

Yin and Yang of the Brahmaputra

It is when the water subsides that fates are decided. For one family, last year's catastrophic flood has left behind signs of promise.

NAUSHAD ALI HUSEIN

A lone structure is taking shape on a featureless, grey horizon. Two figures work under the beating sun, on an otherwise deserted landscape. One digs, the other carries loads of earth on her head. The sky is deep blue. All around there is sand... the dark grey patches where the river has left fertile alluvial deposits, and any stray seed will flourish; and the stark white, devoid of nutrition yet perfect for growing, say, ground nuts. Hints of green are beginning to appear in patches: unmistakable signs of promise.

When we encountered this scene, we were passing by, returning from a meeting in an adjacent island. Taking a break from their backbreaking work, Bashir and Amina (not their real names) told us their story.

Years ago, this was a thriving village. Bashir and Amina lived in it with their seven children, and while it wasn't a glorious life, they got by. In 2011, they lost their home and the only land they owned to river erosion.

For those living on islands in the middle of the river, the loss of homes is almost normal. Every year, the river breaks away large swathes of land from one place, and deposits it in another. Millions in Bangladesh live on these fluid landscapes, and like the land, they are perpetual nomads. They have never had roads, electricity, or much access to government services.

But Ganeshyampur, near the confluence of the Teesta and Brahmaputra rivers in northern Bangladesh, was part of the mainland. Only after 2010 did the area begin to erode.

When Bashir lost his land, he was so dependent on it that afterwards he couldn't pay the minimal rent for a house. The family spent eight years squatting beside a highway. Deprived of their own land to farm, the two have been relying on sporadic work as daily wage labourers. Their dreams



PHOTO: NAUSHAD ALI HUSEIN

of stability have been anchored to the land they lost.

"Every year I come back to see what the prospects are," says Bashir.

The relationships that people have with the river are complex. In a sense, it is nothing less than a parent. It provides land, water and fertility. But the river is also a monster, because in a moment it takes away everything it gives. In July last year, floods destroyed acres of farmland, broke homes, killed livestock and even swept away children.

Yet, when the water subsides, it often leaves behind the promise of rebirth. Last year's flood left more sediments on Bashir's land, and the water receded to a distance of three kilometres away,

convincing him that it was time to start building.

After five days of toiling under the beating sun, Bashir and Amina had raised a structure.

Now, a few months on, several others have also settled in the vicinity. This is a community of mavericks. Being one of the first to settle the land means that they must build everything from scratch. There is no sanitation or access to clean water until somebody sinks a tube well or builds a latrine.

Bashir has improvised a latrine, but for water he must walk to a neighbour's house almost two kilometres away.

They have added two more huts to the first: a kitchen and a room to

accommodate the family (three sons and a daughter, Nolok). Nolok is 30 but her parents cannot marry her off because of the stigma of her mental illness. Her mind is apparently a child's.

The exile has exacted the worst toll on Nolok. Having lived for years in poverty without any government support and without access to social services or healthcare, Nolok hasn't had the protections that she might have under different circumstances.

She has one daughter who is a toddler, and is currently pregnant with another child. Rather than joy, Bashir's eyebrows furrow with burden at the thought of these fatherless grandchildren.

Last year, river erosion affected several districts in Bangladesh that have never had this problem before. In Shariatpur, erosion has rendered some 4,000 families homeless, and caused a 2-storey health complex to crumble. In Manikganj, hundreds of homes and at least one school were swallowed by the Padma. Even smaller rivers like the Nabaganga have uprooted hundreds of families.

Landscapes that are prone to erosion, especially the areas not attached to the mainland, are in a sense detached from state mechanisms. The Jamuna is the widest river in Bangladesh, 12km at its maximum. Getting from the mainland to some of the remotest islands takes upwards of four hours, assuming a boat is ready and waiting.

The Bangladesh government has significant funds allocated to rehabilitate river erosion victims every year, and to check river erosion. Then there are NGOs bringing in adaptive solutions—like Friendship's hospital ships. Perhaps Nolok's children will not see the kind of vulnerability that she has experienced. But with some 68,000 displaced each year by river erosion, there needs to be a national strategy to respond to the question: how do we extend care, protection and opportunity to families who are vulnerable and rendered landless by these results of climate change?

At least for the next few years, Nolok and her family have the security of a home. Her children will not be spending this chilly winter on the edges of a highway. The ground nuts that Bashir's family has planted on about six decimals of land nearby are now a few weeks from harvest. They might harvest up to two maunds (75 KG), depending on their luck and skill, which would fetch about Tk 15,000 in the market—a significant boost.

But the sandbanks they grow on serve as a reminder that the river, though out of sight, is never far.

Naushad Ali Husein is a senior executive at Friendship, an NGO.

PROJECT SYNDICATE

Putting a Price on Soil



ESTHER NGUMBI

LAST month, on December 5, the world marked World Soil Day. The theme of the day—"Stop Soil Erosion, Save our Future"—was chosen to raise awareness of the damage being done to soils around the world and start the process of reversing this trend. But how do we get more people to care about soil?

There is no doubt that they should. The importance of soil to human civilisation cannot be overestimated—it is present in everything we touch. Healthy soil underpins agriculture, farm productivity, and national economies. It grows healthy food, reduces nutrient losses to waterways, reduces greenhouse-gas emissions, increases carbon sequestration, and strengthens biodiversity, all while enabling crops to cope with the changing climate. As such, soil should be viewed as a natural, national, and strategic asset that must be managed wisely.

Yet around the world, soils are being eroded, dried out, and degraded, owing to poor land use and intensive agricultural practices that deplete soil nutrients. Other factors contributing to poor soil health and erosion include deforestation, excessive use of nitrogen fertilisers, and overgrazing. Ultimately, these

practices literally mine the life out of soils.

It is time to reverse this damaging trend. That means stopping soil erosion and other practices that are robbing our soils—and the billions of microorganisms and organisms that live in them—of their health. The question, then, is how to get more people to care?

One way to ensure that national governments and citizens appreciate soils and the value they hold is to put an economic price tag on them. Compelling recent evidence suggests that there are substantial profits to be

made from caring about soils.

For example, a report released in July by the Croatian Institute, targeting mainly investors, agricultural practitioners, entrepreneurs, and philanthropists, highlighted more than USD 320 billion in investment opportunities for sustainable food and agriculture, including 70 opportunities in regenerative agriculture worth USD 47.5 billion. Likewise, an article published in 2017 in *Nature* made a compelling business case that companies' bottom lines and their ability to remain competitive are closely connected to soil health, implying

that mitigation of soil degradation minimises economic risks.

Putting a price tag on soil is the right way to encourage the necessary efforts. Regenerative agriculture, while encompassing many other principles, comprises sustainable farming practices such as reduced tillage, cover cropping, intercropping, diversified crop rotations, rotational grazing, composting, and mulching. The goal is to build up and diversify soil organic matter, thereby promoting soil health, and mitigate climate change through the sequestering of carbon.

Equally important is the need to highlight the impact and benefits for growers who adopt these practices. We need more documentation about the differences that these practices can make. Metrics for documenting the effects can capture how soil health improves, for example, or how much more regenerative farms are that store soil carbon.

As we highlight impacts, we should also call attention to organisations that are leading the way in improving soils. Food Tank, for example, released the names of 15 organisations from around the world that are working to improve soil health. Their efforts include bringing scientists and policymakers together to address soil loss and soil biodiversity, as well as using storytelling and other forms of creative communication to raise consumer awareness about the connections between soil health, food security, and the climate. In 2018,

Food Tank featured organisations promoting regenerative agriculture, including the Rodale Institute, which is best known for its role in advocating for regenerative practices, and Soil4Climate, another leader in efforts to promote soil restoration.

To encourage ordinary citizens to get involved, we need to inspire many more organisations and countries to care about soils, while raising awareness about soils through initiatives like the United Nations' platform for spotlighting soil health initiatives from around the world.

To maximise the potential of regenerative agriculture practices and other measures to improve soil health, more data-based evidence is desperately needed, including to show pathways for scaling. More than ever, scientists must work together with growers to address questions and remove obstacles preventing more people from adopting such practices.

Reiterating the theme of this World Soil Day, the time is now to reverse the trend of soil erosion. By making a compelling business case as to why growers should adopt regenerative agricultural practices, and putting a monetary value on the impact of such practices, we can save the world's soils—and, ultimately, our own future.

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QUOTABLE Quote



JANE ADDAMS
(1860-1935)
American social reformer and pacifist

The essence of immorality is the tendency to make an exception of myself.

CROSSWORD BY THOMAS JOSEPH

ACROSS

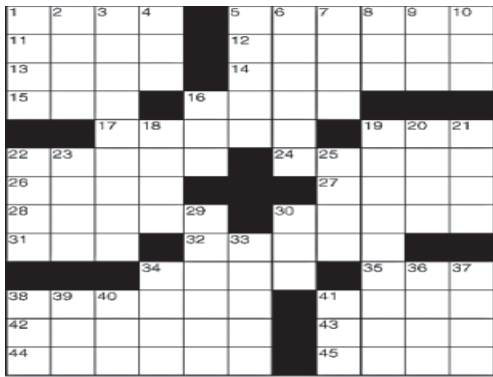
- 1 Fall mo.
- 5 Ten-armed swimmers
- 11 Stratford's river
- 12 Mountain
- 13 passage
- 14 Comic Danger-field
- 15 Curry on TV
- 16 Visitor to Oz
- 17 School paper
- 19 Old hand
- 22 Argo captain
- 24 "Beat it!"
- 26 Nerve impulse relay
- 27 Judy's daughter
- 28 Bessie Smith's music
- 30 Cruise ship

DOWN

- 31 Ready to go
- 32 Take as one's own
- 34 State of change
- 35 Mud bath site
- 38 Tilted type
- 41 Sweater material
- 42 Debt medium
- 43 Shades
- 44 Skiing spots
- 45 Director
- 1 Sweeping story
- 2 Writer Hunter
- 3 Identifies
- 4 Blasting stuff
- 5 Senator Thurmond
- 6 Brokers' numbers
- 7 Take apart
- 8 Travel stop
- 9 Ruby of films

10 Cunning

- 16 Wallet bill
- 18 Sharpen
- 19 Gets a hard copy of
- 20 Tear down
- 21 Poet Khayyam
- 22 Pokes roughly
- 23 Car bar
- 25 Brisk pace
- 29 Like sea-water
- 30 Bagel topper
- 33 Pond birds
- 34 Overturn
- 36 Frost, for one
- 37 Too
- 38 Form 1040 org.
- 39 – Aviv
- 40 Hoopla
- 41 Question of identity



YESTERDAY'S ANSWERS

C	O	D	S	W	E	N	C	H	A
A	L	I	K	E	A	L	O	H	A
F	I	N	I	S	H	L	I	N	E
E	V	E	P	E	T	C	A	T	
S	E	R	B	I	A	H	O	P	E
S	O	L	E	D	I	M	O	N	
			I	S	L	E	T		
T	E	D	S	I	D	O	L	S	
R	U	E	S		N	I	N	E	T
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C	H	O	R	U	S	L	I	N	E
T	R	U	E	R		E	S	T	E
S	E	R	F	S		T	O	T	S

BETLE BAILEY

by Mort Walker



BABY BLUES

by Kirkman & Scott



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