

# Bangladesh cannot survive without the Sundarbans

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SUNDARBANS, the largest mangrove forest in the world, is a living and most effective natural fence protecting the coastal belt areas. It indeed saved us from the devastation of cyclones Sidr and Aila in the recent past. Not only so, it is the forest that offers various sources of livelihood to more than five hundred thousand local inhabitants.

Unfortunately, the Sundarbans is now in danger because the government is moving ahead to install a coal-based thermal power plant at Rampal with the capacity of producing 1,320 MW of electricity. The plant will be located only 9 km away from the Sundarbans, and will cover 1,834 acres of land. The government has been justifying the location of the project on the ground that it is at a 'safe' distance from the mangrove forest.

The proposed plant will require 13,000 tons of coal. This huge amount of coal will be transported through the Possur river that runs deep into the Sundarbans and flows around its adjacent areas. It is well known that the large ships carrying coal, the turbines, the compressors, the pumps, the generators and the cooling towers of the power plant will create a lot of sound, which will inevitably have a fatal effect on the biodiversity of the forest. Moreover, the river will be helplessly exposed to coal wastes. This description is not enough to perceive the potential devastation the Possur river is more likely to be confronting soon, given the fact that the operation of the power plant will not be short-term.

More dangerously, the power plant will require withdrawal of 9,150 cubic meter of water per hour from the Possur river for its functioning. The extraction of such massive volume of water will undoubtedly mess up the natural organisms of the river systems of Sibsha and Possur that provide the lifeline to the Sundarbans. In addition to this, the proposed plant will have a coal stockyard and a dust disposal pond along the boundary of the Possur river.

It is difficult to imagine what will happen to the river when a 'mountain' of more than seven hundred thousand tons of fly-ash and two hundred thousand tons of bottom ash are released as soon as the plant starts functioning. These contain hazardous and toxic chemicals such as arsenic, mercury, lead, nickel, and radium. There will also be regular emission of some 142 tons of sulfur dioxide and 85 tons of nitrogen dioxide. So many toxic substances are enough to slowly eat up the world's largest mangrove forest. The very first victim of this proposed power plant would be the Possur river, a major source of water in the Sundarbans. Any damage to any network of the rivers or any water channel that flows in and around this forest means

eventual death for it. It is neither realistic nor scientific to think of the Sundarbans in isolation of its river network and the overall eco-systems. It is, thus, futile to rationalise the location of the proposed power plant in terms of its distance from the Sundarbans! Whatever the distance of the project is, if any part of the eco-system gets damaged, the Sundarbans will anyhow get endangered.

It is also important to note that the Possur river and its adjacent confluence of Maidara and Chinkura rivers are home for at least 120 types of fishes that include hilsha, parsha, bhetki, taposhi, and even tulardandi. The slightest harm to the river will not only push those indigenous fish species into extinction, but will also destroy the livelihood of the fishermen belonging to the low income group. Not to mention the extinction of the Iraboti dolphins.

Moreover, the massive land acquisition programme of the government for undertaking this Rampal project has

catastrophes will go beyond Bangladesh territory and cause destruction to the part of the Sundarbans falling in India.

Interestingly, the Indian government does not allow construction of such plants in its own territory. Their recently enacted 'EIA guidelines for thermal power plant 2010' forbids this kind of development activity within 25 km of the officially declared forest boundaries. The Indian government is unfortunately violating its own law at Rampal taking advantage of the loopholes that exist in Bangladesh forest laws.

There are some Bangladesh policy makers who claim that the employment of some 'super critical technology' in the Rampal power plant will reduce the environmental pollution. However, there is an argument that this 'super critical technology' can reduce pollution at best by 10%. Under the circumstances, one might ask if 'super critical technology' is so efficient in tackling environmental degra-

livelihood pressure of the local people. The truth is, the Forest Department along with some environmental and conservation NGOs, since 2009, have been implementing or have already implemented at least ten foreign donors' funded projects, including the Integrated Protected Area Co-Management (2010-2013), and Sundarbans Environmental and Livelihood Security (2010-2014).

The major objective of all these projects is to generate sources of alternative livelihood for the forest-dependent poor people. Thus, the question is, why do we still need to have a power plant to save the Sundarbans from the 'clutches' of the poor despite the presence of those projects? The claim that the poor communities living in the forest area grab land for their livelihood does not have any merit.

The irony is, those who have been resisting the environmentally degrading power plant are being dubbed either as 'anti-development' or as 'utopians.' This is in fact not a new phenomenon. A common perception is that this group of people does not have any clue about any alternative, nor has any idea of how to economically advance the country. To these so-called 'messiahs' of development, the effort to save nature is only a luxury that Bangladesh cannot afford at this moment. Their preferred strategy of development is to "pollute first, and clean up later." But while advocating such strategy, they forget that the philosophy of modern development has undergone a fundamental shift in the last few decades.

Tracking the global ruins of 'modernisation' and traditional 'development,' the new generation of development scholars argues that the environment and development are inseparable; their interconnection is no longer a mere fantasy. They understand development as an integrative term. To them, development ignoring social and environmental concerns is indeed an emblem of narrow and visionless thoughts.

We do not require rocket science to understand the potential risks of developing Dhaka city compromising with the long term necessity of conserving the Buriganga river and the other important water bodies. Why are we sacrificing those precious gifts of nature for urban 'development'? Dhaka is now the second most uninhabitable city on earth!

There are many alternatives ways of energy production, but the Sundarbans is unique. It is neither a village nor a residential area. It is a government-declared ecologically critical area, World Heritage site, as well as a Ramsar site that requires extra caution and protection. This is also not a property that belongs only to Bangladesh; it is a natural asset of the whole of mankind. We expect that good sense of official policy makers of both Bangladesh and India will prevail and they will take all the needful measures to cancel the Rampal power plant to save the Sundarbans, the living defender, to protect Bangladesh from cyclones and other disasters.

The writers are teachers of universities in Bangladesh, Australia, environmental scientist, engineer, and development activist.

## S&T-dependent projects require government support

AHMED A. AZAD

IN order to become a middle-income country Bangladesh must become proficient in science and technology (S&T). However, due of shortage of adequate resources and infrastructure, Bangladesh cannot aim to be internationally competitive and productive in all areas of research simultaneously. In order to improve research productivity and proficiency, it needs to develop new national initiatives in a limited number of priority areas where there is greatest need and also existing strength and potential.

The problems to be tackled need to be determined through a national priority exercise, and are likely to include emerging areas such as adaptation of agricultural crops to adverse effects of climate change, development of new sources of environment-friendly energy, and preserving and harnessing of its biodiversity for the discovery and development of new medicines, biofuels and other high value products. Unless Bangladesh becomes internationally competitive in focused areas of research to solve its own problems, the agenda for growth and sustainability will continue to be externally driven.

One of the biggest obstacles to sustainable knowledge-based economic development in Bangladesh is the huge research and development (R&D) chasm that exists between initial discovery and its final commercial or social outcome. This serious structural deficiency can't be overcome by supporting only late stage commercial research and importation of technology for that purpose. There must be very strong support for fundamental and developmental research in universities and research centres preceding commercialisation. Necessary contemporary technologies and expertise, including access to web-based knowledge and interactions, must also be established.

The UGC, with funding from the World Bank, has in recent times established a high speed internet network, Bangladesh Research and Education Network (BdREN), that connects all the universities in Bangladesh to the Trans Eurasian Cable Network, and provides access to the Digital

Library established at the UGC initially with 2,500 e-journals and a few thousand e-books. This is likely to improve postgraduate research capacity in Bangladesh.

A number of critical steps will help to build scientific proficiency and encourage innovation and technology transfer in Bangladesh. Funding for postgraduate and post-doctoral research and training must be greatly expanded with emphasis on intellectual property development in addition to quality publications. "Sandwich PhD"

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programmes could be set up with the participation of non-resident Bangladeshi (NRB) scientists to access high-end technology not currently available in Bangladesh.

Internationally competitive "research universities," "centres of excellence" within and outside academia, and national "core facilities" (discipline-specific technology platforms) need to be established as regional and national research and technology hubs. Substantial funding must be provided to multidisciplinary and multi-institutional collaborative research in areas of highest national priority. Partnerships need to be developed with local industry for commercialisation of research outcomes and for industry

support to strategic and development research in academic and research institutions.

None of the above is possible without political will and the coordinated and active support of the government. Both higher education and research are expensive, and the allocation of a mere 0.4% of GDP for national R&D is far too low as it constitutes only a fifth of what is deemed to the minimum required for building scientific proficiency in developing countries. The first task is to increase the level of fund-



ing for higher education which at the moment only constitutes a small fraction of the already inadequate budget allocation for the entire education sector. Since most of the meagre higher education budget is used up in meeting salary, administrative and infrastructure costs, it is important that a defined portion be clearly demarcated and ring-fenced for postgraduate research and innovation.

For Bangladesh to become internationally competitive in S&T the allocation of funds for R&D has to be increased and its use rationalised. Innovative priority research in Bangladesh could be coordinated and funded through a National Research Council (NRC) whose focus would be on

supporting postgraduate and postdoctoral research, providing the necessary equipment and resources required for internationally competitive research, encouraging innovation through technology transfer, IP support and interactions with industry, liaison with international research funding agencies, and developing South-South academic and research collaborations in areas of common interest between "centres of excellence" in Bangladesh and those in neighbouring and OIC member countries. The proposed NRC could be placed together with the existing UGC within a new Higher Education Commission (HEC) where the NRC would be responsible for postgraduate research and innovation, and the UGC could continue to concentrate on the management of undergraduate education, and technical and vocational training.

The NRC could support national priority projects by selective and substantial competitive funding through National Collaborative Research Programme (NCRP) that would only be available for multidisciplinary and multi-institutional collaborations between academic research centres, government research laboratories and industry partners. Both the NRC and the NCRP would greatly benefit from the establishment of an International Scientific Advisory Committee consisting of local and expatriate experts of international standing.

Participation in the NCRP could also help to deploy adequate numbers of full time researchers in government research laboratories into partnerships with universities and industry. This could be a very cost-effective model for bringing together different partners with complementary strengths and expertise to greatly enhance research productivity. As a country with scarce resources, but with great intellectual potential of its young workforce, Bangladesh could greatly benefit from adopting the above proposals for the coordination and meaningful funding of S&T-dependent priority research projects.

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By THOMAS JOSEPH

ACROSS

1 Ring of light

5 Rx amounts

10 The Emerald Isle

11 Break away

12 Spring

13 Make

14 Trajectory shape

16 "They're out to get me" feeling

20 Most broad

23 Tiny laborer

24 Find charming

25 Square one

27 Early auto

28 Rock

29 Render

32 Perfect example

36 Go by

39 Jazz

40 Southern ladies

41 Sunrise site

42 Farm machine

43 Poker payment

DOWN

1 Lend a hand

2 Vicinity

3 Tale teller

4 In theory

5 Perry's assistant

6 Mermaid's home

7 Mermaid's home

8 Aster and O'Neir

9 Spot

10 Soccer or softball

15 Diamond corner

17 Solemn promise

18 "Picnic" playwright

19 Heaps

20 Distort

21 Inking

22 Elevator part

25 Great Pyramid site

26 Summer quaff

28 Harp's ancestors

30 Cobbler fruit

31 Surgery tool

33 Turkey neighbor

34 Basic idea

35 Speck

36 Decline

37 Grazing spot

38 Maximum amount

ASKS

THEIR

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43

9-5

AXYDLBAAXR  
is LONGFELLOW

On letter stands for another. In this sample, A is used for the three L's, X for the two O's etc. Single letters, apostrophes, the length and formation of the words are all hints. Each day the code letters are different.

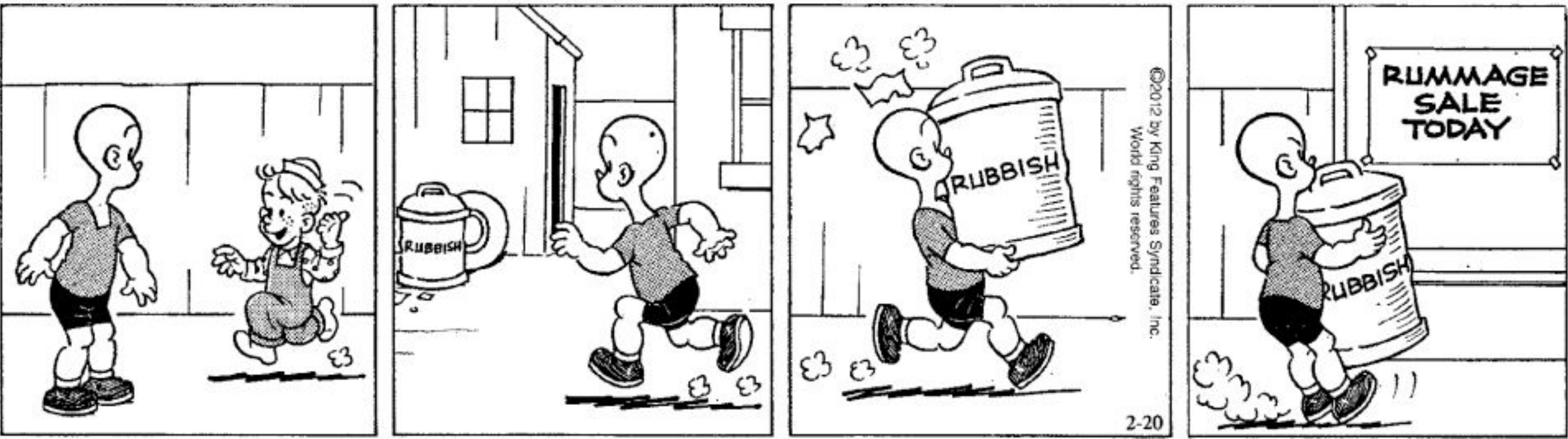
9-4 CRYPTOQUOTE  
LNH JFNE LNH'BT KTVVSFK  
NWQ EITF VIT DOFQWXTX  
DNXV CNBT VIOF VIT  
DOJT. — ZNZ INRT

Yesterday's Cryptoquote:  
IF YOU HEAR A VOICE WITHIN  
YOU SAY 'YOU CANNOT PAINT,'  
THEN BY ALL MEANS PAINT,  
AND THAT VOICE WILL BE  
SILENCED.  
- VINCENT VAN GOGH

BEETLE BAILY



HENRY



by Mort Walker

QUOTABLE  
Quotes

"If you want something you never had, you have to do something you never did."

Unknown