

Nobel Scapegoats for 'Blood on Wall Street'

by Shawkat Ali and Nahid Rahman

The demise of LTCM has no implication for the contribution of Black, Scholes and Merton to economic theory. The reason is that although Robert Merton and Myron Scholes were two of the partners of LTCM, the activities of LTCM were not strictly governed by their theories.

NAEEM Mohaiemen's recent article on LTCM (DS 8 Nov) is a classic example of popular misconception about modern financial theory. Recent fall of Long Term Capital Limited (LTCM), a U.S. based investment concern, and its multi-billion dollar bail-out has led the popular press to find a quick answer to what went wrong. What better place to put the blame than on Fischer Black, Myron Scholes and Robert Merton whose pioneering academic work in finance gave birth to widely used risk-management techniques that are highly mathematical and often beyond the grasp of average investors. While popular press has done a good job of making phrases like "global financial meltdown" and "currency crisis" part of our household vocabulary, it has failed miserably to see the simple and beautiful intuition behind Black-Scholes' mathematical facade.

LTCM's fall almost coincided with this year's Nobel Prize nomination in economics for Amartya Sen. While breaking the news many networks, including CNN, made veiled remarks on the appropriateness of giving Nobel prize to Robert Merton and Myron Scholes in 1997, pointing to the "flawed model" which generated huge losses for LTCM. The fall of LTCM came as a vindication to many people, including some in the financial press, who always viewed Wall Street's new innovations with skepticism. Take the London Times quote used by Naeem Mohaiemen: "For those of us who could never understand the Black-Scholes model, there is a quiet satisfaction that the buffoons have not, after all, created a perpetual money machine. There is no fool-proof way to beat the casino."

To most academics and Wall Street practitioners this seemed like blaming the builders of Titanic rather than its crew for hitting the iceberg. You ask why? First of all, Black-Scholes is not about a perpetual money machine and no buffoons. As Naeem Mohaiemen quoted from London Times, traditional wisdom dictates that there is no fool-proof money making machine. Ironically, this is exactly the model that Black-Scholes-Merton used to derive their model. In fact, the driving force behind their model is the idea that there

should not be any riskless way of making money in the capital markets (also known as the "no arbitrage" condition). This is of course an old wisdom, the unique contribution of Black-Scholes-Merton was to use this insight to come up with a way to price certain financial claims known as derivative assets. Since the purpose of Black-Scholes model is to price certain assets, the model should be judged by asking whether the price predicted by the Black-Scholes model matches the price observed in the market. Black-Scholes passes this test of usefulness.

Given the simplifying assumptions of the model, Black-Scholes model prices derivative assets remarkably accurately. However, both practitioners and academics know that in real life the price of a derivative asset can vary from the price predicted by the Black-Scholes model. In most cases practitioners use Black-Scholes model as a benchmark — something to compare the price prevailing in the market. Yes, Black-Scholes model has its limitations. A simple example will make this clear. Suppose you are a supplier of T-shirts to the European market and negotiated a price for the delivery of ten thousand shirts. Next day you go and place an order to buy the ingredients for production. Typically, you would think that price of those ingredients will not move a lot between today and tomorrow and you will have a pretty accurate idea of tomorrow's price. So adding labour cost and profit you can give a pretty good price-quote that would guarantee your profit.

Similarly in financial market there are institutions that are selling products which are combination of multiple traded securities. These products are known as derivative securities since they are derived from other securities. Now if you sell one of these products what price you would ask for? The cost of combining those securities plus something for yourself (not too much, because there are many traders like you whose competition will bring down profit margin). Most of the time you will make your living because this is exactly the model that Black-Scholes-Merton used to derive their model. In fact, the driving force behind their model is the idea that there

see that price takes a huge jump and it is costing you more than what you sold for. If you can trade in a "continuous-time", i.e. sell and buy at the same time, you won't have this risk. Black-Scholes model is based on continuous-time trading. Therefore, once in a while when market takes a wide swing (like last summer), traders using Black-Scholes to trade will find no ground under their feet. Recent research has shown that by changing the original assumptions of Black-Scholes-Merton and replacing them with more general assumptions, one can get more accurate prices. These research have not nullified the work of Black, Scholes, and Merton. Rather, they just show that there is still room for improvement and actually, most of the new developments are based on the original work of Black, Scholes, and Merton. In evaluating Black-Scholes model, we should bear in mind the fact that a model is by definition a simplification. It is a surrogate model. With models, a researcher tries to replicate an actual event or a phenomenon. A model will never reproduce reality, hence the word model. Thus, in evaluating a model, the question one should ask is not whether it is false or not, rather, how false is it? Like any other model, Black-Scholes model has its limitations. But it is still a very good approximation of reality, so much so that practitioners around the world use some version of this model to price derivative assets day in day out, notwithstanding the criticisms of some lost-soul newspaper reporters. There is a global derivative assets industry worth trillions of dollars that is based to a large extent on the contributions of Black-Scholes and Merton. There are very few economic theories about which such can be said. While economists in other fields have grappled to find some evidence for their theories, Black-Scholes-Merton model prices derivatives security correctly — give or take few decimal points if you ignore extraordinary market events.

Now why is there a popular misconception that this model is exactly opposite of what it stands for? We believe there is a reason. In introductory finance books, for easier exposition of the Black-Scholes model, examples of arbitrage are included to highlight the fact that if you

are 'dynamically hedged', (loosely speaking this is same as selling and buying at a continuous time), then you can make money out of the difference between market price of a derivative asset and the price predicted by Black-Scholes model. These examples are just illustrations for highlighting a concept. In practice, arbitrage opportunities are not as numerous as in textbooks and people do not use Black-Scholes model to make money risklessly.

To conclude, let's go back to the LTCM issue again. The demise of LTCM has no implication for the contribution of Black, Scholes and Merton to economic theory. The reason is that although Robert Merton and Myron Scholes were two of the partners of LTCM, the activities of LTCM were not strictly governed by their theories.

In fact, given the cut-throat competition among the participants in the global financial market, it will be foolish of us to believe that Merton and Scholes were searching for "riskless" arbitrage. It's not yet exactly clear what LTCM was doing due to the fact that they are not required to disclose their trades. However, it is a reasonable guess that they were taking excessive risk without proper hedging. This sort of thing is common behaviour among hedge funds which are known to be high risk investments. Now, a proper application of the Black-Scholes model would require "perfect hedging" which requires trading in continuous-time and hence impossible. It's clear that LTCM was quite badly hedged and was taking directional bets which have little to do with the Black-Scholes model. Naeem Mohaiemen is right that: "the phrase 'hedge' comes from 'hedging your bets', but in reality hedge funds do quite the opposite — they aggressively chase huge risks." The bottom-line is that you cannot earn huge profits without taking huge risks. And if you never believed that some smart people have a recipe to make free money, you are quite right.

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Early Prevention: Key to Control HIV and AIDS

by Dr M Zakir Husain

There just seems to be enough reason to justify a pre-emptive control strategy as we cannot simply wish away the possibility of a HIV/AIDS scourge the impact of which in terms of human tragedy and socio-economic loss would be utterly devastating and beyond imagination.

THE government and the civil society in Bangladesh seem to be still not past the well known stage of denial and complacency about the possibility of an epidemic of HIV infection and AIDS. This possibility is not too far fetched and not a figment of imagination. Surveillance is spotty, present infrastructure is inadequate and unprepared, the people are unsuspecting and unaware. In this situation, the catastrophic result of an HIV epidemic, if it occurs, is beyond imagination. Yet, by early preventive measures it may well be minimised if not averted.

Bangladesh has little reason to be complacent about, or little logic to deny, the existence of several predisposing conditions of an epidemic. Numerous migrant workers abroad, large floating population within, unregulated number of injecting drug users, trends of sexual promiscuity and rising prevalence of sexually transmitted diseases constitute some of these conditions. Adequate surveillance is not in place. Blood and blood products safety is not monitored fully, health workers are not adequately trained to counsel HIV infected persons nor to protect themselves from accidental infection at work.

It is now well established that HIV infection is not confined to those with so-called high risk behaviour; it can occur in hetero-sexual ("normal") couples if one partner is infected. Under these conditions, a climate of denial gives a false sense of security in the public mind and lulls the civil society into inaction. The general feeling is that it can happen to others but not to us. That is not true.

Let us look at the situation in countries around Bangladesh. India remained for an unusually long period in the phase of denial and complacency. According to one estimate (Indian Health Organisation), 8 to 10 million people in India are already infected with HIV. It is now perhaps the epicentre of HIV epidemic in Asia. That may indeed be the price to pay for complacency. Myanmar and Nepal have recognised the epidemic for a number of years and have been implementing a programme within their limited resources. So too has Sri Lanka for a number of years. Thailand is a case in point which had witnessed its epidemic much earlier and has brought it well under control thanks to early, effective, and energetic programme of prevention and control.

When there is so much trade and population travel between

Bangladesh and its neighbours, when there are predisposing conditions within, how can Bangladesh remain an island of immunity? Can Bangladesh afford to deny and remain complacent? The answer is "no".

As an international public health professional working in the World Health Organisation (WHO), I had the opportunity to be associated with the national response to HIV epidemic by Thailand. I am convinced that it is entirely possible to control HIV epidemic if clear and courageous actions are taken early; if the government and the civil society move in concert and cooperation, and mobilise the required will and resources to implement a well orchestrated national prevention and control programme. Thailand experience also proves that HIV/AIDS cannot be solely a Ministry of Health programme. HIV/AIDS should get a programme at the prodding of and with funding by, external agencies alone.

It is true Bangladesh still has old established health problems like malaria, tuberculosis, other infectious diseases that kill many and cause grave economic loss. Also, the cure for these conditions are known though the treatment is not available to many. Then why HIV infection should get any attention? The fact, however, is that HIV infects without producing visible signs for years. The infected person is capable of infecting others without their knowledge. It is not confined to the so-called high-risk group. The onset of AIDS leads invariably to fatal death. Wherever an epidemic struck in poor countries with inadequate infrastructure, the extent of human tragedy and economic ruin was catastrophic. These should be enough reason to shake off the present inertia.

In Thailand, national HIV/AIDS programme came under the direction of the Prime Minister's Office, all ministers concerned were involved in a multi-sectoral multi-disciplinary effort, many non-governmental organisations and voluntary groups with good track record and high profile were encouraged to join the effort. Universities, colleges and schools, eminent individuals in public life, religious institutions, prime movers in industry and all sections of the private sector were given room for playing their role. Above all, the Thai society orchestrated a national information and education campaign in characteristic free and uninhibited manner. Awareness and enabling environment are the key preconditions of action by individuals

and communities in their self-defence and interest.

Some may wistfully hope that soon an effective vaccine or treatment will be available. But current developments do not give much hope for an early breakthrough. There is a gap of many years — ten or more — between laboratory bench and the drug store shelf for a new vaccine or drug. Besides, a commercially available vaccine or treatment will in all likelihood be the means of most in the poor countries. The only practical defence against HIV is information and education in prevention and control leading to adoption of safe behaviour and practice. It is absolutely imperative to effectively disseminate all valid information clearly and unequivocally. For Thailand, it required very intensive, innovative and courageous effort by the state and the civil society. Not surprisingly, Thailand HIV/AIDS programme has often been quoted as a model for Asia.

Admittedly, very few cases of HIV infection are reported in Bangladesh. Some would naturally feel it is not necessary to sound an alert yet. But with so little surveillance and so much exposure, I cannot draw any comfort from these incomplete statistics. I shall be more concerned with the epidemiological, geographical, and behavioural potential of the present situation. I am also more apprehensive of the devastating socio-economic consequences besides the scale of human misery that might well be happening. This is no doomsday prediction. But there is a clear and present danger.

In a climate of denial and indifference, and present inertia regarding education in sexual hygiene and responsible sexual behaviour, the public has little perception of the true nature of the threat or the need to practice safe behaviour. Women and young adults remain particularly vulnerable and largely unprotected. The atmosphere of denial and complacency is bad enough; fear and prejudice around HIV drive the problem underground and make the situation worse.

I am aware of documents on national policy, strategy, and programme of action. But what is lacking is the will to act. Early prevention is the key; openness is essential; involvement of all sections of the civil society is a must. At the cost of stating the obvious, some specific actions that come to mind are:

1. Make sex education universal particularly targeting the adolescents and young males and females. Informa-

tion and knowledge is power — the power to protect and prevent.

2. Discuss the subject of HIV transmission and consequences openly and make counselling and information available widely, freely and consistently.

3. Monitor closely the prevalence of sexually transmitted diseases which are in fact a proxy indicator of the likely HIV infections.

4. Intensify HIV surveillance including specific population groups at high risk and geographical areas of high incidence.

5. Target services and information with enabling measures for the men and women at risk due to occupational exposure.

6. Make sure that all health workers do know enough about HIV transmission and prevention; legislate and ensure 100 per cent safety of blood and blood products for transfusion.

7. Reduce if not eliminate the present vulnerability of women to HIV infection.

8. Dispel fear and myths about HIV and expose false claims and fraudulent practices.

A word about the media is in order. I believe the media can play a very useful and powerful role. By raising all pertinent issues of supreme public interest, by disseminating valid information and creating public opinion conducive to knowledge and practice, by raising questions on whether information and education on HIV is effectively reaching the population, especially the vulnerable groups, and by holding open for a for debating and asserting government's and civil society's role.

I have presented the information and opinion above with no intention to raise false alarm or to create fear and panic but with the hope of a wider agreement on possible action now and not when it might be too little too late. There just seems to be enough reason to justify a pre-emptive control strategy as we cannot simply wish away the possibility of a HIV/AIDS epidemic in Bangladesh the impact of which in terms of human tragedy and socio-economic loss would be utterly devastating and beyond imagination. As a public health professional, I cannot help urge upon the government and the civil society to join hands in a serious effort even under criticism from the unsuspecting and naive. Indeed, HIV/AIDS is a silent but sure killer; is not highly visible event like flood or earthquake or a cyclone.

Soft, Cuddly and Toxic

Beware! That harmless-looking toy may be toxic. And loads of it are being dumped by western manufacturers on Asian markets, writes Nainidhi Kaur.

IN the soft, warm light of a baby store, a young couple coo over the soft cuddly toys and pick out a scrubby bear and a squeaky bear for their toddler — little realising that they are buying a toxic product.

While parents in the west are increasingly conscious of dangerous chemicals that may lurk in soft polyvinyl chloride or PVC toys, in India neither manufacturers nor their patrons seem to be aware of the hazards. Dr David Santillo, staff scientist for the voluntary organisation Greenpeace International, says softeners contained in PVC toys are like water in a sponge. When soft PVC toys are sucked on and chewed by children, these hazardous chemicals come out and are ingested. Laboratory tests conducted on animals have shown that softeners cause liver and kidney damage and even mimic hormones and cause havoc to metabolic activity.

As governments in the west ban soft PVC toys, activist groups such as Greenpeace fear that in the near future the big names in the business could dump their poisonous products on countries with lax laws and low awareness, such as India. "There is a need to create awareness against soft PVC toys. We fear that toy manufacturers in the West may end up dumping these toys where they can," says Greenpeace campaigner Nityanand Jayaraman. The possible perils to the health of tiny tots posed by PVC toys were accepted last month by a scientific committee of the

European Union in Brussels.

Quick to take action, the Austrian government prepared to ban PVC toys that require dangerous softeners, Danish, Dutch, German and Belgian authorities followed by recommending voluntary withdrawal of soft PVC toys by manufacturers.

The toy industry's reaction was mixed. While some companies like the Italian Chicco withdrew their teething rings from European markets, others like Mattel — makers of the famed Barbie doll — launched expensive public relations campaigns, thus heightening the fears of dumping.

Imported unsafe toys are already sold unhindered in the best toy shops in India. Among the big global players in the toy business which have a presence in India are Mattel, Lego, Habsbro and Little Tikes, but lesser makes also come from China and other Asian countries like Thailand.

Market analysts say that the future for toys, including those made of soft PVC, is bright in India where current annual per capita expenditure on toys is one cent compared to \$35 in the United States.

As part of its *Play Safe* campaign begun two years ago,

Greenpeace picked up samples of toys from Asian, European and American countries and confirmed suspicion that most of them contained significant quantities of hazardous softeners.

Donalds, fruity teething, Barbies (from Netherlands), rattles, bathtime squirrels and animal weebies were found to contain anything between 10 to 40 per cent by weight of hazardous additives.

Particularly alarming to Greenpeace was the fact that no government agency was monitoring toys, whether manufactured locally or imported ones, for toxicity.

The Bureau of Indian Standards (BIS) has standards for toy safety relating to their mechanical and physical form as well as toxicity but there was little enforcement and manufacturers do not even bother with getting a certificate.

"We do not have the facility for checking PVC constituents. The only thing we check for is the presence of mercury, cadmium and arsenic," said Sajinder Singh, director at the BIS.

Shoppers and their customers seemed unaware of the risk from soft PVC toys. "I don't know what all goes into making PVC toys soft," said salesperson at Mickey and Pals, a popular

Disney outlet. India also does not have any mechanism to recall a dangerous toy once it is sold, as became apparent when Lego withdrew worldwide a rattle which had tendency to get stuck inside babies' mouths.

The Indian retail market has practically no database and Lego's Indian subsidiary was forced to advertise in local newspapers, offering to buy back the 200 rattles which were sold in this country.

Lego's concern was a refreshing change from the generally careless attitude to dangerous toys by Indian authorities, who are unable or unwilling to clamp down on local manufacturers and retailers.

Given the situation, Jayaraman says the best bet is to alert parents. "Which parent would like to give their child a toy which damaged the liver of a monkey in an experiment," he said.

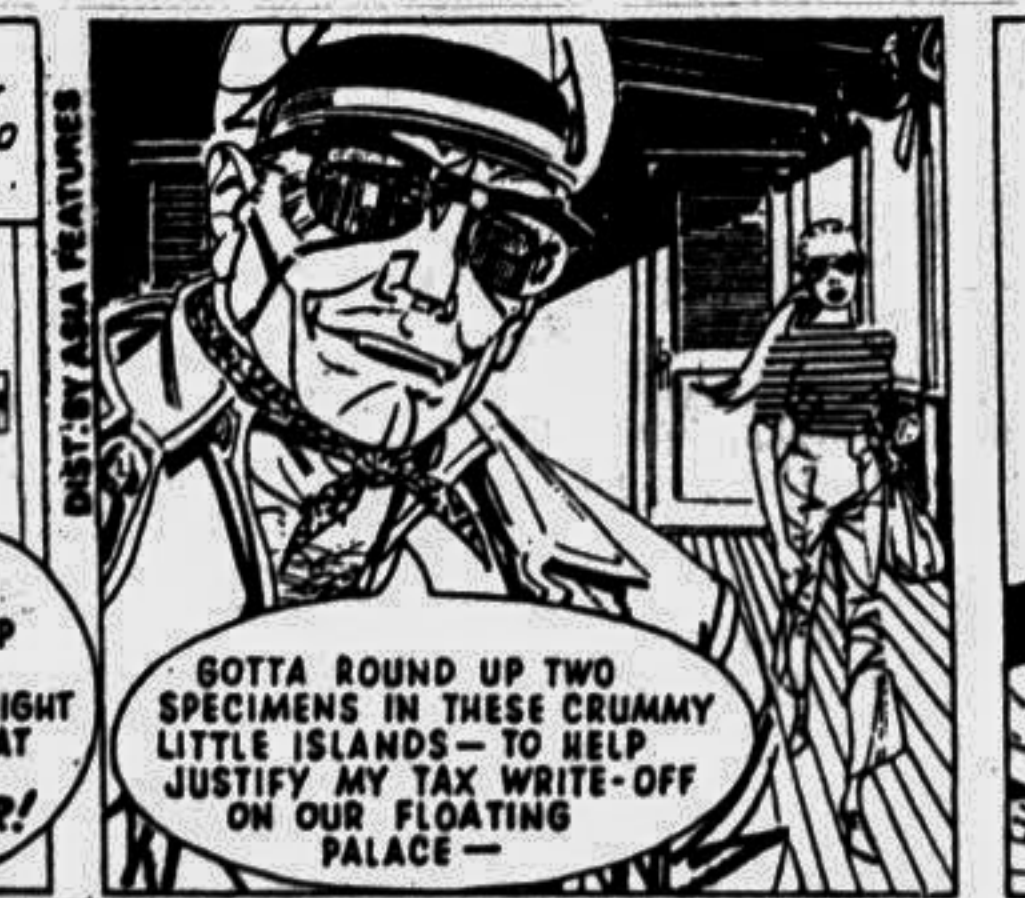
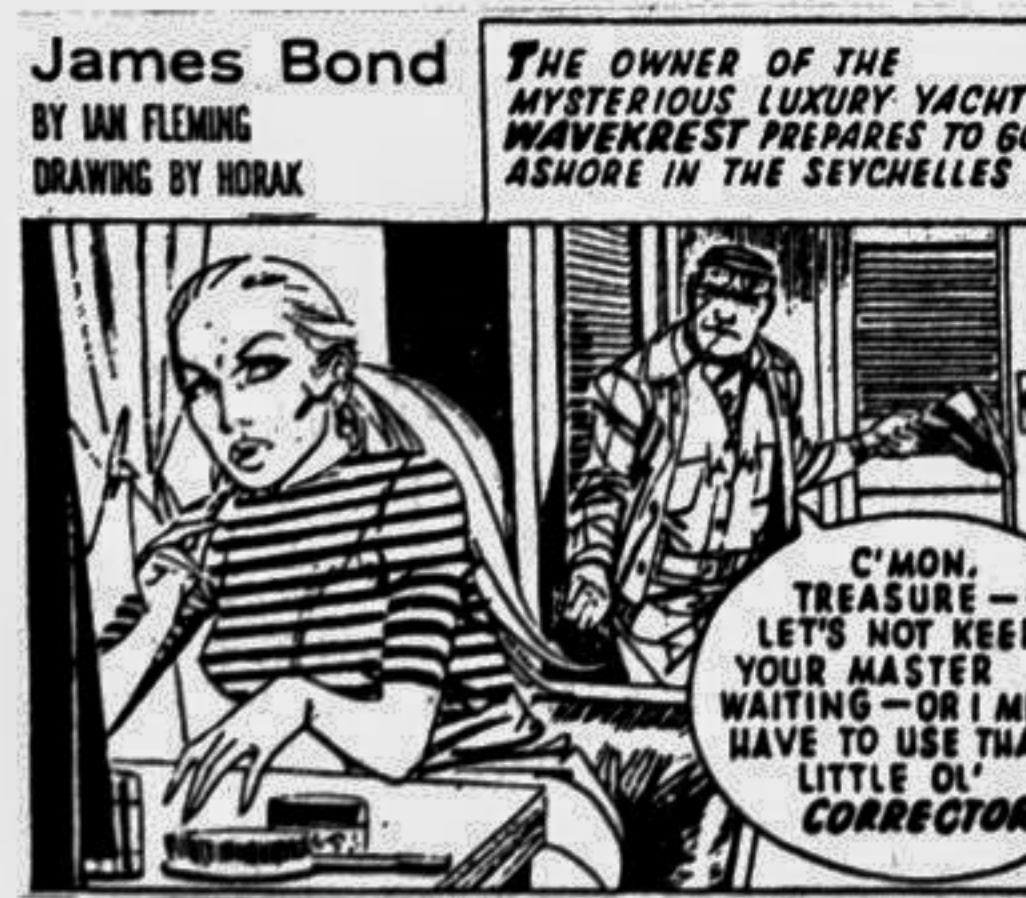
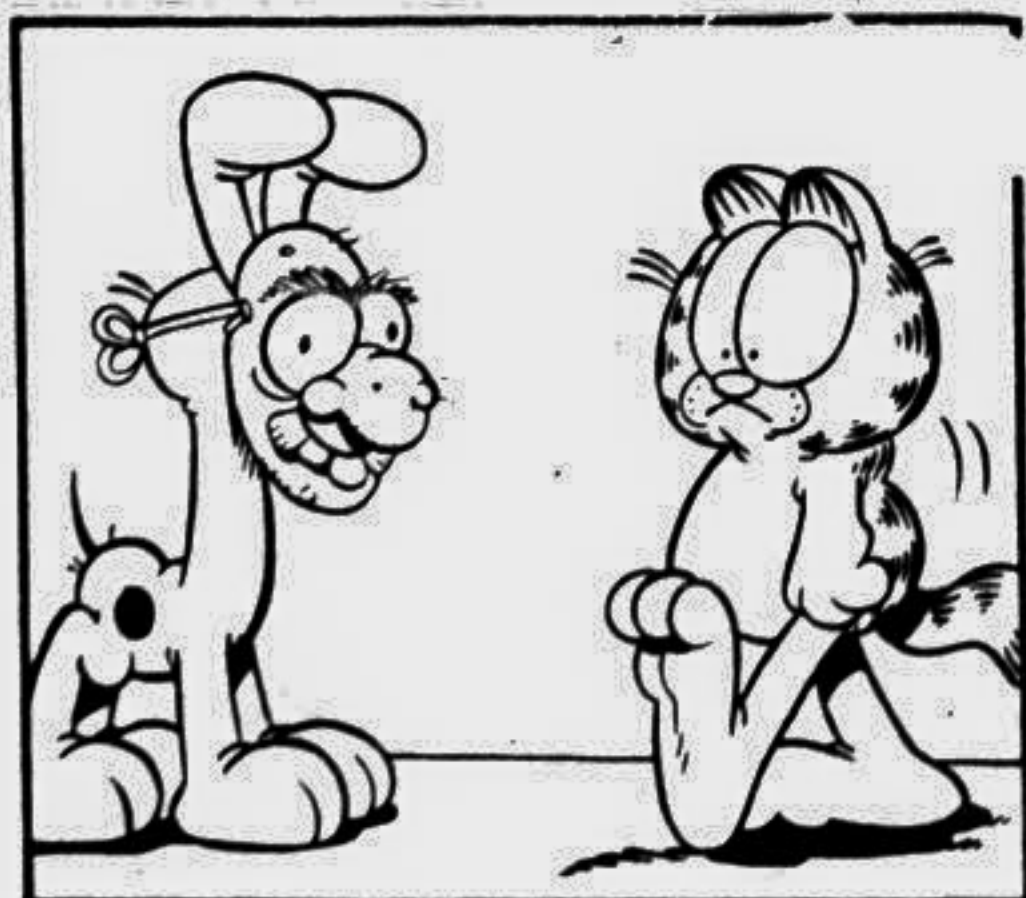
"Why would I put my child in danger when I have the option of giving her stuffed fabric toys?" asked Meeta Bajaj, a concerned parent.

With stuffed and fur toys freely available in the market, parents should have little trouble removing soft PVC toys from nursery shelves. Plastics like polyethylene, polypropylene and thermoplastic elastomers are also considered safe.

But in the end, activists say parents are best off sticking to toys made of traditionally safe materials such as wood, rubber and fabric.

— IPS/APB Feature

Garfield



CIVIL SOCIETY

Recognition of the Concept in Bangladesh

Over the last fifty years the socio-economic structure has been changed rapidly. The number of industries as well as quantum of local and foreign investments are increasing. On the other hand number of landless is also increasing. Migration from villages to urban areas is assuming an alarming proportion. In such a changing situation, micro credit, awareness building programmes, health care etc are helping in the process of development covering the poor landless people.

by Rashida Sultana Shumi

CIVIL society is generally considered as the complementary organ of the government and also of the market though not necessarily in complete harmony with them. The concept is defined in different countries in different ways. In USA civil society is 'non-business' and 'non-partisan'. Broadly in Latin America and Africa they include all the people's organizations as mainstream of the civil society, which is non-state, non-party, non-market. But in Europe as they have experience and practice of democracy they include party in civil society. In Asia-Pacific region it includes all organizations non-state, non-market, non-party."

As civil society is considered as the complementary organ of government, so state must be excluded from the concept. As objectives of market (banks, leasing company, large investors etc) are profit earning and creating scopes for local and foreign investments, so it cannot be part of civil society. And though it is usually said that party is for people's interest, in the third world country the reality is that when party assumes state power it tends to preserve its own interest. Thus in first consideration political parties cannot be part of civil society.

In Bangladesh the purview of civil society includes voluntary organizations (NGOs), social welfare organizations, special interest groups, research organizations, trade unions, community based organizations, advocacy groups and the media in the private sector. By this definition the civil society here excludes the legislature, the judiciary, the government, the local government institutions, political parties and the private sector trading and manufacturing units.

Civil society as defined, however, covers multifarious activities. The various types of institutions within it and their usual functions are thus cited below:

The need for Recognition of the Concept in Bangladesh
Over the last fifty years the

socio-economic structure has been changed rapidly. The number of industries as well as quantum of local and foreign investments are increasing. On the other hand number of landless is also increasing. Migration from villages to urban areas is assuming an alarming proportion. In such a changing situation, micro credit, awareness building programmes, health care etc are helping in the process of development covering the poor landless people.

The major contributors in this process are NGOs. NGOs are creating awareness among women about their human rights and legal rights. They are providing micro credit to the landless and also creating employment opportunities for women. They are making women visible in the contribution of DGP. They are also proactive against so-called fundamentalists and fatwabays. Newspapers are also playing a

very important role in creating awareness among the mass people. Other than the NGOs and newspapers, different cultural organizations are also very active in awareness building against all sorts of discriminations. All of them were working in a scattered way. Now they seem to be united under a common umbrella — the "civil society".

Often it was used to be said that it was a western phenomenon and there was no real applicability of the concept in a third world country like Bangladesh. But we can recognize the range and activities of civil society it is evident that a stronger civil society can lead us in the way to sustainable development. In recent years the role of civil society has been seen as contributing to accumulation of social capital which is the communities' capacity to participate in and benefit from development ac-

tivities. Related to the concept of social capital it is the useful idea that it functions through and with governments and market, not in place of them.

Thus the apparent competitive or substitutive relation between civil society on the one hand and the private sector on the other dissolves into an interdependent network of synergistic potential.

Recognition and popularization/familiarization of the concept during flood and post flood situation. We have seen that the civil society has played a pro-active role when the country was bearing the brunt of its longest and most devastating flood.

From the beginning to about one month of the flood, government controlled TV and radio gave little coverage of the situation and its flood victims. But newspapers were covering the flood situation and reporting about the victims from the beginning and urging the public to extend their help.

Type	Activities
Media (press, radio, TV).	Public opinion forming, information dissemination, entertainment, etc.
Trade unions	Collective bargaining, awareness creation among members about their rights and public policies relating to them.
Professional bodies	Maintaining high standard of the profession, protecting the rights of the members, promotion of interests.
Private voluntary organizations	Advocacy of social change in particular areas, provision of limited public goods and services to their clientele (credit, primary health, adult literacy, etc), manufacture and distribution (sale) of consumer goods to members of the public (milk processing, fisheries, etc), protection of the rights of disadvantaged groups (e.g. minorities, tribal people, destitute women, street children, etc).
Sports and cultural bodies	Promotion of sports and culture through the activities of their members.
Social welfare organisations	Promotion of social welfare of members or limited clientele in particular areas through voluntary services of various types.

Reference: The concept paper on good governance by Hasnat Abdul Hye.

NGOs (local and foreign) tried their best to help the flood victims. Not only large organizations like BRAC, Proshika, GSS, CARE, CONCERN have put their best effort but also small organizations like NDMU (Nagorik Durjog Mokabala Udyog) are also have been working for evaluation of damages and further rehabilitation programmes. Different cultural organizations arranged concert, play, film show in aid of the flood victims.

Now the civil society is engaged in post-flood rehabilitation and reconstruction activities to recover the losses in the shortest possible time. Newspapers are playing their important role in monitoring the distribution of relief materials. They are reporting pilferages and irregularities in distribution of food grains among the affected people so that the administration can take appropriate measures against such irregularities.

Thus the concept — civil society — is gaining recognition and popularity through its performance. It is hoped that the concept would expand here to fuller extent with its pro-active role.