

# Marine resources in our maritime boundary

SHYKH SERAJ

THE sea is a mystery to most people of Bangladesh. The waves, fish and ships are the ornaments of the sea. People love being at the sea beach and enjoy bathing in the sea and hearing the sound of the mighty waves. Bangladesh has won legal battles over the Bay of Bengal but how far do we comprehend the victory? How much do the common people know about it to cheer the achievements?

On July 7, the International Arbitration court in the Netherlands awarded Bangladesh 19,467 sq km of area out of the estimated total disputed area of 25,602 sq km. Bangladesh could finally establish its sovereign rights on more than 118,813 sq kms of territorial sea, 200 nautical miles (nm) of Exclusive Economic Zone (EEZ) and all kinds of animal and non-animal resources under the continental shelf up to 354 nm from the Chittagong coast.

This is a great achievement. When there was no fixed maritime boundary, we couldn't properly measure what we had within the boundary. Bangladesh's marine waters cover an area of roughly 166,000 km<sup>2</sup>, of which the EEZ accounts for 141,000 km<sup>2</sup>. Many believe that the verdict went in favour of Bangladesh and we could win more area. But not everyone thinks like that. My opinion is that the issue has been resolved and dispute finally ended. We can now start planning about the resources, prospects and proper maritime management.

How aware are we of the animal and non-animal resources of the sea? What data do we get from scientists, experts, the government, and public and private and international organisations? Do we really know or care about the resources? The Bay of Bengal has principally four categories of resources: fisheries, mineral, water plantains and other water resources. We don't know exactly how much resources are there beneath the sea as no surveys have been conducted during the last three decades.

In 1975, FAO Consultant Dr. W. B. West conducted a survey which said the Bay of Bengal had around 264,000 to 374,000 metric tons (mt) of fish and 9,000

mt of shrimps. As per West's survey, the sea had 467 varieties of fish and 36 shrimp varieties. In 2009, with assistance from Asiatic Society, a database showed that there were approximately 402 varieties of fish. During 1977-1980, research showed that Bangladesh had a reserve of 160,000 mt of fish. Later, it declined to 157,000 mt as per joint research conducted by the Bangladesh government and FAO. Since then, no surveys or research have been conducted.

As per the government and FAO, a report shows that there are 32 shrimp trawlers, 28 mixed fish trawlers and 31 fish catching trawlers in the Bay of Bengal -- 91 in all. But, further investigation showed that the number of trawlers was only 73. It was suggested that the numbers should not be increased anymore because of the amount of fish resources in the Bay. However, the number of trawlers kept on increasing. Some trawlers were caught and resold at an auction because of illegal fishing. We still don't know how many varieties of fish, number of trawlers and the exact amount of marine resources there are in the Bay of Bengal.

Recently, I went to Cox's Bazar fish landing station to film a documentary featuring marine fish resources. I was extremely frustrated. There was no fish at the landing station. The number of fish is decreasing alarmingly. I talked with Scientific Officer Ehsanul Karim of Marine Fisheries & Technology Station in Cox's Bazar. He believes there are still around 110 marine fish species in the sea. If that is true, it's very upsetting news for fisheries resources. This situation was brought about by too much fishing and global warming. As per Department of Fisheries, there are 167 mechanised and 206,859 engine-run trawlers in the sea. Also, there are 233,029 engine-run boats, 43,907 boats, and 218,581 nets and fishing rods.

As per the Marine Fisheries Ordinance 1983, wooden trawlers can go to fishing up to 40 metre depth at best. Only commercial trawlers can go beyond 40 metres. People are catching fish freely from any depth of water, although there are policies and regulations for catching and using equipments. But who cares to abide by the rules and who is the ruler?

Eight years ago, I went to Thailand to work on fish

catching and processing. I was really amazed to see their marine management and how they use the marine resources. Thailand, with a population of just above 60 million, has utilised its natural resources and gone forward. Yearly export earning from fisheries is around \$5 billion, which is around Tk. 36,000 crore.

South-East Asian Fisheries Development Centre was established by 11 South-East Asian countries in 1967 in Thailand. They have facilities for marine fisheries development and have diversified training for the member countries. As Bangladesh is not a member, we're deprived of effective training, which could have certainly developed our fisheries sector. Although Bangladesh is engaged with Bimstec and international fisheries research and development organisations and projects, it rarely plays a role at these key operational and influential authorities and organisations.

The sea is a golden hub of fish. However, it can be ruined by either natural or man-made disasters. We might fall far behind if we fail to utilise our resources properly. We are already getting the deadly signal. There are no regulations for fish catching. The research organisations that are working on marine resources are almost without work and there is no productivity. There is no project, equipment, monitoring or accountability -- there are only infrastructure and authoritative body. They need to be given proper guidance and mobilised, now.

We had marine resources in the past, we still have them, and the verdict delivered by the International Permanent Court of Arbitration (PCA) is a means to allow us to utilise the marine prospects we actually have. Before anything, what we need is a comprehensive and pragmatic survey of marine resources. That can well unveil the vastness of marine resources to the whole nation. I firmly believe that the government will immediately conduct a research, based on international information technology and knowledge, and tell the people what resources we have in the sea.

The writer is Development Journalist, Ashoka Fellow and FAO A.H. Boerma Recipient.  
E-mail: shykh@gmail.com

## TRANSBOUNDARY WATER SHARING

# Rights and economics

M. AMINUL ISLAM AKANDA

**S**URFACE covers only 0.02% of the global water resources, comprising water in rivers, lakes, ponds, canals, etc. There are 263 transboundary lakes and rivers in the world. They carry more than 60% of river water and their basins cover 44% of the world's basins. The riparians have water-use rights. Significant increases in water demand have created conflicts in almost half of the shared basins all over the world. The co-basin water conflict between Bangladesh and India has also become acute.

Bangladesh has 310 rivers, of which 54 enter from India. It is only 7% of one million square km basin of the Ganges-Brahmaputra-Meghna river system. It has 1% water in dry season and 99% in wet season, mainly due to Indian diversion of upstream water. The Farakka barrage on the Ganges was the first diversion initiative. Meanwhile, the number of barrages on 36 transboundary rivers has increased to 54. Such withdrawal has worsened the water situation in Bangladesh. Another problem is the Indian river-linking mega project, which will divert 141 cubic km water through artificial lakes to Haryana, Rajasthan, Gujarat and a few other states. How do the international laws and right systems cover such deprivation of a downstream country?

Upstream water rights are protected for Bangladesh in both the riparian and the appropriative right systems. The riparian rights allow the riparian to make reasonable uses. On the other hand, appropriative rights provide priority to senior users based on first in time, first in right. Nobody can deprive us of our historic rights going back over 3,000 years. In this regard, some international conventions have guidelines for water sharing. The Helsinki Rules 1966 call for reasonable and equitable use without causing substantial damage to co-basin states. Debates on this were held and the UN General Assembly accepted the 'Law of the Non-Navigational Uses of International Watercourses' in 1997. It puts obligation on each riparian to communicate and to cooperate and not to cause significant harm to any party. It also recommends conflict resolution with special regard to vital human needs. Can this law establish our social rights

in the wave of economic dynamism?

The demand for water has increased over time for intensifying economic activities of growing population. Higher consumption in both agriculture and industry has led to small-scale diversions along the river way. Naturally, the price or user-cost of surface water is lower than that of groundwater. Consequently, the economic needs of upstream countries disregard the water rights of downstream countries. In addition, water quality gets deteriorated because of dumping of toxic chemicals and human wastes into a river. The Ganges alone receives three billion liters of sewage each day from dozens of urban centres on its bank. Consequently, the negative effects of diversion and abuse of river water cost us a lot.

Our upstream flow and rainfall contribute to 74% and 24% of surface water, respectively. It is not possible to irrigate three-quarter of our net crop area using surface water, even with adequate river flow. However, groundwater is recharged up to five meters from upstream and rain water in the wet season. As the river flow, which contributes to three-quarter of recharging, is decreasing, the water layer is going down. This has raised the cost of irrigation by 25% in a few northern districts. Moreover, low water flow has lifted the river beds up and reduced their water conveyance capacity. Consequently, the rate of river erosion reached 8,700 hectares per year and 117 small rivers died. Coastal erosion and saline water intrusion affected 5% of total land area. The cost of Indian water diversion is reported to be Tk. 300 billion. Can Bangladesh claim compensation or stop interventions through bilateral or international negotiations?

Without well-defined property rights, voluntary negotiations can neither realise compensation nor reduce negative externality as per the Coase theorem. How can negotiation bring water if India has disincentives to stop current and planned uses of cheap water? It is yet to implement the Ganges 30 years water sharing agreement. It did not even release agreed amount of water in 2009. Moreover, it was reluctant to agree to Teesta water sharing in the UN International Year of Water Cooperation with the excuse that a state government did not agree to it. Moreover, it is going to spend Rs.1 billion for river-linking project, which is a violation

of the Ganges treaty that does not allow any interventions on common rivers without consensus. This project will largely reduce the flow of Brahmaputra and Jamuna. The Tipaimukh dam project may be revived any time, and that will reduce the flow to Meghna. How will Bangladesh save its lifeline, the Padma-Meghna-Jamuna?

Naturally, any fair and equitable distribution will raise the cost of water for India. However, it has no right to claim any economic compensation. Has Bangladesh the ability to pay for transboundary water, or should it? Bangladesh has given partial corridor for equipment and food supply in the name of bilateral negotiations, not as a trade-off for water. Strict economic sanctions are needed to deter political interventions on the international rivers. However, international solution is possible. A dispute among 11 riparian nations in the Nile basin was resolved under an initiative of the UNDP and World Bank. Bangladesh needs to take such an initiative.

Our maritime boundary dispute was settled through international arbitration, which might not have been achieved bilaterally. The UN conventions also allow the riparian nations to submit their legal disputes to an ad hoc or a permanent arbitral tribunal, or to the International Court of Justice. The non-implementation of the Ganges agreement may be placed for international arbitration. However, a question is, how much would the terms and conditions of the agreement favour us? We did not move for arbitration on the river-linking project initiated in 1980. Will it be easy to stop the project after investment is made?

If everything goes as usual, water crisis will cause rice crisis in Bangladesh. The water requirement for winter farming will be 1.6 times the current use in 2030. Winter rice farming will need an extra 9 billion cubic meters of groundwater to produce self-sufficiency, which is not possible at present because of upstream conditions. This is not the time to show anxiety but to seek international help to establish our rights on international rivers.

The writer is Associate Professor and Chairman, Department of Economics, Comilla University.  
E-mail: akanda\_ai@hotmail.com

## CROSSWORD

by Thomas Joseph

### ACROSS

- 1 City near Vesuvius
- 7 Like that'll ever happen!
- 11 Noted cow owner
- 12 Grayish purple
- 13 Rats and the like
- 14 Troubling sign
- 15 Soothe
- 17 Gift attachments
- 18 Trims
- 23 Flightless bird
- 24 His title is 'Sir'
- 26 Pop's wife
- 27 Tell tales
- 28 African grazer
- 29 Beats with one's fists
- 31 German conjunction
- 32 Singing groups
- 33 Gorillas and gibbons
- 34 Baking spice
- 37 Tatters
- 39 Mecca setting
- 43 Burden
- 44 Indian lutes
- 45 Sort
- 46 Play parts

### DOWN

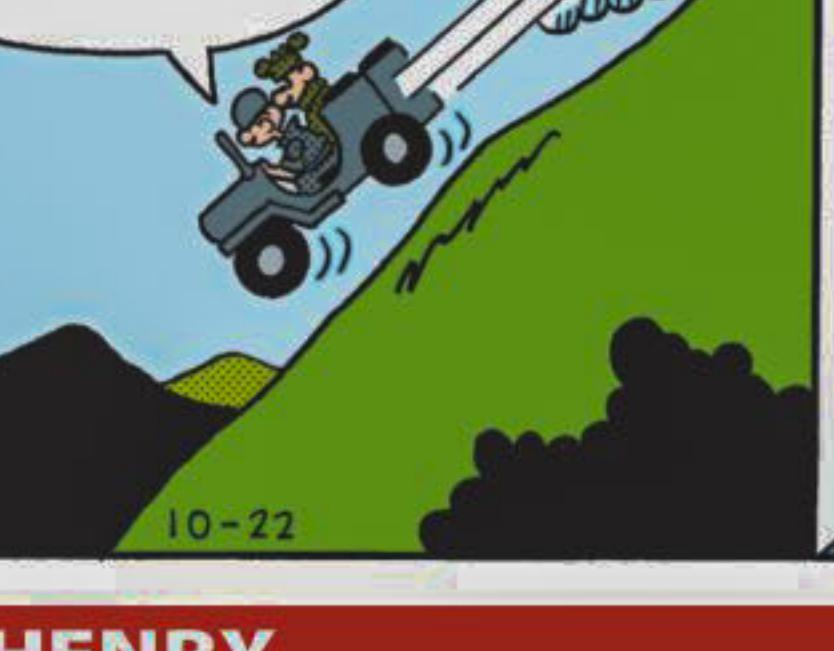
- 1 Fall mo.
- 2 Saloon supply
- 3 Apiece
- 4 Flock members
- 5 Lake near Buffalo
- 6 Dubbing concern
- 7 Artemis' twin
- 8 Recapping
- 9 Rink surface
- 10 Marsh
- 16 Field units
- 17 Entice
- 18 Love affair
- 19 Bungling
- 21 Tubular pasta
- 22 Fancy buttons
- 24 Fortunate, in a way
- 25 Feel poorly
- 26 Rich dessert
- 29 Quartz variety
- 35 Bulk
- 36 Bana of Troy
- 37 Nonsense
- 38 Some amount of
- 40 Prohibit
- 41 Hot blood
- 42 Wagon puller

Yesterday's answer

B	A	B	E	L	T	A	P	E	D
A	W	A	E	A	I	S	L	E	
B	A	R	A	N	D	G	R	I	L
E	Y	E	N	A	G	S	A	T	
J	A	P	E	M	E	T			
A	D	M							
M	O	W	E	D	G	E	N	E	S
E	A	T	R	O	E	I	R	A	
G	R	E	A	S	Y	P	O	O	
G	I	M	M	E	T	O	W	I	T
S	A	P	P	Y	S	E	A	L	S

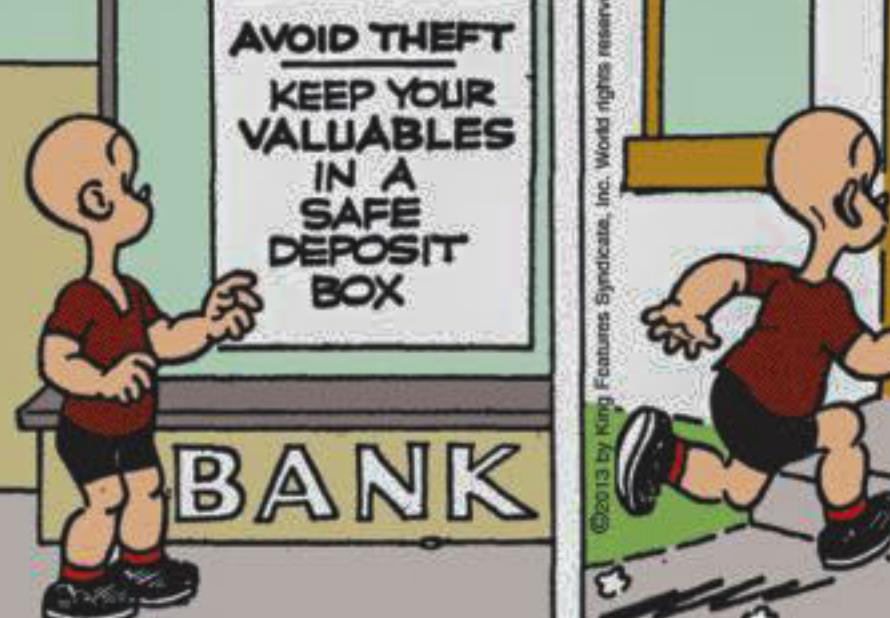
7-16

## BEETLE BAILEY



by Mort Walker

## HENRY



by Don Trachte

## Anomalies in district hospitals

SALINA AZIZ and FARHANA RAZZAQUE

WITH a very low income and high population, Bangladesh has outpaced many of its peers in social development indicators of similar per capita GDP. Improvements in some health indicators are remarkable, especially in reducing child mortality rate. Bangladesh has made dramatic advances and received the United Nations MDG award for being on track for reducing infant and child mortality.

However, this overall progress in the health sector has not been equally realised throughout the country, rather regional variations are high in terms of achievement of MDGs. According to a UNDP report published in 2009, some regions are lagging behind in terms of achieving the MDG targets whereas some are doing well. It is the same at Upazila level, according to a World Bank study conducted in 2012.

A recent study by the BRAC Institute of Governance and Development (BIGD) looked at this regional disparity to see how district hospitals are doing in terms of performance. It looked at three most essential aspects of health governance -- availability of physicians, availability of nurses and proportion of equipments necessary for hospitals to operate. Based on these, it ranked the districts to see the variations in terms of performance. The BIGD study made a simple index out of these three variables to see the state of service delivery of a particular hospital.

It was found that there is mismatch among districts in terms of number of physicians filled in as a percentage of sanctioned positions. On average, only 60% of total sanctioned positions in district level health facilities are filled, even though variations are pronounced when compared among districts. There is a high urban bias -- district hospitals in Dhaka and Chittagong, for example, have 99% and 87% positions filled. Percentages of filled positions of physicians are 82, 71 and 60 in Rangpur, Khulna and Sylhet, respectively. Of major urban districts, Rajshahi and Barisal are lagging behind with only 56-57% of the sanctioned positions filled.

However, when all the districts are ranked, there is a striking disparity -- while it is almost 99% for Dhaka, it is only 22% for Panchagarh. Generally speaking, all the districts of Barisal and Rangpur division, except district headquarters, are below the national average, whereas half of the districts of Rajshahi and Sylhet divisions stand below the national average. Habiganj and Sylhet districts are marginally above the national average. In Dhaka division, most districts have higher rate of physicians filled in compared to national average, whereas the exceptions are Faridpur, Gopalganj, Narshingdi and Netrokona. In Chittagong division, all the districts except Cox's Bazaar and Noakhali and three hill districts stand above the national average.

When the filled-in positions of nurses are considered, the national average suggests that district level health facilities are even less equipped in terms of nurses -- only 42% of total positions are filled, and the distribution is more equal throughout the country. Dhaka, Chittagong and Sylhet divisions have 48% positions filled, followed by Khulna (38%), Rajshahi (36%), Rangpur (65%) and Barisal (35%). However, the disparities between districts are lower compared to physician allocation -- one likely reason is that nurses have relatively lesser scope to engage in private practice compared to physicians.

When it comes to percentage of equipment functioning, not all the urban districts are doing well. Dhaka as a district along with its immediate neighbourhood has the highest numbers of functional ECG and x-ray machines and colorimeter, with a divisional average of 77%. In comparison, most of the districts under Rajshahi and Rangpur division are performing poorly in this regard. The overall performance of equipment functionality is also low in Sylhet and Barisal division. Bhola is again a poor performer with 28% functional equipments. Chittagong and Noakhali are doing badly in maintaining their equipments.

Looking at the overall performance aggregating all three aspects, it is seen that there are strong variations in hospital performance. A few districts, including Dhaka and its neighborhood (Narayanganj, Gazipur and Manikganj), get better allocation of physicians and nurses and more equipment, whereas remote districts like Panchagarh, Patuakhali and Bhola remain the laggard performers. Distance and transport facilities apparently affect the allocation of hospital input. Patuakhali, for instance, is the remotest region in terms of distance from the capital and some coastal regions in terms of transport facilities, which limits people's access to services of doctors, nurses and medical equipments.

The study assumed that if district hospitals are well resourced and well maintained then they are better governed and will be able to give better service delivery. Here only one aspect of service delivery is considered, the performance of outpatient department (OPD) of a hospital in terms of number of patients served. It used equipment functionality as a single variable of governance performance. The quantitative result of the study shows that the relationship between OPD service delivery and equipments functionality is positive and significant, i.e. with better equipment functionality more OPD patients can be served.

It was also revealed that OPD