

Black soldier fly, a friendly insect

SHYKH SERAJ

I have been hearing the complaint about the quality of fish and poultry feed for a long. Farmers complain that the food available in the market does not contain as much protein, vitamins or minerals as it should have had. More than half of what is written on the feed packet is absent and this is where the question of food purity arises. Tannery waste or DDT mixed dry fish is heard to be used as food ingredients.

A variety of insects are farmed in many foreign countries to provide safe protein in fish. The insect is also used as poultry feed. But there were concerns about how acceptable it would be in our farming social trend. I have been listening to the story of the Black Soldier fly (BSF) for some years now. Farmers in several European countries as well as in China, Japan and Australia have developed this black soldier fly farm as an excellent source of food for poultry and fishery. Needless to say, the fly has received a good response from all over the world in the last one and a half decades. In South Korea, this feed is being bought and sold in shops. In recent times, some of our local farms have developed such fly farms.

The Black soldier fly is very calm and its larvae stage is most important. In the last week of October this year, I had the opportunity to visit a remote village in Munshiganj to witness the



Shykh Seraj witness the production stages of black soldier fly at Mohammad Hasan's farm in Munshiganj.

PHOTO: HRIDOYE MATI O MANUSH

farming of black soldier fly. The fly farm is built by three entrepreneurs, who also have fish farm and poultry projects. Like the other farmers, they also had problems with fish and poultry feed. To ensure the feed system, they have built the black soldier fly farm. Besides, even a hundred years ago, this fly was considered as an insect. In the evolution of time, which is now a very useful fly. One of the entrepreneurs Mohammad Hasan told me the story behind the farm, "I have been farming fish and raising chickens for a long time. I always had to get the obstacle from the feed."

A couple of years back one of his teachers came from Australia and informed him about the black soldier fly and how it could resolve all his problems. "I learned about the fly farming from watching YouTube," Hasan said. Last year, during the COVID-19 pandemic that turned everything upside down, Hasan collected the fly eggs from Malaysia. "Chicken and fish get 45 to 50 percent protein from the larvae, which you cannot find in any feed available in the markets," says Hasan.

Hassan said the fly has several stages in the production process. Although it is black in appearance, this beautifully

shaped fly is not at all scary. It has a wing but no sting. Even adult flies do not eat any food, they live by drinking water only. The first stage is to breed flies and lay eggs. In the second stage, the larvae grow from the eggs. Then 20-day-old larvae are collected for poultry and fish farms. This is not the end. In the third stage, flies are made from larvae. The production process is not too difficult, but it should be scientific and timely.

Black soldier fly has brought new hope. There is a lot of unknown information about these flies or larvae. The fly is one of 2,700 soldier fly varieties. More than 99 percent of the fly species spend most of their lives in water, but these flies spend their lives on land. Mainly the land area is their roaming area and it prefers 'Coffee' and 'Beer'. The Food and Agriculture Organization of the United Nations conducted a research on black soldier fly in 2014 and they said it is a great source of healthy protein. The oil produced from the fly can be turned into biodiesel. The fly can become a source of natural antibiotics as well. In the laboratory, the black soldier is a unique assistant in the work of genome sequencing of flies. The fly lives around 45 days. Surprisingly,

after becoming adults they live only for nine days.

The black soldier fly market is expected to reach USD 3.4 billion by 2030, says a report by Meticolous Market Research. The fly is now being marketed in all continents of the world in the form of protein meal, biofertilizers, whole dried larvae, larvae oil and others. It's widely marketed in the United States of America, Canada, The Netherlands, France, England, Germany, Finland, Belgium, China, South Korea, Japan, Malaysia, Vietnam, and Thailand.

All farms cannot prepare food for their farms. Everyone has to depend on the market for some materials. But the market is not able to guarantee proper nutrition. This is where the black soldier fly comes into play. It is a natural solution to ensure nutrition and protein for the livestock sector. I am very much hopeful that its farms will spread across the country in a short time. I would rather suggest to keep an eye on everything from production stages to marketing, also looking at how this can get a fair market structure that will eventually benefit the farmers. Black soldier fly can truly become the future of our poultry and fish feed.

INTERNATIONAL DAY OF PERSONS WITH DISABILITIES

The indomitable Sinha sisters

MINTU DESHWARA

Even though they had no disabilities at birth, two sisters, namely Supriya Sinha, 22, and Priyanti Sinha, 19, lost motor function in their hands when they were in school. Presently, they are living with their family in a rented house in Magura area of Moulvibazar's Kulaura municipal town.

Despite their growth debility, the sisters didn't lose hope. With the support of their parents, they completed their primary, secondary and higher secondary education and are presently en route to complete their tertiary education. Keeping their academics aside, Supriya and Priyanti have made a name for their participation in cultural activities as well.

Their father, Surendra Kumar Singh, used to work in the settlement office as a process server. In November 2019, he went on LPR and their mother Sushila Rani Sinha is a housewife.

Sushila told this correspondent, "Supriya is in the fourth year of acquiring her BA (Hons) in Sociology at the local Yakub-Tajul Women's College and Priyanti is in the second year, pursuing her BA (Hons) in English at Moulvibazar Government College."

In the conversation, Surendra said, "Both my daughters used to walk to their institution since primary school, but then suddenly they started losing their mobility. We immediately took them to Dhaka for examination. Although they were taking their medication regularly, they failed to work and eventually inherited the disability."

Supriya aspires to do a government job after graduation, while Priyanti wants to be a teacher.

"When they were little, I used to carry them in my arms and go to work after dropping them off at school. Even now, at the undergraduate level, I sometimes take them to their university," said Singh.

Priyanti gets a disability allowance every month from the Upazila Social Services Department, however, Supriya receives nothing of the sort.

Their mother said, "God gave me two beautiful children and I will continue to support them to achieve their dreams."

Supriya said, "I am indebted to my parents, since, without them we couldn't have come this far."

Asked, Kulaura Upazila Nirbahi Officer (UNO) ATM Farhad Chowdhury said they will try to provide all kinds of cooperation to the sisters.



Supriya Sinha and Priyanti Sinha

Shykh Seraj is Bangladesh's pioneer development journalist. He received country's two highest civilian honours, Swadhinata Puroshkar and Ekushey Padak, respectively. He is a BIDS, Ashoka and Bangla Academy Fellow. He also received highest award for agricultural journalism from the United Nations, FAO A.H. Boerma Award, Gusi Peace Prize (Philippines) and many other prestigious accolades at home and abroad. At Channel i, he's the Founder Director and Head of News. He's also Director and Host of Channel i's popular agro-documentary, Hridoye Mati O Manush.



Work as

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at DSCSC in Mirpur Cantonment.

The PM said the armed forces members participated in various activities as frontline fighters in facing the Covid-19 pandemic and earned praise for their deeds.

As of now, 383 members of the Armed Forces from 24 friendly countries have received higher education and training at the NDC.

Bangladesh will be able to attain the sustainable development goals within the stipulated time of 2030 and Bangladesh will be turned into a developed country by 2041, she said.

The PM virtually conferred certificates upon the fresh graduates of the two courses, and congratulated them.

LPG price

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for marketing the fuel, which has progressively become the fuel of choice for cooking by the poor and the middle-class and running vehicles.

For LPG cylinders of other volumes, every kg would cost Tk 102.3, down from Tk 109.4 last month.

However, the price of a 12.5 kg cylinder from the state-owned Bangladesh Petroleum Corporation would remain unchanged at Tk 591.

The 27 private operators meet 98 percent of the country's demand for 11 lakh tonnes of LPG.

The price of LPG used in cars, commonly known as "autogas", has decreased to Tk 57.2 per litre at the retail level, including value-added tax and taxes, down from Tk 61.2 per litre last month.

Astronomers

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million years," Holger Baumgardt, a professor at the University of Queensland, said.

These enormous wells of gravity have incredibly dense masses, which astronomers from the Strasbourg Observatory in France were able to measure by looking at how the stars around them were being manipulated.

Today the war in Bangladesh

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would be decisively and finally repelled.

"Today the war in Bangladesh has become a war on India," she said. "We have no option but to put the country on a war footing."

"Since last March," continued Indira, "we have borne the heaviest of burdens and the greatest of pressures in a tremendous effort to ask the world to help in bringing about a peaceful solution and preventing the annihilation of an entire people whose only crime was to vote democratically. But the world ignored basic causes and concerned itself only with certain repercussions."

"The situation was bound to deteriorate," she said. "We must be prepared for a long period of hardship and sacrifice."

A state of emergency throughout India was proclaimed this evening.

CONVERSATION BETWEEN NIXON AND KISSINGER

US President Richard Nixon had a telephone conversation with his Assistant for National Security Affairs Henry Kissinger this morning on the Indo-Pak conflict.

Kissinger informed Nixon, "It appears that West Pakistan has attacked because situation in East collapsing. State wants to use it as a pretext not to put out statement [announcing the cut-off of military assistance to India] at noon. I think it's more reason to cancel programs. State believes and I agree that we should take it to the Security Council once actions are

confirmed."

Nixon replied, "I am for that. We have to cut off arms aid to India. We should have done it earlier."

Kissinger replied, "If they [West Pakistan] lose half of their country without fighting they will be destroyed. They may also be destroyed this way but they will go down fighting."

Nixon further said, "Pakistan thing makes your heart sick. For them to be done so by the Indians and after we have warned [India]... they have brought it on. We have to cut off arms. Why not? Because [they were] attacked by West Pakistan. Tell them that when India talks about West Pakistan attacking them it's like Russians claiming to be attacked by Finland."

Later, on the same day, Nixon had another telephone conversation with Kissinger.

Kissinger said, "It's more and more certain it's India attacking and not Pakistan. We cut off other military supplies. Secy wants to go to Security Council and go on TV. I say we can go just as soon as Pakistan says it's alright with them. We are sending a message through our channels to speed it up. I don't think we should rush until we see what they want. And tell the Chinese it's done with Pakistan's concurrence."

Nixon commented, "Why stick our nose in unless they want us."

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How India remembers

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fought for the rights of common people all through his life, took the soldiers by their arms and took them inside his house for lunch. The soldiers were delighted.

"This is how India remembers this great statesman: a man of all seasons, and a man for all people" -- are the words written on a rare photo where Bangabandhu, wearing a shirt and lungi, a traditional men's wear of Bangalis, is seen taking the Indian soldiers to his residence for lunch.

Indian High Commissioner to Bangladesh Vikram Kumar Doraiswami

handed over the photograph to Prime Minister Sheikh Hasina when he called on her at her official residence the Gono Bhaban on November 30.

Bangladesh and India will celebrate Maitree Diwas or Friendship Day on December 6, marking the day of India's recognition of an independent Bangladesh on December 6, 1971.

In view of Bangladesh's golden jubilee of Independence as well as the establishment of bilateral diplomatic ties, the two countries will jointly commemorate the day in 18 countries.

What is cirrhosis?

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or fibrosis. As more and more scar tissue forms, it becomes difficult for the liver to function.

There are many causes of cirrhosis, such as obesity, non-alcoholic fatty liver disease, high alcohol consumption, hepatitis B or C infection, autoimmune diseases, cholestasis diseases, and iron or copper overload.

Its symptoms are usually slow to emerge. Early symptoms may include tiredness, weakness, loss of appetite, unexplained weight loss, nausea and sickness, and discomfort in one's upper right abdomen.

With declining liver function, cognitive impairments, confusion, memory loss,

sleep disorders, and changes in personality may also develop.

The management of liver cirrhosis is centred on the treatment of the causes and complications. Liver transplantation can be required in some cases.

In order to reduce the risk of cirrhosis, you should eat a balanced diet and maintain a healthy weight. Excess body fat can damage the liver.

Reduction of risk of hepatitis B and C is necessary. Never share needles or engage in unprotected sex. Get hepatitis vaccinations.

You should speak to a doctor if any of the above mentioned symptoms is noticed. Detection in the early stages of the disease makes it easier to treat.

Accident

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Maruati, who also owns Sajek Eco Valley Resort, Immanuel Resort and Maruati Restaurant, said, "I have struggled all my life and invested around Tk two crore in these establishments. All of that hard work went up in flames in a moment."

Mohammad Jahid, manager at Obokash, said, "We saw the fire in the bathroom around 3:40am."

He added that one of the tourists, aged around 26, brought one litre of octane to the resort. "We asked him why he brought it but he did not reply."

Jahid further said, "The man claimed he was part of a team from Dhaka, who were staying on the fourth floor. The fire broke out on the second floor. However, before anyone on the second floor could even realise there was a fire, the man who brought the octane and his group were the first to raise the alarm."

"We could not find any of their names as all the records were burnt in the fire."

Jahir Uddin, owner of Megh Chhut Resort, which was also burnt down, said, "The fire could not have been caused by short circuit, as all the cottages [in all the resorts here] have circuit breakers... It might have been an act of sabotage."

"My dreams, along with my resort, were burnt down in the fire," said Jahir, from Bagaichhari upazila of Rangamati.

Mir Muddasser Hossain, superintendent of Rangamati police, said "The fire broke out from a short circuit. Even though there was no scope of sabotage, we are investigating the allegations."

Babla Das, chief of Dighinala Fire Service, said firefighters reached the spot around 6:00am, when the cottages and restaurants were already burnt to ashes.

"We are still suspecting it was from a short circuit."

Shariful Islam, upazila nirbahi officer of Bagaichhari, said, "At this stage, it's not possible to make any comments about how the fire originated."

According to locals, violence and arson have become commonplace in the hill tracts on or the day before the CHT Peace Accord Day, which was yesterday.

Bangladesh 6th biggest sender

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On the other hand, before borders were closed in Bangladesh in March 2020, approximately 400,000 workers returned, mostly due to the pandemic. A July 2020 report found 70 percent of such returnees were unemployed.

The IOM report says the number of international migrants has grown from 84 million globally in 1970 to 281 million in 2020.

It says with nearly 18 million people living abroad, India had the largest migrant population globally in 2020. Mexico was the second largest origin country with around 11 million migrants.

The Russian Federation (10.8 million), China (10 million), and Syrian Arab Republic (over 8 million, mainly refugees) made the global top five.

The report reveals a dramatic increase in internal displacement due to disaster, conflict, and violence at a time when global mobility ground to a halt due to Covid-19

travel restrictions, says the statement.

"We are witnessing a paradox not seen before in human history," said IOM's Director General Antonio Vitorino.

"While billions of people have been effectively grounded by Covid-19, tens of millions of displacement events have forced many others from their homes," he said.

The number of air passengers globally dropped 60 percent in 2020 to 1.8 billion (down from 4.5 billion in 2019) while at the same time internal displacement due to disaster, conflict and violence rose to 40.5 million (up from 31.5 million in 2019).

In terms of receiving remittance, India topped the list with \$83.15 billion in 2020.

China (\$59.51 billion), Mexico (\$42.88 billion), the Philippines (\$34.91 billion), Egypt (\$29.60 billion), Pakistan (\$26.11 billion), and France (\$24.48 billion) were above Bangladesh in terms of receiving remittance.

POSTING PROPAGANDA

Twitter shuts 3,500 accounts in 6 countries

AFP, San Francisco

Twitter yesterday said it had shut down nearly 3,500 accounts that were posting pro-government propaganda in six countries, including China and Russia.

The vast majority of the accounts were part of a network that "amplified Chinese Communist Party narratives related to the treatment of the Uyghur population in Xinjiang," Twitter said in a statement.

China faces accusations of grave human rights violations against the ethnic minority in the northwestern province, where experts have estimated that more than one million people are incarcerated in camps.

Aside from 2,048 accounts linked to the pro-Beijing campaign, Twitter also shut down 112 accounts connected to a company named Changyu Culture, linked to Xinjiang's regional government.

The move came a day after Facebook's parent company Meta said it had shut down more than 500 accounts that were part of a China-linked influence campaign relating to Covid-19.

The accounts promoted claims from a fictitious Swiss biologist, Wilson Edwards,

that the United States was interfering in efforts to identify the origins of the coronavirus.

Chinese state media had widely quoted "Edwards" in July, although several newspapers deleted references to him after the Swiss embassy in Beijing said there was no trace of him.

Both Twitter and Facebook are banned in China, but Beijing frequently uses both US social networks to promote its positions on the international stage.

Beyond China, Twitter also shuttered 16 accounts linked to the Internet Research Agency, a Russian company labelled a "troll farm" by critics, which runs pro-government online influence campaigns.

"The operation relied on a mix of inauthentic and real accounts to introduce a pro-Russia viewpoint into Central African political discourse," Twitter said.

Conspiracy

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People in the hills are in a situation where they are about to become expatriates on their own lands, she added.

Rashed Khan Menon, president of the Bangladesh Workers Party, said the government's decisions in the name of tourism and development are imposed on the people of the region.

He said peace would prevail on the CHT if the people's right to land is ensured.

Moderated by Sanjeev Drong, general secretary of the BAF, the event was addressed by veteran politician Pankaj Bhattacharya, rights activist Sara Hossain, and Dhaka University's Prof Sadeka Halim and Prof Mesbah Kamal, among others.

Fifth-grader

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on a secluded road in Bhir Narayan village, Jahir gagged and forcibly took her to a nearby shop where he raped her.

After Jahir released the girl, she screamed for help. She was then rescued by locals, but Jahir had already fled, she said.

Jahir was absconding. Police were trying to arrest him, said the inspector.