elite voters, who comprise only 10 per cent of the votes, while concentrating on the remaining 90 per cent." Another observer commented, "What is clear in Philippine politics is that the so-called intellectuals — perhaps because of their own notions of what the President should be — find it hard to accept Erap. But it was not the intellectuals who decided the election. Erap, it seemed, knew it all along."

Agrarian reform was not exactly at the top of the agenda in the Philippines election campaign. Joseph Estrada is a class populist, which means that he could appeal to the crowd with a simplistic message drawing support both from left and right. His supporters expect him to deliver "pro-poor" policies to the countryside, including accelerated agrarian reform. As a matter of fact, only partial agrarian reform could be achieved during the previous regimes. The benefits of such reform have been considerable for those who gained secure title over land. But perhaps the most important benefit has been unintended — the accumulation of social capital in the countryside. Agrarian reform reportedly has provided a context for

extensive organisation in many rural areas. But still the fact remains that land reform so far has assumed a plodding pattern. The question before Estrada is whether he would speed up the process and thereby relieve rural poverty. Estrada has in his camp advocates of rural reform like Horatio Morales of the Philippine Rural Reconstruction Movement and Eduardo Cojuangco, the principal financier behind the Marcos administration, known then as the country's "coconut king". But, according to impartial observers, the trouble with populists is that there is no predicting what policy stand they might take.

The ex-actor may be forgiven for playing to the crowd, repeating the rhetoric of his grass-roots election campaign. "This is the greatest performance of my life," he said of his upcoming presidential role. Filipinos can only hope that Estrada lives up to his own utterances. There is no doubt that the president's first crisis will be the country's dwindling rice supplies. But for now, Filipinos are concerned more with the style of an Estrada government rather than the issues.

Besides the president, the voters chose a Vice President, 12 senators, 200-plus legislators and 17,300 local officials. According to observers, this added up to a clear sign of the progress of maturity of the Philippine democratic system. One Estrada supporter tipped to be the country's future Finance Secretary has commented: "Democracy has prevailed. The people have spoken."

Pak Tribals Threaten to Grow Poppy if Sanctions aren't Lifted

Muhammad Najeeb writes from Islamabad

LEADERS of several Pakistani tribes have threatened to resume poppy cultivation if sanctions imposed by the United States are not lifted by mid-August.

"The decision was taken at a jirga (meeting) of eight tribes held on Sunday in Khyber Agency," Karim Khan Afridi, who represented his Afridi tribe at the meeting, told IANS on the telephone from Landikot.

"We stopped poppy cultivation on their (Americans') insistence and now they have imposed sanctions on us!" he said. "This is rubbish...we are being punished for taking defensive measures," he said.

The United States and Japan have imposed sanctions on India and Pakistan for conducting nuclear tests last month. Under the sanctions, Pakistan will not get the annual aid of \$1.5 billion from the US.

"Do you think the Soviets would ever have dared to enter Afghanistan if the Afghans had nuclear weapons and missiles?" Afridi asked. "We will grow poppy to help out our country."

Heroin is derived from opium poppy. In March this year, hundreds of soldiers backed by armoured vehicles destroyed poppy crops on an estimated 1,600 hectares of land in the Federally Administered Tribal Areas (FATA). More than 40 people were arrested by the security agencies for allegedly resisting the destruction of the crop.

International donor agencies had made the eradication of opium poppy cultivation in FATA a condition for further funding for drug control projects in Pakistan. "It's a very costly thing,"

Afridi said of the poppy crop. "And let me tell you...we need not to go to America or Europe to sell it there, rather they come to us to buy the heroin," he declared.

Afridi said he and his fellow cultivators could pay back all the foreign debt if they were allowed to grow poppy without any fear of government troops. Instead of imposing heavy taxes on ordinary Pakistanis, he suggested that the government allow the tribals to cultivate opium poppy.

"Now onwards no American will be allowed in our area," declared Afridi. In FATA, tribals exercise their own laws and rules even though it is a part of Pakistan. The autonomous tribal areas adjoining the North West Frontier Province

(NWFP) are directly run by the federal government.

The President of Pakistan can enforce any law in the area through the NWFP Governor, who also acts as the President's agent for FATA.

On June 10, President Rafiq Tarar extended the enforcement of anti-narcotics laws to FATA. The law expressly prohibits import, export, transport, manufacture or traffic in opium or coca leaf or opium or coca derivatives" or financing of the same acts.

Anyone found guilty of drug trade or manufacture is punishable with prison terms, whipping and fines. Anyone possessing heroin or cocaine exceeding ten grams, or one kilogram in case of opium or coca leaf, is liable to punishment.

FATA authorities have been given more powers to check the narcotics trade in the tribal areas, which lie close to Afghanistan — notorious for drug manufacture and trafficking.

Iftikhar Hussain Gillani, former Law Minister and senior Supreme Court lawyer, has criticised the law saying it ignored the cultural aspects of the tribal areas where poppy growing is a tradition and a compulsion for the local residents as they have no alternatives. He pointed out that opium is also used in manufacturing several life saving drugs.

Gillani argued that before taking such extreme steps, the government and donor agencies should provide alternative means of earning to the farmers. — India Abroad News Service



New Break

NISSHO Iwai Corp is all set to make its mark in the US recycling industry by acquiring a recycling plant in Los Angeles with a treatment capacity of 2,000 metric tons a month. The

company will recover aluminum cans and reprocess them into blocks for sale to aluminum refiners in the US and Japan. A venture formed to run the plant is capitalised at \$500,000.

Powerful Option

ONE of the principle barriers to providing electricity to low-income households is the high cost of connection and wiring of the house. Also, as power meters are expensive to install, the users are not able to keep an account of the electricity consumed by them and often end up using far more than they can afford.

(MCBs), which are cheap, are thus a favourable alternative. A MCB can be fitted in each house and if more than a pre-set amount of electricity is used, the circuit breaks. Utilities can offer their customers a range of load limits — 25 W, 50 W or 250 W — and the customer can pay a flat fee per month, to overcome the problem of cost.

Miniature circuit breakers

CSE/Down To Earth Features