

THE JONAKI POKA

We may be the last generation to see it

Fireflies are not just beautiful; they are ecological indicators. When fireflies vanish, it tells us something is wrong with our environment. Their decline in Bangladesh is a red flag. If we don't take immediate conservation steps, it won't just be the fireflies we lose, but the overall health of our ecosystems.

AFRINA MOMOTAJ

"September 21, 1945, that was the night I died."

This iconic opening from the animated film *Grave of the Fireflies* speaks not only of war and loss but also of the silent tragedies unfolding in our world today. One such tragedy is happening in our backyards, forests, and wetlands—the quiet vanishing of fireflies.

Once a common sight lighting up warm summer nights, fireflies—locally known as *jonaki poka*—are rapidly disappearing, and scientists fear that we may be the last generation to witness their glow. Their fading presence is not just an ecological concern but also a symbol of how environmental pollution and climate change are extinguishing natural wonders.

Why Are Fireflies Disappearing?

Fireflies are among nature's most magical insects, but their survival depends on specific environmental conditions: clean water, moist soil, and dark, undisturbed nights. Today, these conditions are vanishing due to four major causes:



A firefly glows near a wetland in rural Bangladesh. Once common in villages and forests, their numbers have declined drastically.

1. Light Pollution

Fireflies glow to communicate and find mates, but excessive artificial lighting from street lamps, buildings, and vehicles drowns out their natural signals. In urban areas like Dhaka, fireflies have almost disappeared due to constant illumination. A study published in *BioScience* confirmed that artificial light at night is one of the greatest threats to firefly reproduction.

2. Habitat Destruction

Rapid urbanisation, deforestation, and wetland encroachment across Bangladesh have destroyed the moist, shaded habitats where fireflies thrive. When trees are cut down and marshlands filled in, we lose more than biodiversity—we lose living beauty.

3. Pollution and Pesticides

Firefly larvae depend on moist soil rich

in organic matter and small creatures like snails. But chemical pesticides used in agriculture and household mosquito fogging kill both the fireflies and their food sources. Water and soil pollution from plastic, sewage, and industrial waste have made many environments uninhabitable for these delicate insects.

4. Climate Change

Unpredictable weather, intense droughts, sudden floods, and shifting temperatures—all consequences of climate change—disrupt the life cycle of fireflies. Some species require specific temperature and moisture levels to develop. Without them, eggs fail to hatch or larvae perish before maturing.

What Happens If They're Gone?

The disappearance of fireflies is more than a loss of nostalgia—it is a warning sign.

- Ecological Collapse: Fireflies are

predators in their larval stage, helping to keep pest populations in check. Their disappearance could destabilise local ecosystems.

- Cultural Loss: In literature, folklore, and childhood memories, fireflies hold a place of wonder. Their absence represents the fading of a shared natural heritage.

- Environmental Alarm: Fireflies are environmental indicators. Their decline points to deeper issues—polluted water, degraded soil, disappearing forests—that also threaten human health and wellbeing.

"Fireflies are not just beautiful; they are ecological indicators. When fireflies vanish, it tells us something is wrong with our environment—be it water quality, habitat integrity, or chemical contamination. Their decline in Bangladesh is a red flag. If we don't take immediate conservation

steps, it won't just be the fireflies we lose, but the overall health of our ecosystems," says Dr Md Shahinur Rahman, Entomologist and Professor, Department of Zoology, University of Dhaka.

How Can We Stop This?

Though the situation is dire, it is not hopeless. Fireflies can still be saved—if we act now.

As Individuals:

- Switch off unnecessary outdoor lights at night, especially during the monsoon and summer months when fireflies breed.

- Avoid chemical pesticides and fogging; use organic alternatives.

- Create small natural habitats: leave leaf litter in your garden, maintain a moist corner, or plant native grasses and shrubs.

- Educate others. Teach children about fireflies and the environment. Encourage appreciation through observation, not collection.

As Communities and Policymakers:

- Implement dark sky policies in parks and rural areas to reduce light pollution.

- Protect wetlands, riverbanks, and forests that serve as critical habitats.

- Monitor and regulate pesticide use, especially during firefly breeding seasons.

- Support environmental awareness campaigns and scientific research on native species and climate resilience.

If we act wisely—if we reconnect with the rhythms of nature—fireflies might continue to grace our evenings. But if we remain indifferent, their light will become just another casualty of a world we failed to protect.

Let us not be the generation remembered for letting the firefly fade. Let us be the ones who saw the glow dimming—and chose to bring it back.

Afrina Momotaj is a Climate Smart Agriculturist and Animal Rescuer. She can be reached at momotajfrina@gmail.com.

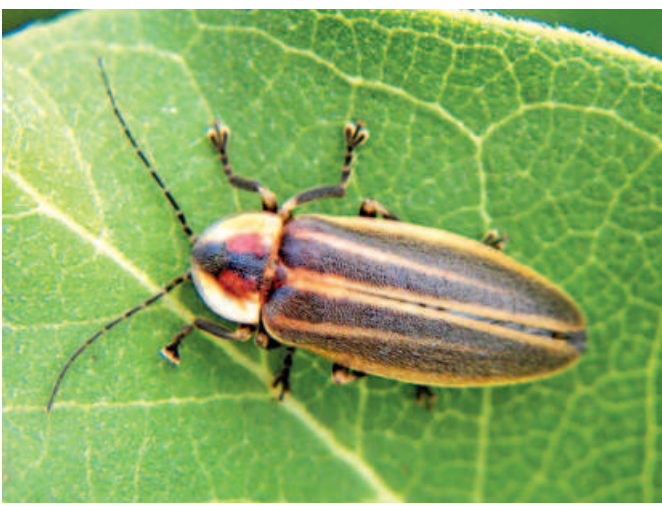


PHOTO: BRUCE MARLIN/WIKIPEDIA

How Coastal Communities Are Becoming Landless

RAFIQUL ISLAM MONTU

"We are surviving by fighting the river's current," said Morjina Khatun, 50, of Katmarchar village in Koyra upazila of Khulna district, wiping away tears. Morjina Begum's struggle began after her husband Nurul Islam died in 2015. Natural hazards have made her struggle even more difficult.

"Cyclone Amphan caused extensive damage to my land. The entire land was submerged in salt water. A part of the land was washed away by the river. Before Cyclone Amphan, the land used to yield good crops. Now the crops are not good. I catch shrimp fry in the river to support my family," said Morjina Khatun.

After her husband's death, Morjina moved to her father's house. She earns a living by cultivating the land she received from her father. She has a family consisting of one son and two daughters. Morjina has to struggle

received from her husband, so she had to undertake other work.

After Cyclone Amphan in 2020, many families lived on the Hazatkhali embankment in Koyra upazila of Khulna district. All their houses and agricultural land were under salt water. Sudha Rani and many other female-headed households lived on the embankment. Not only Cyclone Amphan, but frequent natural disasters in the region have hit female-headed households particularly hard. These disasters rendered their meagre agricultural land unproductive.

Rich Farmers Are Day Labourers

The crisis of female-headed households is distinct, but overall, all families bear the burden of natural hazards. Due to repeated disasters, once-wealthy farmers on the coast of Bangladesh are now making a living as day labourers. Once, they survived on rice

in front of his cyclone-damaged home, Abdus Salam points to his land. In some places, a layer of sand has accumulated; in others, a new canal has formed. A large part of his land has been overtaken by a newly built embankment. Much of his land has been lost to river erosion. At one time, Abdus Salam owned 150 decimals of land. Now only 22 decimals remain—and even that has become unproductive.

Another affected farmer is Amjad Hossain, 65, from Pratapnagar village in Asashuni upazila of Satkhira district. He owns a significant amount of agricultural land. However, due to the effects of frequent cyclones and high tides, much of it has become unproductive. Most of Amjad Hossain's land was destroyed by Cyclone Aila in 2009 and Cyclone Amphan in 2020. After Amphan, his land remained under salt water for almost two years.



Farmer Abdul Hamid shows his land—now situated outside the embankment—on a map he keeps. Photo taken in Dargatla village of Asashuni upazila (sub-district) in Satkhira district, Bangladesh.



Farmer Abdus Salam lost his agricultural land during Cyclone Amphan. He is now a day labourer. Photo taken in Valithala village of Shyamnagar upazila (sub-district) in Satkhira district, Bangladesh.

PHOTOS: RAFIQL ISLAM MONTU

a lot to earn money. Even though her son works outside, he cannot earn much due to his illness.

I met Sudha Rani Sarkar, 60, the head of a female-dominated household in Hazatkhali village of Koyra upazila. Thirty years ago, her husband Haro Chandra Sarkar died in a road accident. Since then, Sudha Rani has been carrying the burden of the family with her daughter. She had to struggle a lot to raise her daughter. Due to poverty, Sudha Rani worked from home in Khulna city, leaving her daughter with a close relative. Her house was submerged during Cyclone Amphan for about a year. Sudha's family could not survive by cultivating the small amount of land she

produced from their own land, but now their families are in dire straits. It is very difficult for them to manage three meals a day.

Abdus Salam, 62, once made a living by cultivating rice on his own land. His family lived on the rice they harvested. But natural disasters have taken away those opportunities. Now he survives as a daily wage worker.

Farmer Abdus Salam's home is in Bonnyatola village in Shyamnagar upazila of Satkhira district on the southwestern coast of Bangladesh. His house and land were under salt water for about a year after Cyclone Amphan in 2020. The house was submerged by tides from the Kholpetua River. The damage to his house is still visible. Standing

Deepening Crisis

Rising sea levels, frequent cyclones, and other natural hazards have put the lives of millions in Bangladesh at risk. Agriculture is under threat due to increasing salinity and a lack of irrigation water. Millions have already been displaced to urban slums or migrated abroad. According to the Global Climate Risk Index, Bangladesh ranks seventh among the countries most affected by extreme weather over the last two decades.

A study by the Association for Land Reform and Development (ALRD) states that a lack of employment and the impact of natural disasters are among the main reasons for migration. Many families were displaced by

Cyclone Aila in Shyamnagar, Satkhira. Those without land could not remain, as no employment was available. River erosion and cyclones like Aila have left people homeless in Satkhira (40 percent) and Khulna (33 percent). The study found that landlessness or becoming landless was the primary reason why residents left their homes after being devastated by natural disasters.

Millions of people in the southwestern coastal districts of Bangladesh have been affected by frequent cyclones. Cyclone Sidr in 2007, Cyclone Aila in 2009, Cyclone Fani in 2019, Cyclone Bulbul in the same year, Cyclone Amphan in 2020, and Cyclone Yas in 2021 have all caused extensive damage to the region. These disasters have had a severe

impact on people's lives and livelihoods. Land degradation has further exacerbated their suffering.

Climate change is expected to cause a sharp rise in the number of displaced people in the future. According to the World Bank's latest *Groundswell* report, more than 210 million people worldwide could be displaced by 2050 due to climate change. Of these, over 40 million are expected to be in South Asia. In Bangladesh alone, an estimated 19.9 million people could be displaced.

Rafiqul Islam Montu is an independent journalist focusing on environmental issues, climate change, and coastal communities.



Single mother Sudha Rani Sarkar no longer gets the same yield from her land. The land remained under salt water for almost two years after Cyclone Amphan. Photo taken in Hazatkhali village of Koyra upazila (sub-district) in Khulna district, Bangladesh.