

CLIMATE CHANGE

Impact on Water, Flood Control and Environment

by Md Asadullah Khan

As it is seen these days global climate change could also increase the frequency and severity of inland flooding, particularly along rivers. Bangladesh experienced the worst ever flood of the century in the recent past that inflicted colossal damage to the economy.

THE problem of greenhouse effect, leading to global warming, first identified by the Swedish chemist Svante Arrhenius in 1896 indicated that human activities like driving our cars, burning coal to heat our homes and run our factories, chopping down forests to build our cities and produce our paper and raising cattle to satiate our hunger have significantly increased the concentration of key greenhouse gases namely carbon dioxide, methane and nitrous oxide. This increase in greenhouse gases is thought to enhance the greenhouse effect that lead to global warming.

EPA (Environmental Protection Agency) reports available now suggest that since the beginning of the industrial revolution, atmospheric concentrations of carbon dioxide (CO2) have increased almost 30 per cent, methane concentrations have more than doubled and nitrous oxide (NO) concentrations have risen by 15 per cent. Scientists generally agree that these human-induced, heat trapping gases hovering over the Earth are to blame for the 0.5-1 degree Fahrenheit rise in average surface temperatures since the late 15th century. Most scientists also agree that if nothing is done to curb the emissions of human induced greenhouse gases, then the concentrations of these gases will continue to build triggering big-ge catastrophes.

One EPA model shows increased carbon dioxide concentrations of 30 to 150 per cent by the year 2100, contributing to a further rise in global temperatures by about 5 degrees. Since the late 19th century, EPA report suggests that global mean surface temperatures have

risen by 0.6-1.2 degrees F with nine warmest years in the last century all occurring in the last 14 years. The warmest on record was 1995. There has been an appreciable decrease in snow cover in the Northern Hemisphere and floating ice in the Arctic ocean. Global sea levels have risen by 4-10 inches and precipitation over landfills has increased by 0.1 per cent. The global impacts of all such human induced climate change are wide and varied. Many environmental scientists say that polar ice caps will melt causing sea levels to rise and swamp coastal communities. Increased precipitation due to higher rates of evaporation may prove stronger and more frequent storms. The same increased evaporation could suck the land dry in other regions of the world causing widespread drought and famine.

Impact on Water and Environment

Warmer climate means decreased river flows. Consequently higher temperatures could harm the water quality of the nation's rivers, and lakes. In areas where the river flows decrease, pollution concentrations will rise because there will be less water to dilute the pollutants. But in order to keep pollution concentrations from increasing sewage treatment plants and other water pollution controls will have to be upgraded which will cost billions of dollars per year. Increased frequency of severe rainstorms could increase the amount of

chemicals. Bangladesh has already started experiencing the brunt of the global warming trend through increased frequency of storms, floods and degradation of water quality. A study conducted by the Dhaka WASA, the chromium content in Buriganga water goes up to 0.03 mg per litre during the dry season while the danger level is 0.05 mg per litre. The chromium is being drained into the water of Buriganga along with the effluent discharge by the tanneries of Hazaribagh in the city.

Besides, the amount of dissolved oxygen in water could also be reduced effectively suffocating the fish population in some areas. Higher water temperatures decrease the solubility of oxygen in water. More warmer water hastens the rate at which organic pollutants degrade. This degradation exerts a "biochemical oxygen demand" (BOD). The combined effect of lower oxygen solubility and higher BOD will be to reduce the availability of dissolved oxygen, which is critical to the health of aquatic organisms. Reports pouring in from studies indicate that situation in the United States is also very alarming.

One study estimated that throughout the southwestern United States, the warmer temperatures would push dissolved oxygen levels in most rivers to below 5 ppm necessary to sustain fish. Changing climate could also impair water quality in some rivers by reducing the flexibility of the existing water management system. Release of water during periods of low flow for environmental purposes would come at the expense of recreation, normal water supplies and hydropower which benefit from higher levels. A 1992 study of the Columbia River Basin found that earlier snowmelt would have less water available in the summer. In absence of minimum release requirements, salmon fishery, a very prized fish world wide, because of oxygen-depleted water would be seriously threatened.

Climate change could also increase the salinity of water bodies. Rising sea level and reduced precipitation would increase the salinity of estuaries. Moreover, decreased river flows could lead to excessive concentrations of minerals that run off from farms in various rivers. Study conducted by Nash and Gleick, water experts in the US, reveals that salinity from run off in the Colorado River could rise 15 to 20 per cent under various climate model scenarios. Such increase in salinity, as well as decadal flow, could impair compliance with the US obligations to the third world. Other than this decline in water quality it would adversely affect swimming, boat-

ing and other recreational uses of lakes and rivers and thereby impair property values.

Impact on Flood Control

As it is seen these days global climate change could also increase the frequency and severity of inland flooding, particularly along rivers. Bangladesh experienced the worst ever flood of the century in the recent past that inflicted colossal damage to the economy. Detailed studies with general circulation models have been conducted in the U.S. that suggest that some regions of the United States may have more rainfall during the wet season which would increase river and lake levels. Moreover, increased flooding could occur even in areas that do not become wetter leading to situation such as (1) earlier snowmelt could worsen spring flooding while diminishing summer water availability; (2) some climate models suggest wetter winters and drier summers; (3) the need to ensure summer/drought water supplies could lead water managers to keep reservoir levels higher, thereby limiting the capacity for additional water retention during unexpected wet spells; (4) warm areas generally have more intense hydrologic cycle and thus more rain in a severe storm; and (5) many areas may receive more intense rainfall. Situations in case of the developed countries like the U.S may not appear to be that grave and beyond control because there

the most flood-prone communities are at least partly protected by levees and reservoir flood storage capacity.

However, as the lessons from the Mississippi/Missouri River floods of 1993 illustrate, the systems are designed to prevent the relatively frequent and moderately destructive floods, for example those with at least a 1 per cent chance of occurring in any given year. But these systems are almost overwhelmed and almost completely ineffective against the rare flood that is more devastating than the system was designed to handle. Flood studies in our country have never been linked to global warming, rather these studies relate to a focus on a shift in average conditions and assume that variability is otherwise unchanged. As we could not envision the devastating onslaught of 1998 flood on every aspect of our living, we can't also rule out a completely unexpected change in weather patterns in future. Moreover, government and concerned sectors either in the US or any other countries in the West that have large areas of cultivable land and sparsely populated urban areas, being fully aware of the cost and environmental impacts of flood protection structures, rely on land use regulations to prevent flood damages. Reports have it that thousands of communities in the US along rivers and lakes are part of the National Flood Insurance Programme which effectively precludes construction in most 100-year non-coastal floodplains. But as things stand today, changing climate may shift floodplain boundaries, as much as these became evident in the recent flood experience in Bangladesh.

Y2K Could Cause Litigation Nightmare

by Charlene Porter

LEGAL claims arising out of problems associated with the year two thousand computer glitch could mount to \$1,000,000 million (\$1 trillion), according to some estimates. A Republican Congressman from California, Representative David Dreier, is leading a political and business coalition to push for legislation that would limit liability for Y2K related problems, and protect companies from what could be financially devastating legal claims.

Dreier said he advises people to "mitigate, don't litigate." Though the legislation is still being drafted, he described some of its main provisions to a February 9 conference in Washington.

The California Republican said the bill would limit punitive damages to \$500 thousand dollars; encourage mediation in all Y2K related disputes; limit attorneys fees in legal cases of this kind; and acknowledge the responsibilities of all parties to the lawsuit in mitigating the Y2K problem.

The Y2K problem was created in the early days of computer programming. To conserve precious space on computer discs, software programmers abbreviated the date for the year to the final two digits. Without reprogramming, these software programs are expected to malfunction on January 1, 2000 because of the inability to roll the date into the next millennium.

Computers so programmed are expected to revert the date to the year 1900, causing widespread malfunction in systems they control. Predictions are that the Y2K bug could disable financial systems, record keeping, transportation operations, medical equipment and a wide array of other activities that are reliant upon computers.

Representative Dreier is proposing the liability limitation because he fears the development of a "cottage industry" in litigation related to Y2K problems. Another speaker at the conference concurred with the lawmaker.

Peter de Jager, author of the book "March '00: Surviving the Year 2000 Computer Crisis," told the conference he's been approached by legal firms, and offered significant sums of money to point out companies or individuals who might be likely targets for lawsuits because of some responsibility for the Y2K problem.

Like Dreier, de Jager fears that the threat of lawsuits is creating a chilling effect in the computer industry. "If you want to hold us responsible for every bug we come up with, you've just killed an industry," he said.

De Jager is skeptical about the capability of lawmakers to address the problem, however. The U.S. Congress last year passed the "Year 2000 Information and Readiness Disclosure Act" to ensure that information about Y2K problems and their mitigation could flow freely without the threat of lawsuits. Communications about these issues are protected and can't be used as evidence in a court proceeding, under the law signed by President Clinton last October.

Now known as the "Good Samaritan Law," it was designed to encourage the exchange of information, but de Jager says it has had the opposite effect. Companies were providing information about their Y2K mitigation efforts before the law's passage last October, he says, but now that information has "dried up."

He asserts that it is because corporate lawyers, wary of their company's potential liability, are urging silence about these issues.

An attorney who counsels corporate clients in their Y2K problems says the "Good Samaritan Law" may create disincentives for companies to be forthcoming about how their products are expected to manifest a millennium bug glitch. She says it's standard business practice for companies to soften bad news to clients and customers, even withhold such information.

She argues that the Year 2000 Disclosure Act may provide protections for companies who delay in explaining potential problems, when it's advantageous for the customers to have that information as early as possible.

A representative from the National Association of Manufacturers offered the opposite view. Jan Amundson, General Counsel of the NAM, said the organization's membership reports an increased flow of information since the October law was passed. That law does not address the liability question as would the latest proposal from Representative Dreier, however, and Amundson says that's the issue now concerning the U.S. companies she represents.

She argued that it would be better to have a liability protection law in place in the near future rather than waiting to see whether the Y2K problem "is a blip or a cataclysm."

Congressman Dreier says he hopes to have bipartisan and White House support for his still evolving legislation. A similar bill, introduced by Senator John McCain (R-AZ), is being considered in the U.S. Senate.

—USIA Feature

Gang-rape to "Teach a Lesson"!

R M Pal writes from New Delhi

In recent years reprehensible incidents of rape of women with a view to "teaching a lesson" in Rajasthan, UP, MP, as also elsewhere, has been on the rise. Our political rulers, the bureaucracy, law enforcing agencies, in fact, the whole society, do not seem to take this heinous crime and human rights abuse of the most cruel and obnoxious kind, seriously.

AT a seminar recently a very difficult question was posed: which is the area of worst human rights violations. It is difficult to say which cry of despair and anger is more evocative.

What should alarm us the most, however, is the increasing incidence of violence against women: rape, trafficking of women and girl children, bride burning and dowry deaths not to mention female infanticide. Then there are children who have been deprived of even basic education or withdrawn from studies after a time. In each case victims are hurt and deprived. The experience is evaluated not by the numbers of victims but by the intensity of suffering inflicted.

In recent years reprehensible incidents of rape of women with a view to "teaching a lesson" in Rajasthan, UP, MP, as also elsewhere, has been on the rise. Our political rulers, the bureaucracy, law enforcing agencies, in fact, the whole society, do not seem to take this heinous crime and human rights abuse of the most cruel and obnoxious kind, seriously.

One is reminded of the widely known cruelties inflicted on Mrs Bhawanji Devi, a Sathin in Rajasthan. That she was raped in the presence of her helpless husband is shattering to the soul. But what happened in the District and Sessions Court judgement (November 1995) is no less painful, no less shocking and disturbing. She was subjected to the cruel humiliation and torture because of her attempt to prevent a child marriage which was indeed her official duty. One of the reasons given by the judge while sentencing the accused was that it is inconceivable that middle-aged persons would indulge in rape; another reason that they were "respectable citizens" and therefore cannot commit such a crime. Yet another reason given was that upper caste men could not have raped a low caste woman. Can another cry of agony be shriller than that of Mrs Bhawanji Devi?

Again, how many of us, in this society where men are so insensitive, have heard of the 20-year-old poor Dalit girl, Chitra in Tamil Nadu who was taken not long ago (in October, 1998) to a police station at night, gang-raped there, and then quietly left at her house early morning? Chitra could not overcome the humiliation — she committed suicide.

The latest victim is Anjana Mishra, estranged wife of an Indian Forest Service Officer of Orissa. What is Anjana's "crime"? She dared to lodge a complaint against a suspended Advocate-General of Orissa, Mr Indrajit Ray, for molesting and attempting to rape her in July 1997. It may be recalled that Mr Ray enjoyed the confidence and support of the Chief Minister of Orissa, Mr J B Patnaik even after a complaint was lodged against the former. Since then this unfortunate victim has been fighting a legal battle, all by herself, against Mr Indrajit Ray with a view to seeking justice. This seeking of justice is her "crime". Another "crime": how dare does she fight a case against a person who enjoys the full backing of the Chief Minister.

The "punishment" meted out to her was unspeakably inhuman, cruel, and obnoxious: she was subjected to repeated gang-rape on 9 January 1999 at Barang, a place near Bhubaneswar in Orissa. She was subjected to this cruel humiliation and torture because she dared asserting her right to seek justice.

Anjana stated in the FIR that she was repeatedly raped by three persons for over four hours, and that these three persons told her that she had to undergo the torture and trauma of rape because she had not withdrawn the case against Mr Indrajit Ray. They added that she could live as the "queen of J B Patnaik" had she withdrawn the case. Anjana also stated in the FIR that the three rapists told her that they enjoyed the protection of the local police.

Since the time Anjana Mishra lodged a complaint against Mrs Ray, all attempts have been made to compel her to withdraw her charges. It is to her credit that she has not bent though the price paid by her for showing courage has been very high.

The chief minister's reaction to this gang-rape is plain and simple: the allegations are part of a "conspiracy" against him. He has now ordered, reportedly under advice from Congress President, Mrs Sonia Gandhi, a

judicial probe. Which means that the case would be closed for all practical purposes. Mrs Sonia Gandhi and the chief minister know, more than anyone else, how long it takes for a judicial commission to come out with a report, and then how long it takes for any action to be initiated, not to speak of punishing the culprits. By way of an example we may refer to the government appointed enquiry commission report on Meerut communal riots in which UP PAC personnel (police) shot dead young men and threw their

bodies in a canal. The incident took place in 1987; no action has yet been taken against the culprits.

A male doctor, the report notes, after a casual local examination stated that the "possibility of a sexual intercourse cannot be ruled out", adding that this "did not reflect the high degree of probability" and that this expression, "possibility" is routinely used. The NCW expresses its shock that "in a place like Cuttack where there should be no dearth of female gynecologists, the exami-

nation had to be done by two male doctors, however proficient they may have been." The presence of a female PG student, the report points out, is no substitute for a female specialist being on the panel.

According to the NCW "the opinion of the doctor was not compatible with the facts". The report further notes that while everybody agreed that the rape was committed, the "paramount concern of everybody was the victim's motive and the political underpinnings". Nobody was bothered about the cry of

Private TV Channels Contributing to Sexual Liberation

by Vijay Lakshmi

Akhila Shivdas, chief of the Media Advocacy Centre in New Delhi, says that with the advent of these channels, "the woman as a thinking, independent being took precedence over the image of the woman as a mere passive sex object."

THE Indian woman may still be portrayed in stereotypical fashion in mainstream cinema, either as a sex object or one belonging to a subservient gender. But on private satellite television channels in the country, she is breaking loose — charting hitherto unexplored facets of sexuality and gender equations. Unwed women choosing to bring up their illegitimate children, women moving in with their lovers and elderly women cloping with men half their age — never before was any of these depicted on screen. Popular channels like Zee, Sony and Star Plus are now breaking new ground.

The central character in the television serial "Aurat" played by Mandira Bedi, for instance, falls in love and has a child. When her lover deserts her, she is not shattered. She just picks up the pieces and decides to bring up the child on her own. In "Swabhimaan" Devika, a single woman played by Meeta Vashisht, has affairs with practically every man she meets and exploits each of them to further her career. In "Hastein", lead character Savi, played by Shefali Chhaya, moves in with her lover. Her mother Sulakshana, dissatisfied with her husband who is much older, elopes with a man half her age.

Coming a long way from the stereotypes depicted during

state-owned Doordarshan network's monopoly era, the Indian woman in television serials has grown and matured into a human being with real desires, feelings, ambitions, needs and abilities. To be fair, the seeds of the revolutionary change in the portrayal of women on television were sown in serials on Doordarshan. Kalyani, the lead protagonist in "Udaan" who was a woman police officer, is still remembered for her assertiveness and independence. The serial was aired almost a decade ago.

But the real change came only after the advent of the private channels. Heavily dependent on entertainment to attract and hold audiences, they launched a surfeit of soaps and serials — many of which are shown in the afternoon slot when the bulk of the viewers are women. Akhila Shivdas, chief of the Media Advocacy Centre in New Delhi, says that with the advent of these channels, "the woman as a thinking, independent being took precedence over the image of the woman as a mere passive sex object." The women protagonists in television serials are now more ag-

gressive, independent, financially secure and self-sufficient. Mostly from the upper-middle and upper classes, they are depicted as being free to make their choices or fight against situations thrust upon them.

But "the choice of a relationship and the ability to make such a choice leads to other developments — unwanted pregnancies leading to abortions in some cases, to a compromised marriage, or to single parenthood, a decision to remain single, elopement, rejection by man," notes the Media Advocacy Group in a book titled "Building a Consumer Forum." In "Swabhimaan", for instance, sexuality is mainly expressed through extra-marital affairs. Ranjana Devi, the widow of a billionaire businessman, Keshav Malhotra, has been an

unwed mother in the past and adopts her illegitimate child after 23 years. Her late husband's mistress Svetlana has already been through a broken marriage. She opts for a live-in relationship with Malhotra and also has children by him.

The change in the depiction of women and their sexuality has its own reasons. As Shivdas says, the revolution in their portrayal is not so much due to attitudinal changes as to the fact that "sponsorship became fundamental and women were targeted as consumers. Ambitious women were crafted and some of this ambition translated into sexuality." With product wars and the "mind-share and time-share" of viewers becoming important, women in serials were made spokespersons of the lifestyle

changes corporates wanted to bring in the viewers. In doing so, they have turned taboos on screen into common occurrences. For instance, the whole issue of women's sexuality is explored in television through the "other woman" — a character generally shunned to the fringes in cinema. The "other woman" is usually depicted as educated, attractive and professionally successful. Yet, while she may flout most of society's norms, she rarely breaks the institution of marriage.

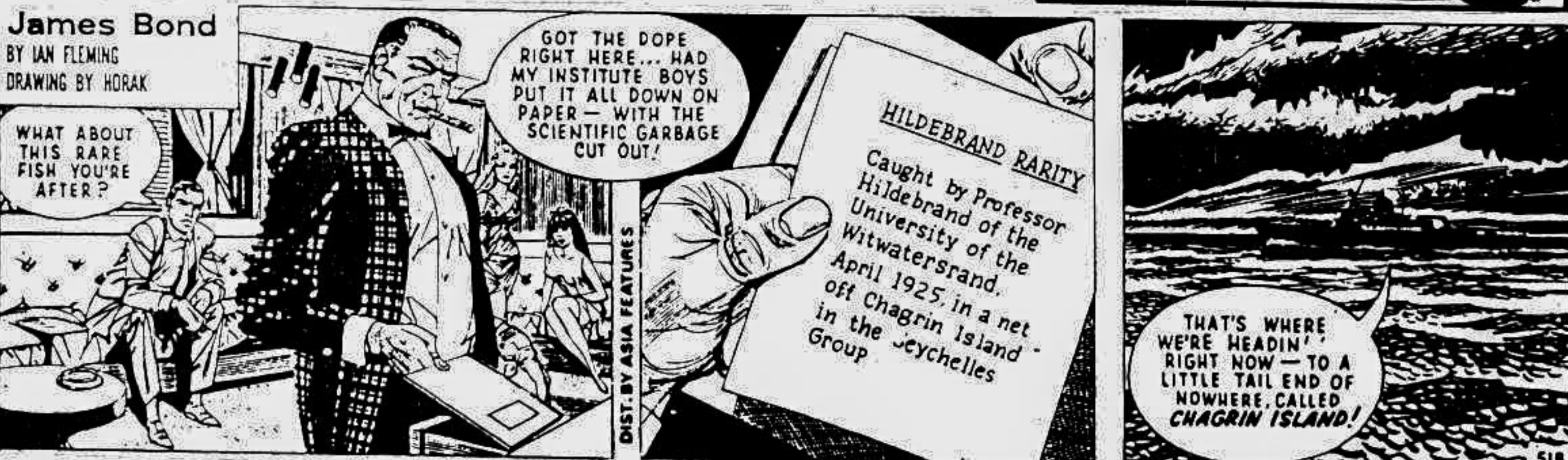
If the institution is indeed affected, it is because the wife has walked out, as Priya in "Saans" when she discovers her husband after he falls in love with another woman. "Women do not die after 35. They can start their lives all over again

and this is what I'll try to portray in 'Saans'," says Neena Gupta, who plays Priya and is the serial's director.

There are several serials in which women raise questions that may be disturbing to conservatives. In "Kora Kagaz" the woman protagonist wonders: "If a man goes out and flirts and plays around, people have nothing to say. So why should it be different and disgraceful if a girl behaves in the same fashion?" At least in urban centres, that is perhaps a question many women ask, or would like to ask. This is borne out by a viewer poll conducted in Delhi by the Media Advocacy Centre. It found that "Kora Kagaz" received the highest billing for a "serial breaking new ground for women." As Shivdas puts it, to a large extent women's sexuality is used as a form of social communication a kind of package to suit global consumerism. But in the process, it has also become somewhat liberating.

— IANS

Garfield®



A young Chinese girl looks curiously at small Chinese lanterns 09 February on the sidewalks of downtown Beijing one week before the official Chinese Lunar New Year. The decline of the traditions of Spring Festival is a matter of some regret to many, yet entrepreneurs still hit the streets hoping to capitalize on the big spending typically associated with the holiday. —AFP photo