

Modern fish farming technologies shaping the cultivation

SHYKH SERAJ

Just as there are environmental crisis, climate change and other things affecting us all the way through, the need to increase the quality of food, production and reducing the costs along with including better technology in farming sector is quite significant. Sometimes these technologies are very profitable, workable and sometimes they are not. I have tried to bring forth these technologies whether in the country or abroad through various news reports. You have already watched the Recirculating Aquaculture System (RAS) on Hridoye Mati O Manush where fish is being cultivated in indoor water tanks; you may call it indoor fish farming. A new technology for fish farming, called biofloc technology (BFT) is also there. Here, the production cost is much lower and the production is higher than RAS. A totally scientific way of cultivating fish, biofloc culture is widely applied around the world. India, Indonesia and other Asian countries are using it extensively. Aminul Islam from Khantek in Dhaka's Uttara area, is using the technology. I went to his place to visit the developments and the good results he's getting from these technologies.

Farming is a matter of passion and innovation. Aminul Islam is a very passionate urban farmer. After his retirement, he has concentrated deeply in rooftop farming. However, the scope of his work is not limited; he has reached the depths of modern farming

Shykh Seraj is Bangladesh's pioneer development journalist. He received country's two highest civilian honours, Swadhinata Puroshkar and Ekushey Padak, respectively. He is an 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.



Tahsin and Zahidur show their biofloc tanks, a modern fish farming technology that they work on.

PHOTO: HRIDOYE MATI O MANUSH

to increase production on two different floors of his building.

Aminul's house has turned into a fish production factory. There are a variety of activities. He definitely has the RAS installed for fish farming on one floor and biofloc on another.

"The main benefit of RAS is the ability to reduce the need for fresh, clean water while still maintaining a healthy environment for fish," says Aminul.

"Water exchange is limited and the use of biofiltration is required to reduce ammonia toxicity," he adds.

RAS technology is still very new to many across the country. Only some people are using it like Aminul and they are getting commercially benefited as well. It is quite

amazing to think that fish farming from pond is now being done in water tanks.

"How many fishes did you release in this tank," I asked Aminul.

"About 1500," he replied.

"How much water," I asked.

"1500 litres," he replied again.

Aminul, from two harvests per tank, expects to sell the fishes per kilogram at Tk 300 (3.54 USD), which will total up to around Tk 30,000 (354.216 USD).

Dear readers, many researchers are currently conducting studies to determine if RAS is a viable form of intensive aquaculture. Aminul Islam, meanwhile has extended his work to another new venture. He has introduced another modern fish farming method, called biofloc. Tahsin Islam, his son, has helped him

a lot in establishing the biofloc system. Tahsin has completed Masters in Computer Science.

"What are you doing after your studies," I asked.

"I am working on biofloc technology," Tahsin replied.

"Did you study on this," I asked.

"No, out of my own interest, I'm conducting my research on BFT," he replied.

"I went to India to get advanced training on BFT," Tahsin added.

Tahsin's friend Zahidur Rahman, network engineering student, who completed his studies in London, also helps him.

"How did you get into biofloc Zahidur," I asked.

"I was really inspired by Mr Aminul Islam's and my friend's work," replied Zahidur.

Biofloc is an innovative and cost-effective technology in which toxic materials to the fish and shellfish such as Nitrate, Nitrite, Ammonia can be converted to useful product. This technology is used in aquaculture system with limited or zero water exchange under high stocking density, strong aeration and biota formed by biofloc.

The initiatives of these two young men are in the testing phase. Curious readers might ask what is the fundamental difference between the BFT and RAS?

"The RAS system is quite vast that has a mechanical and a bio filter, which is a bit costly, whereas biofloc only requires a tank and an aeration system," says the young guns.

"Before cultivating the fish, we culture the flock first with bacteria that turns into floc," says Tahsin and Zahidur.

"Is this good bacteria," I asked.

"Yes, they are good and work well for fish and create the floc which is a type of algae that creates a colony afterwards," replied both.

When they put fish in tanks, and feed it, the leftover feed and the waste of the fish creates ammonia. The bacteria's work is to dissolve the ammonia and create nitrate which is not harmful for the fish. Another aspect of this is that the flocs are slowly converts into protein. The fish then are able to eat that protein.

They have in total four tanks and the setup cost is way low than RAS system, they say. Each tank has 5000 litres of water and they released 5000 fingerlings in each tank. They expect to get the harvest in four to five months. When the fishes will grow up to 12-14 kilogram, they would be able to sell. But, they target to get the size of 70 grams. From a 5000 litre tank, they expect to get 500 kilograms of fish, but the realistic target according to them is 350 kilograms from one tank. In four months, they would be able to sell fish worth Tk90,000 (1062.65 USD). In a year, they will get two harvests, which will total up to Tk1,80,000 (2125.30). So, from four tanks, they believe, they'll get Tk 7,20,000 (8501.18 USD).

Dear readers, biofloc is eco-friendly culture system that reduces the environmental impact. It improves land and water use efficiency, with higher productivity and higher bio-security. It has many other benefits. And, RAS on the other hand is a bit costly than biofloc, but an effective one indeed for indoor fish farming. Diversified research is required to establish new scientific methods and technologies go to the field level across the country. Like the entrepreneurs who are bringing new ideas upfront, it is urgent to take realistic measures for effective extension of their valuable ideas.



The staircase roof of a cyclone shelter being constructed on Khayer Ghotichora Hamidia Dakhil Madrasa premises in Pirojpur's Mathbaria upazila collapsed yesterday. Madrasa Superintendent Abdur Rahman alleged that use of substandard materials by the contractor firm caused the collapse in the Tk 2.26-crore project. The contractor already missed the deadline of March this year, reports our Pirojpur correspondent.

PHOTO: COLLECTED

TANGAIL BUS TERMINAL

Buses clog up major thoroughfare in town

MIRZA SHAKIL

Established on three acres of land in 1981, Tangail New Bus Terminal at Deola can no longer accommodate most buses operating from it.

The terminal could fit all the vehicles when the number of buses was initially 250. Almost four decades later, with introduction of many new routes, the number now stands at around 900.

Evidently, the massive fleets of buses now spill over onto adjacent Tangail-Mymensingh Road and create day-long traffic gridlocks in the area. Ticket counters built haphazardly all over the terminal premises also create manoeuvrability problems for the buses.

During a recent visit to the area, this correspondent witnessed a large number of bus and minibus -- serving destinations such as Dhaka, Chattogram, Bhupur and Mirzapur -- were causing obstruction to smooth movement of traffic as those were

parked haphazardly on the road, near Tangail General Hospital.

Abdul Halim, driver of a battery-run auto-rickshaw, said in a normal situation, it would not take more than two minutes to pass the terminal area. But lately, it takes at least 10 to 15 minutes to pass the area.

Thousands of people pass through the road every day to reach different destinations in the north and various government offices, but they suffer immensely due to the unbearable congestion on the road in front of the bus terminal, said Milk Vita resident Mahbubul Islam Sajal.

Mostak Ahmed Rana, a contractor of Power Development Board in Tangail, uses the road frequently. He said since the terminal cannot handle the increased number of buses anymore, it needs to be relocated to a larger space, away from the town.

Rafiqul Islam, traffic inspector (administration) in Tangail, said the issue of relocating the terminal

was discussed at the last meeting of District Law and Order Committee.

The traffic congestion problem in the area would be solved once land for the new terminal, large enough to accommodate all vehicles, is allocated, he added.

Speaking with this correspondent, Tangail Bus Minibus Owners' Association Secretary General Golam Kibria said the small terminal can no longer house the growing number of vehicles and that is the primary reason for the traffic congestion in the area.

Their organisation on many occasions urged the authorities to move the terminal to a larger space, but they are yet to see any development to this effect, he also said.

Contacted, Jamilur Rahman Miron, mayor of Tangail municipality, said a place near the town bypass has already been selected for the terminal's relocation and it would be moved to the new location after the land allocation process is complete.



A recent photo shows how buses parked on more than half of the Tangail-Mymensingh Road create tailback in front of Tangail New Bus Terminal in Deola area of Tangail town.

PHOTO: STA



Bangladesh-India Friendship Power Company (Pvt.) Ltd.

(A Joint Venture of BPDB and NTPC Ltd.)

Ref: BIFPCL/MSTPP/COAL SUPPLY/EOI/2019/679/ADDENDA-1

Date :23.07.2019

ADDENDA-1

The following addendum has been made in connection with Request for Expression of Interest (EOI) for Coal Supply for 2x660MW Maitree Super Thermal Power Project at Rampal District-Bagerhat, Bangladesh (Ref. No. BIFPCL/MSTPP/COAL SUPPLY/EOI/2019/679 dated 01.07.2019) :

Important Dates :

The last date of submission of query	upto 23:59Hrs(BST) on 31.07.2019
The last date of submission of EOI application	upto 23:59Hrs(BST) on 29.08.2019

For Qualification Requirements, Scope of Supply and Services, EOI document and for further other information/updates, please visit www.bifpcl.com or contact the office of the undersigned.

Other Terms & Conditions of the Request for EOI will remain same.

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