

# “Bangladesh should not waste her scarce clean water resources in coal-fired power plants.”

*Donna Lisenby, Clean Safe Energy Campaign Manager, talks to Shamsuddoza Sajen of The Daily Star on the likely impacts of the Rampal coal-fired power plant on nearby water bodies. Ms. Lisenby has been investigating coal water pollution for 16 years in different countries like the USA, China, Vietnam, Indonesia and Australia. She was the first environmental advocate to report and blow the whistle on leaking coal ash ponds in the state of North Carolina, USA.*

The Daily Star (TDS): In light of your long-time experience on investigating coal water pollution, how do you assess the Rampal coal-fired plant?

Donna Lisenby (DL): We visited the site of Rampal and critically reviewed the tender document (TD) of the project. Based on what is proposed for Rampal, I have no doubt it will pollute water. Because similar types of coal-fired power plants pollute water in other places around the world.

The Rampal plant is not a state-of-the-art plant. The TD proposes wet coal ash pond which is a matter of great concern. Coal ash, the waste left over after coal is burned to generate power, contains concentrated amounts of heavy metals, such as lead, mercury, arsenic, chromium, and selenium, which are hazardous to human health, and to wildlife. In coal-fired power plants, the coal ash, mixed with water to form a toxic slurry, is stored in huge impoundments, commonly called coal ash ponds. We have done investigation of 40 coal ash ponds. All of them leak heavy metals that dangerously pollute water.

In the Rampal plant, the area of the coal ash pond will be 25 acres. The TD says that the ash pond is designed to handle the lowest quality of coal which means it will generate a lot more ash compared to high quality coal. So the 25 acre coal ash pond seems very small if the plant uses low quality coal.

The design of the coal plant that is stipulated in the recently issued TD is not satisfactory. It clearly shows that there is no minimum engineering standard to make sure that the ash pond does not leak. It does not have any mandatory requirement for a composite and impervious liner along the sides and bottom of the pond, clay liner, leachate collection system and water quality monitoring wells that are the basics to prevent any leakage. The plant



Donna Lisenby

also does not use scrubbers that help remove the sulfur oxides from ash.

TDS: How does the leak occur?

DL: When we burn coal, these metals disperse into air or ash. Mercury disperses into air. Rest of the heavy metals goes to ash. The ash with heavy metals goes into wet ash pond. When you put coal ash in water, heavy metals come out. It is like making a heavy metal tea. The water mobilises the heavy metal in the same way we put a tea bag in hot water and the brown tea comes into the clear water. If the ash pond does not have any proper leakage protection system it will leak. It will leak heavy metals into the ground water as well as into the surface water.

TDS: According to the TD, the coal ash pond will be located near the Poshur River. How will it impact the water body?

DL: When you build a coal ash pond along a river or near a coastal area it has to be kept away from the river. Otherwise, disasters like cyclones and floods will overflow the pond and heavy metals will get mingled with river water. I expected to see in the TD that the ash pond cannot be located within a thousand feet of the Poshur River. Unfortunately, that has not happened in the case of the Rampal Power Plant.

Another issue of concern is that the TD does not have any minimum safety standards for the dam around the coal ash pond. It says that the dam can be built by sand. It is ridiculous. Sand does not hold water. It is guaranteed to leak. Clay would be better construction material for the dam in the coastal zone.

TDS: So what is the alternative to wet coal ash pond? What will happen to the ash?

DL: Keeping the ash in dry conditions is the best alternative. The ash has to be kept in stored silos or in a covered area where rain cannot get in.

It has been said that the ash will be used in agriculture. This is terrible. It is like putting heavy metals in food grains. I think it is okay to recycle ash in concrete. It can encapsulate ash.

TDS: The Rampal Plant will require huge amounts of coal and the coal will be trans-shipped through rivers. Does it not pose a serious threat of coal water pollution?

DL: When I was in Rampal, I saw giant sea-going cargo ships. Similar types of cargo will be used for transshipment of the coal to Rampal Plant. Rampal is situated upstream from the Poshur River. The cargo was so big that it could not enter into the Poshur River. They had to dock in the middle of the

Sundarbans. People will be sent to the barge, they will fill the bags, and the bags will be lifted by cranes and unloaded in the small barges. All shipments of coal have to go through this kind of hand transfer in the middle of the Sundarbans. They usually say the barge will be covered but when the unloading work goes on the barge, it remains open. Handling coal in open air in the midst of the Sundarbans will definitely pollute the water and environment of the Sundarbans.

Now after reaching the shore by small barges, the coal will be unloaded by giant grabber loaders which then reach over the water into the barge, pick up coal, spin around and drop it into the coal storage. These will also load and unload gypsum, limestone and coal ash. So here again they are pulling coal ash over the water. They say in the TD that they want these loaders to work in rough weather and for round the clock operation. If they work at night in rough weather conditions, they are going to put the coal ash in the water.

Handling coal with bare hands is very hazardous for the labourers. It causes black lungs and severe breathing problems.

TDS: We know a huge amount of water will be used in the coal power plant. That is another threat for nearby water bodies. What do you think?

DL: Coal fired power plants require more water than any other source of power generation. A coal power plant generally uses 1,100 gallons per MWH whereas a nuclear power plant requires 800 gallons per MWH.

In the TD it is said that the water will go through a water cooling system which will use all kinds of water from the Poshur River. The pipe that sucks water is bigger than the human size. It can suck in fish, fish eggs, dolphins, turtles and other water species. So the water sucking system will severely damage the

biodiversity of the river as the river water will go through the plant in temperatures as hot as 200 degrees Celsius.

Then it goes to the cooling compartment and vapourises. And the remaining water used in the steam engine goes for recycling. As so much water is lost in vapour, the plant continues to suck more and more water that is called "make up water". The Poshur River is already shallow river. So the plant will put serious pressure on the quantity and quality of the river water.

Furthermore, a percentage of the water will be used to wash the ash into the wet coal ash pond. It will be infected by heavy metals because there is no water treatment system there. It will also get discharged back into the river with heavy metals.

TDS: What are your final words about the coal-fired power plant at Rampal?

DL: First of all, I am against the coal-fired Rampal power plant because it will seriously damage the biodiversity of the Sundarbans, particularly the rivers.

However, as the government insists on pursuing this project, it should follow the 59 point directives of the Environment Ministry. I had hopes to see evidence of addressing these points in the TD. The government has not addressed those suggestions at all. These points need to be addressed. There should be no wet ash pond in the plant. The plant should use dry ash handling method.

Bangladesh suffers from a lack of clean water to grow food and to provide safe drinking water to its people. It is a choice of the government whether they want to use the water for people or waste it in coal-fired power plants. The country has the huge potential of becoming a role model of low carbon economy by tapping its renewable energy sources. The government should strive for that.

## HEALTHCARE AS SOCIAL JUSTICE A doctor with a mission

ADNAN MORSHED

AFTER a hot day in May 2014, it was well past midnight when Aleya Begum brought her two-day-old baby boy to the Chittagong Medical College Hospital (CMCH). They came from East Ratili, Sonagaji, Feni, a small town located about 90 km north of the port city of Chittagong. The baby was born with a number of birth defects. He didn't have an anus and it was suspected that he had kidney and urinary system malformations. Alauddin, the baby's father and a poor rickshaw puller, had pretty much abandoned the family. Aleya's in-laws could barely conceal their wish for the newborn to die.

But a mother's love is a sublime mystery. Aleya could abandon neither her baby, nor the hope to keep him alive. She desperately sought help from the Department of Paediatric Surgery at CMCH. But, as it often turns out, government hospitals in Bangladesh are not the most compassionate places in the world. In Bangladesh, a government hospital provides a condensed version of that country's challenges: the population burden, class divisions, tenuous bureaucracy, characteristic chaos, congestion, desperation, and an uncertain commitment to public service.

However, once in a while, unsung heroes emerge and make a difference. While Aleya pleaded for someone to save her baby boy's life, no qualified surgeon was available to take on such an arduous challenge. A hospital intern called Department Head Dr. Tahmina Banu at her home, and Dr. Banu rushed to the hospital.

The infant's body was a medical battlefield, and winning the battle required not only surgical skills, but also compassion for the disenfranchised. Dr. Banu embodied both. Her professional ethics conflated healthcare with a firm belief in social justice,

that is, no one should be denied access to healthcare because they can't afford it or based on class or social stature. Surrounded by junior doctors and nurses, Dr. Banu constructed an artificial opening from the infant's colon through the abdominal wall for the passage of stool. After a few more subsequent operations, the baby boy eventually had a new lease on life!

The history of the Department of Paediatric Surgery at CMCH is an inspiring story of one doctor's defiance against all odds: government bureaucracy, lack of resources and specialists in paediatric surgery, and, above all, virulent male chauvinism, particularly in a medical field dominated by male doctors.

Dr. Banu spearheaded the creation of CMCH's Paediatric Surgery Department in 1993. The following year, a 15-bed unit dedicated to paediatric surgery was established within general surgery. An operation theatre was created for children in 1995; and in 1998 there was a separate paediatric ward. This department not only served patients from all corners of the country and alleviated the anguish of parents with sick children, but it also trained young doctors in a growing field.

Motivated by her mantra, "healthy children, healthy nation," Dr. Banu persuaded the hospital's administrators to support her mission of providing specialised healthcare for children. At the same time, she also summoned the help of private Bangladeshi citizens - from novelist Humayun Ahmed's ex-wife Gultekin Khan to anonymous housewives, from Muhammed Zafar Iqbal to Bangladeshis living abroad - who donated funds and medical equipment, a rather unusual pursuit for a government hospital. Although many bureaucratic obstacles remain, this has been a shining example of a public-private partnership with a social mission.

Dr. Banu also invited many top paediatric

surgeons from around the world to visit her department and offer their professional services, including Warren T. Snodgrass (USA) Akio Kubota (Japan) and Benn Ure (Germany), among many other notable surgeons. These renowned doctors not only performed complicated operations for free, they also shared their knowledge and trained local doctors. Today, medical students from all over the world serve as interns at CMCH.

Dr. Banu's work goes beyond fixing malformed or mutilated bodies. In 2003, Sharmin, a motherless seven-year-old girl from Madarsha, Rangunia, was hit by a truck on the Chittagong-Cox's Bazar Highway. When she arrived at the Department of Pediatric Surgery, she was bleeding profusely and had ruptured internal organs. Dr. Banu performed multiple reconstructive surgeries, and Sharmin survived.

Dr. Banu continued to play an active role in Sharmin's life, paying for her education and advising her father not to marry her off at an early age. (Alas, she became a bride at the tender age of 17.) For Dr. Banu, Sharmin was more than a patient. She was a little girl who deserved an education and a right to grow up with basic human dignity.

Under Dr. Banu's leadership, the Department of Paediatric Surgery also plays a pivotal role in pursuing medical research, by organising international seminars. In 2005, the department hosted the inaugural international conference of the Federation of Associations of Paediatric Surgeons of SAARC (FAPSS), and delegates included leading surgeons from the USA, Spain, Italy, Iran, Australia, Singapore, and South Asia.

The following year, the department participated in Operation Smile, aboard the US Navy's seagoing hospital, Mercy, near the Chittagong coast.

An international workshop on fetal and neonatal surgery was organised in 2009. And, a live operative workshop on hypospadias was held in 2011.



Dr. Tahmina Banu attending to a young patient at CMCH.

While challenges remain, the CMCH Paediatric Surgery Department demonstrates how personal initiatives matter in social advancement. From its modest beginning, the department now includes nine surgeons and 55 beds. On any given day, doctors examine more than 100 paediatric patients and admit 20, on average. In 2013, the department consulted with 5,987 patients and operated on 2,105.

Dr. Banu has also created an Outreach Community Programme. She leads a mobile paediatric surgery team to remote areas of the country, providing service to impoverished communities with little access to quality healthcare. Last year, I accompanied the mobile team to see its work firsthand at the Rangamati General Hospital. It was a spectacle to behold!

From dawn to dusk, more than 200 parents lined up to have Dr. Banu and her team examine their children. Going around the hospital and talking to many patients, I

felt hopeful for a better and more humane Bangladesh, one in which community service would become a professional mandate.

Last August, former US Ambassador Dan Mozena visited the Department of Paediatric Surgery at CMCH. Ambassador Mozena was touched by one individual's dedication and commitment to help aggrieved parents and their sick children. And, he was deeply moved by the stories of ordinary people who were donating money to Dr. Banu's Poor Fund, to buy milk or food for the children during their postoperative period or to cover their transportation costs to return home from the hospital.

Other stories included those of poor parents who would bring hens, rice, or even doves to show their gratitude to the doctors who had helped save the lives of their children.

Today, the Department of Paediatric Surgery at CMCH is a little oasis within the characteristic grim atmosphere of public hospitals. The walls are painted in bright colours and adorned with children's stories. Balloons and festoons hang from the ceiling. And, there is even a colourful play corner, where poor sick children can lift their spirits and play with toys, often rare items in their own households.

An alumna of Dr. Khastagir Government School and Chittagong Medical College and trained as a paediatric surgeon in Dhaka, Australia, and the US, Dr. Banu's life is instructive in multiple ways: Don't wait for the state to build your life, and do your part to develop yourself and help the society to which you belong. Cynics may dismiss these trite statements as naively idealistic. Yet, Tahmina Banu reminds us that certain values are universally necessary for building a good society.

The writer teaches at the School of Architecture and Planning, Catholic University of America, Washington, DC, and is the author of Impossible Heights: Skyscrapers, Flight, and the Master Builder (2015) and Oculus: A Decade of Insights Into Bangladeshi Affairs (2012).

QUOTABLE  
Quote

JIM MORRISON (1943 - 1971)  
WHOEVER CONTROLS THE MEDIA,  
CONTROLS THE MIND.

CROSSWORD BY THOMAS JOSEPH

ACROSS

1 Highlands girl

5 Strength

10 Wild about

11 Monsieur's wife

12 Lose traction

13 Coos Bay setting

14 "They're out to get me" feeling

16 Like train tracks

20 Patsy

23 Shelley work

24 Walks unevenly

25 One-named Italian model

27 Words before tear or date

28 Beliefs

29 Sponge

32 Lower

36 Paper fastener

39 Words of approximation

40 Yanked

41 Nothing, to a niño

42 Bars on cars

43 Flair

DOWN

1 Speech problem

2 "My Way" writer

3 Commotion

4 Fizzy quaff

5 "West Side Story" heroine

6 Perfect

7 Comic bit

8 Med. coverage provider

9 Kayo count

11 Sculptor Henry

15 Pesters

17 Ear part

18 Fix copy

19 Some July babies

20 Sow chow

21 Singer Turner

22 Poet Khayyam

25 Goat cheese

26 Showy flower

28 Spent

30 Tell target

31 Store events

33 Vaccine type

34 Meatraining org.

35 Speckled horse

36 Massage setting

37 Prom rental

38 Maximum amount

Yesterday's answer

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

BEETLE BAILEY by Mort Walker

7-16

HENRY by Don Trachte

10-15