

Flood havoc and post-flood priorities



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What is needed now is an effort to supplement income of all able bodied male members in the flood affected areas in the form of employment in relief work, road and embankment construction and channel digging to allow free flow of water to water ways. True, the regularity with which disasters return to haunt people in different places at different times can lead to debilitating cynicism. But it is not the reason why government agencies fail consistently in disaster management.

flood plain and the socio-economic conditions of the people living in this area. The people continue to suffer relentlessly battered by the ravages of flood.

The objective of increasing rice production by providing flood protection to agricultural land got so much priority that the consequential stress on the flood plain ecosystem hardly received any attention. Interventions at one place resulted in flood risk elsewhere, reducing post-monsoon flow in the river and deteriorating its morphology.

There are evidences galore that human interventions in the flood plain have caused miseries in the past also as it is doing now. Williams, who was a supervising engineer of the Public Works Department (PWD) in 1919 concluded after examining the past history of the tidal rivers in the Ganges Delta that the construction of railways, roads and private embankments caused the death

flood ravaged the northern part of Bengal in 1927 due to rainfalls of unprecedented magnitude indicated that railway embankments hampered the draining away of the flood water and thus served to prolong the duration of the flood. A committee formed by the Ministry of Water Resources of the government of Bangladesh in 1995 after another devastating flood ravaged the north western part of Bangladesh in the same year concluded in its report that abnormally high rains could only be termed as an act of nature and any scheme to combat such event would be uneconomic and unwise.

True, natural disasters are a universal reality. But in modern times it is the preparedness that counts. Damage can be minimised, rehabilitation can be effective, but only if a country has an organised disaster management plan. Bangladesh seemingly does not. Speaking about Sirjaganj and

ties and so Sirajganj, Gaibandha, Kurigram, to name a few among so many worst hit places were left to fend for themselves.

If the suffering of about 20 million people having no food, no shelter, no drinking water and last of all no medicine was tragic, the lethargy and insensitivity of the past government was unforgivable. Bangladesh is visited by epidemic, fires, floods, cyclones, train and launch accidents with amazing frequency — enough practice to get ourselves ready. Still instead of recognising the urgency of the situation and taking appropriate action at the proper moment, an inertia prevailed as if a nation, so often visited by tragedy has become injured to it.

The sudden cataclysm that has overwhelmed one third of it is no doubt alarming. But the disaster that is unfolding in the wake of the flood triggers further consequences. Water is already contaminated and would remain so for months to

headquarters unsure of where to go.

The government machinery as it is wont to will take time to get into place, and the enormity of the disaster means we must all help as best as we can. After the flood water has receded, people will start working to help themselves and it would be an onerous job on the part of the government, NGOs, humanitarian and cultural organisations in absence of the political parties provide material support to the flood-stricken people in the form of seeds, fertilizers, pesticides and even livestock if needed. The NGOs and other philanthropic organisations and business communities may come ahead to meet the short-term needs of the communities in the affected villages, such as drinking water, fodder and wage labour for the poor, until the next Boro or IRRRI or Aman harvesting season.

In the long term, we need to strengthen the community's ability to withstand similar situations in future by repairing and building safer houses for shelter and storage, infrastructure as well in recharging sources of water such a tube wells. Undoubtedly true, nature will always have its way and so it is a calamity that could not have been avoided, but its damage could have been limited. One thing we must understand that the problem is not of money but of management.

Time and again we have seen relief measures so deficient. Because our political leaders in the past never seemed to understand that no matter how much money they had raised, it ended up being wasted because of the insensitivity of the administrations they ran. What actually happens in such a disaster is that because of multiplicity of departments dealing with mitigation, relief and succour, providing food and medicine, there occurs a serious lack of accountability and co-ordination among them. It is so shocking that granaries overflow in some places, in others people die for lack of food. Between the ministries concerned there is an enormous amount of buck-passing and the result is that very little trickles down to the needy.

What is needed now is an effort to supplement income of all able bodied male members in the flood affected areas in the form of employment in relief work, road and embankment construction and channel digging to allow free flow of water to water ways. True, the regularity with which disasters return to haunt people in different places at different times can lead to debilitating cynicism. But it is not the reason why government agencies fail consistently in disaster management. Lessons are never learnt, preparedness remains incomplete and most of all the willingness to meet the challenges head on appears missing.

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many streams. He further observed that wherever embankments existed they posed problems defeating the purpose for which they were raised, to the extent that they in course of time raised flood levels or led to the extinction of rivers by causing siltation and brought about water logging. Almost a similar effect is now observed in the south western region of Bangladesh where polders have been constructed to prevent tidal flooding.

Review of polder embankments by Halcrow and Partners, a foreign based consulting firm which prepared the Master Plan report of South West Area River Resources Management Project in the past indicates that the effect of poldering is clearly drainage congestion resulting in the rise of channel bed and tide levels relative to the land levels inside the polder thereby obstructing drainage and in some areas the situation is worse than before the project was implemented.

The first systematic study of floods in Bengal done by Mahalanobis after a devastating

Haimchar area in Chandpur, these places have always been vulnerable to flood and river erosion. As reports suggest serious breaches occurred in the 20 km long flood protection embankment around Sirajganj town and adjoining areas and in spite of the fact that this embankment remained so much vulnerable during the last five years, no serious structural repair was done other than some patch works done here and there.

As reports reveal, Sirajganj district was fenced off by 68 km long flood protection embankment during the Pakistan regime. But as no repair was done during the last five years, three out of eight spurs built at different places of this embankment gave way in the face of the fury of flood water in the rainy season. Sirajganj town is now under waist deep water, with men and animals living together in the same high land. There is water every where but not a drop to drink. The previous governments shook off all responsibilities by just issuing a prescription that people have to cope out with such natural calamities

come. The prospect of the next Aman crop is still very bleak because seed bed cannot be prepared unless water has receded totally, and consequently the prospect of a bad harvest cannot be totally ruled out. Water related diseases like diarrhea and cholera have already broken out in an epidemic form. People will start dying unless relief aids in the form of food and medicines can be reached in time.

On the other hand, cattle population, in thousands might perish in the huge mass of water if water logging continued indefinitely. The people who depend on them for their livelihood have no wherewithal to sustain themselves, let alone their cattle. Undeniably true, even as water begins to recede a tidal wave of despair engulfs the country. In village after village along the soggy riverine districts, namely Sirajganj, Gaibandha, Kurigram and Nilphamari, battered people wait in vain for relief to come. It should not happen like this that while people in the affected districts starve, trucks loaded with food bags and medicines queue for miles in the district

Contemplating flood control

TAYEB HUSAIN writes from Lund, Sweden

SO the flood again hits Bangladesh hard like many other previous years and most probably our leadership is getting ready to seek help to overcome it. Sometimes one wonders if Bangladeshi people and leadership consider flood on opportunity for getting grants. Otherwise, how come, the country did so little to control flood in the last few decades and especially when we became our own masters?

If we remember it correctly, in late eighties, a team of French engineers called for construction of massive embankments on rivers throughout the country as well as dredging of rivers to obtain low water levels at a cost of US\$6 billion in 20 years time. The American experts then dismissed the French proposal as a colossal waste of money and suggested instead for a cheap and acceptable plan that will help people live with the flood and survive. What the final decision was and what happened to the real flood control in Bangladesh afterwards we do not know.

Experience shows that praying for help for everything has almost become our national character. We seldom try to do things on our own.

For flood control, crying for help is not the solution and nobody is going to control our flood. It is the people of Bangladesh and the government who need to do the job. And how can we do it with our very limited resources? Let us look to it. Spending billions of dollar to control flood or to live with it? Perhaps we can not afford planning and implementing a flood control programme over 20-25 years and spending billions of dollars in the process, and it does not make any sense. We are to live with flood as the Americans said and in our own simple way we shall have to control the flood. But what is that way? What we need to do? Here is a proposal:

We need about 500 caterpillars, specially made, to construct embankments around our boarders with India from where the flood waters come. Each of these machines will cost about US\$100,000 or less. These machines should run on our own natural gas keeping the running cost minimum. Total cost for these 500 caterpillars shall be about US\$50-million or much less, a small amount by any sort of calculation for such a big job. Then we need about 2,000 people to work with it and to maintain these machines 24 hours a day. Bangladesh army can recruit these people; they may remain in army pay book and shall work on site under the supervision of the army. Training for maintenance and running of the machines shall be given by the suppliers of these machines.

A Swedish company in southern Sweden makes such machines and it is possible that SIDA supplies and trains personnel to operate these machines from its international aid fund if US\$50-million is such a huge amount for Bangladesh and if we must seek help for such an important project. We can also buy these machines from Korea, China or Taiwan at much cheaper prices and on soft loan. There are hundreds of sellers ready to offer very favourable terms and conditions if Bangladesh wants to buy it.

Working 24 hours a day with these machines we can build strong embankments around our boarders with India keeping only the channels of our great rivers Ganga, Jamuna and Megna open. Then we can build strong embankments on the sides of these great rivers. The job can be done within two years if not less. Working with firm determination and on a strong sense of self-help it is possible to come near what the French engineers proposed or the Americans suggested in late eighties.

Settlements on embankments: These embankments should be wide and strong, well connected by a long road, link roads and bridges



Flood control or controlled flood?

Md ZAFAR SADEQUE

LOSS of water holding and carrying capacity of the main rivers filled with silt was the main cause of devastating flood of 1998 in Bangladesh. Yearly sedimentation is about 2500 million tons and in the year 1998 it stood at 2630 million tons, volume of which is about 1000 million cubic metre. The average swelling of the river-beds of the first three sections of the under-mentioned four main rivers is 33 cm.

1. Padma: From the entry point in Bangladesh (Downstream of Farakka) to Gualanda.
2. Jamuna: From the entry point in Bangladesh (Downstream of Rowmari) to Gualanda.
3. Joint flow of Padma-Jamuna in the name of Padma: From Gualanda to Chandpur.
4. Meghna: From the entry point in Bangladesh (Jakiganj) joint flow of Surma-Kushnira to Chandpur.

A severe flood does not occur due to the sedimentation of one year or two. Rather a severe flood is feared due to swelling of the river-bed by sedimentation and crossing of the critical limit by onrush of seasonal rain water. So it is evident that for controlling flood, the water holding and carrying capacity of rivers must be increased by dredging/digging the river-beds in a bid to hold substantial water in the channels.

The only feasible step in controlling flood is cutting and removing of 1000 million cubic metre of silt from the above mentioned rivers. Implementation of this is very tough considering its vastness. There is no alternative to digging of river-beds, but there are two options for it.

1. Conventional mechanical process i.e. with the help of dredger, and
2. With physical labour i.e. by spading.

For implementing the river digging plan with physical labour i.e. by spading, silt in 600 km river section of Padma, Jamuna and the joint flow of Padma-Jamuna should be removed in a year in the time-span of 1st February to 15th April. The silt

should be removed in 500 metre wide and 3.3 metre deep layer by spading. For making channel 1000 cubic metre silt should be removed in a year. If this process is continued for several successive years, water causing flood may easily be stored in the channel. Apparently it seems to be impossible but it is possible with firm political commitment and determination. From the economic point of view the advantages of river-digging by physical labour are:

- a) There is no need of foreign currency, approximately 23500 million taka may easily be arranged from internal sources;
- b) Only spade and bamboo-basket are required, which may be procured locally;
- c) Excessive expenditure may be controlled as the labour is mostly voluntary.

It is evident from experience that, head of the government stays at the centre point of any event. So as the head of the government honourable Chief Adviser should take the main initiative and seek the voluntary help from the nation for our existence explaining the importance and significance of the plan. Massive national awakening may take place due to the Chief-Adviser's appeal on river-digging plan. Participation of women folk in large number should be ensured. The nation will be getting continuous benefit from this in future.

Suez canal (108 mile long and 41 feet deep) and after that Panama canal were dug using spade about one hundred and forty years ago. If river-digging plan is implemented in Bangladesh, it will be the largest digging work in the history of human civilization. It will be the greatest organised human activity with far reaching economic and welfare oriented results.

It is a bitter experience of the last several years that the earnings of many years through hard labour gets ruined due to the whimsical behaviour of the nature. A critical dimension of water of the river in the monsoon is responsible for the devastating flood. Infrastructures can be saved if the water of the river could be stored in the river channel.

from all sides and military barracks and residential houses for civil and military personnel shall be built on these embankments to ensure supervision and maintenance of the embankments. Simple but comfortable houses would make it possible even to minimise the shortage of housing for our population. It will also help free more land that scattered village huts have occupied in these areas. For making the embankments many pond like ditches will be required to be dug and that could be used as fresh water reservoirs and for fish farming. By using power pumps these ponds will be kept full before the dry season begins while excess water in rainy season would be allowed to flow only through the mighty Ganga, Jamuna and Megna to the Bay of Bengal. By controlling the flow of water by these embankments the river beds of all these rivers would be automatically drained due to the strong flow of water.

Houses on raised land-pad: The second step of flood control would be to organise our villages. Those scattered houses in the villages must be given-up and small township build-up throughout the country by digging canals and ponds and raising land-pads where cheap but comfortable houses shall be built along the existing major roads. **Does it sound nonsense?** No, it does not. This plan seems to be expensive but it is not really, considering the benefit it would bring. It needs political and social welfare mentality of our leadership and we can get it done if we really want it by political and social movements. National awakening for self-respect and self-betterment is holy and noble. Let the fear of flood motivate us to control it in our own way and thereby change our way of live for better.

New diseases threaten rice yield

DR MD SHAHJAHAN ALI

IT has been reported that there had occurred appearance of mildew on Boro rice perhaps due to severe storm and high temperature in Shibalay (Manikganj). This indicates adverse weather condition responsible for growth of mildew. Mildew is a disease which must be explained very clearly in order to avoid further deterioration in crop yield. This is identified as a destructive growth of minute fungi on plants causing reduced yield of rice. Now for the time being it is in that particular area. It is known that there was possibility of good yield of Boro rice since weather was generally very much favourable for maximizing production. This is surprising to note that sudden inclement weather and hot air led to this type of attack on rice.

There are lots of factors working in soil and water causing low production of rice. Temperature on earth increases with the increased content of carbon-dioxide in the atmosphere due to rapid deforestation and industrialisation. Sulphur dioxide, sulphur trioxide, methane and CFC also play vital role in enhancing temperature. The state of atmosphere that prevails at a particular locality at a particular moment is called weather of that locality for that moment. Hence, the condition of atmosphere means its temperature, pressure, moisture and with these compositions the condition of air is understood. The composition varies regularly and so temporary change in weather at a

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particular period cannot be regarded as the only cause for this type of disaster -- appearance of mildew. Timely action could have averted this loss of yield.

It is accepted that soil, water and air are components of environment and if these are kept from pollution, environment remains healthy and clean, not only for survival of organisms but also for susceptibility, growth and quality of crops. The real cause of appearance of this fungus must be identified and immediate solution found in order to contain this disease for maximising quantum of grain yield. Main reasons may be deficiency of minerals like Zinc (Zn) and Sulphur(S) and low organic matter content in soil of that particular area. The soil should have been tested earlier for the presence of those minerals and their maximum availability to the plants ensured.

Nowadays it is thought that calcium (Ca) and Magnesium (Mg) play an important role in the availability of Zn and S. So, it is also thought these secondary but major nutrients (Ca and Mg) be present in sufficient amount in the soil to help uptake of Zn and S and these are directly required for application in deficient area for the growth of rice. This interaction among and between the nutrients in soil takes

place showing synergistic and antagonistic relationships between them. Excessive use of fertilizers and pesticides also deteriorate quality of soil. There are instances of depletion of nutrients due to continuous use of these chemical compounds resulting in antagonistic character of nutrients ultimately showing less availability of Zn and S.

Presence of excessive nitrate in soil retards the availability of important nutrients necessary for nourishment of plants. This is true inclement weather exerts pressure on the plants and ultimately the crops appear laying down on the field before harvesting and the poor farmers are deprived of the proper benefit for which they have worked so hard.

Besides the above problem, there is another report about attack of cold virus in other part of the country and no preventive measure could be taken so far or advised for eradication of such disease. Organic pesticides may be tried to overcome this hazard and optimise production of rice. Blast is also one of the most important fungal diseases of rice caused by *Pyricularia oryzae* rendering severe damage to rice plants especially lowland rice, reducing yield by 50 percent. A new

concept of using micronutrients as fertilizer to contain blast can be helpful. This has been brought to light that rice grown in soils deficient in silicon, boron, molybdenum have high incidence of blast. But there is lack of enough important information and exhaustive studies have not yet been carried out in this regard.

Another serious thought may be given by the present government to cheaper availability of agricultural inputs to the farmers such as fertilizer, seeds, diesel, irrigation water and electricity. Assurance was given by the past government for ready supply of those inputs at cheaper rate. But they failed to supply those in requirements needed for sustainable agriculture.

Reducing the harmful and enhancing the beneficial environmental effects to ensure sustainable and economically efficient agriculture sector should be the important policy objectives of our government. The aims and objectives should be to sort out the problems of soil and water management and specific recommendations be made for their remedial measure to ensure food security.

Qualitative changes should be brought to crop production management and motivation programmes to

induce the farmers to go for modern cultivation. Maintenance of soil and water should be given due attention by the scientists and researchers to accomplish the desired goals. Farmers of our country be acquainted with the knowledge of management of soil and water to start modern cultivation by adopting scientific methods required for the purpose.

They should also be apprised of danger of excessive use of and over dependence on ground water which may have long term negative impact on environment. This dependency can be reduced by ensuring best utilisation of surface water for the purpose of irrigation. It should be remembered that the quality of irrigation water be first tested to ascertain the absence of heavy metals like arsenic, mercury and chromium which affect the productivity of crops.

It is a matter of great satisfaction to note that the present government has taken various programmes to alleviate poverty. Higher yield of rice is one of the ways to do it. Therefore, in order to achieve success in the production of rice necessary sustainable ways must be found out.

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