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Jharkhand: NFDB to help Govt to promote fish production in State

<https://www.dailypioneer.com/2022/state-editions/nfdb-to-help-govt-to-promote-fish-production-in-state.html>

"National Fisheries Development Board (NFDB), Chief Executive, Dr C Suvarna was on a visit to Jharkhand to inquire about the progress of Blue Revolution and Pradhan Mantri Matsya Sampada Yojana (PMMSY) in Jharkhand and technical changes taking place in fisheries here. She said during the meeting that the Board will provide full support to the fish farmers of the State.

The Chief Executive said that the NFDB is always ready to help the State with technical assistance; the farmers here can be further promoted. Apart from this, she also said that behind this achievement of fish farming in Jharkhand, the guidelines of the officials and the hard work of the fish farmers here are also hidden.

On the second day of Jharkhand tour, Suvarna visited the retail fish market built in Deoghar district and Amit Kumar's recirculatory aquaculture system under Blue Revolution Scheme in the presence of Director Fisheries, HN Dwivedi and Jharkhand and District Fisheries Officer, Deoghar, Prashant Kumar. Along with this, under construction of selected beneficiary Pradeep Gupta under PMSSY, a recirculatory aquaculture system of Rs 7.50 lakh, biofloc pond under construction of Kaushalya Devi was also inspected. During the excursion, the work of fish-cum-duck rearing was also seen. Discussions on fisheries development were also held with Manjunath Bhajantri, Deputy Commissioner, Deoghar. In order to return to Ranchi, fish seed hatcheries and fish feed sites under construction in Giridih district were also seen under the PMMSY.

The Chief Executive said that there is immense potential in fish farming in the State. "Jharkhand can give a new direction to the Country in this area by doing fish farming using new techniques. Jharkhand can do better than all other states in fisheries," she added.

Suvarna further said that Jharkhand has ponds full of water, big dams, rivers, coal mines which are full of water, and where there is water, fish farming can be done. "Along with this, people are also using new techniques of fish farming like recirculatory aquaculture system and biofloc. Therefore it can be said that Jharkhand can lead the Country in fisheries. When I was posted in Telangana, I was also advised by the Ministry of Government of India to go to Jharkhand to see the fish farming happening there. On the advice of the ministry, she visited Chandil Dam where

good work has been done regarding cage culture. That is why it is said from the beginning that if you want to see fish farming, then you should look in Jharkhand. Officials and fish farmers from other states have been sent to Jharkhand for site visits," she added.

On the very first day of the Jharkhand tour, discussions on fisheries related schemes were held with Director Fisheries and Joint Director of Fisheries, Manoj Kumar. After that Suvarna reached King Fisheries in Ratu, Ranchi. The fish farming being done through pond, biofloc and cage culture was seen. Along with this, the recirculatory aquaculture under construction was also seen here. This technique will be used for fish farming under the PMMSY, the under-construction recirculatory aquaculture of Ranchi district's beneficiary Kavita Tiwari was also seen.

In the presence of District Fisheries Officer, Hazaribagh, Roshan Kumar, the cold storage under construction of Dineshwar Ravidas at Charhi, Hazaribagh and the cages installed under Blue Revolution Scheme at Konar Dam were also inspected."

Bihar, Jharkhand, West Bengal and Odisha: IMD predicts heavy rainfall from today

<https://www.timesnownews.com/india/article/imd-predicts-heavy-rainfall-for-bihar-jharkhand-west-bengal-and-odisha-from-today-details/848208>

"The India Meteorological Department (IMD) has predicted rainfall and thunderstorms across large swathes of east and central India over the next few days. The weather forecasting agency also predicted that cold wave conditions would prevail in parts of north-western India from today. As per the bulletin released by the IMD on Monday night, dense or very dense fog is likely to be observed in isolated pockets of Punjab, Haryana, Uttar Pradesh and north Rajasthan over the next few days. ""Cold wave conditions in isolated pockets very likely over Punjab, Haryana and Chandigarh during 12th-15th and over north Rajasthan during 11th-13th January 2022,"" the IMD forecast. According to the weather forecast, isolated heavy rainfall is very likely over Odisha on January 11 and January 13. Scattered to fairly widespread light or moderate rainfall is very likely over Vidarbha, Chhattisgarh, Bihar, Jharkhand, West Bengal and Sikkim and Odisha during 10th to 14th January. Isolated to scattered rainfall is very likely to continue over Uttar Pradesh and East Madhya Pradesh during the next two days and decrease thereafter.

Isolated thunderstorms with lightning or hail are very likely over Vidarbha, Chhattisgarh, Marathwada, Jharkhand, Bihar and West Bengal, Sikkim, Telangana and Odisha this week. Scattered rainfall or snowfall is also likely to occur in the northeastern part of India over the next three days - over Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram and

Tripura. ""Under the influence of cyclonic circulation over Southwest Bay of Bengal and neighbourhood at lower and mid-tropospheric levels, isolated light rainfall or thundershower over Tamilnadu, Puducherry and Karaikal and Kerala and Mahe during next 4-5 days,"" the IMD added. With squally weather (wind speed reaching 40-50 kmph gusting to 60 kmph) being expected over central parts of south Bay of Bengal and adjoining Southwest Bay of Bengal, the IMD has advised that fishermen should not venture into this area.

Jharkhand: NCDC holds awareness programme to generate employment

<https://www.dailypioneer.com/2021/state-editions/ncdc-holds-awareness-programme-to-generate-employment.html>

"In a move to generate employment in fish farming in the State, National Cooperative Development Corporation (NCSC), Regional Training Center Ranchi organized one day training cum awareness programme on Pradhan Mantri Matsya Sampada Yojna (PMMSY) at Fisheries Farmer Training Center, Dhurwa in the State Capital. The programme was inaugurated by Chief Guest Director, Directorate of Fisheries, Government of Jharkhand, Dr HN Dwivedi and the key note speaker on PMMSY were MD JHASCOFISH cum Joint Director, Directorate of Fisheries, Manoj Kumar, Regional Director NCDC Ranchi, Siddharth Kumar Nim, and District Fisheries Officer, Ranchi, Arup Kumar Choudhary. Speaking on the occasion Siddharth Kumar Nim mentioned that NCDC is one and only statutory corporation working as apex level financial developmental institution in the field of cooperative development and apart from agriculture and allied sector, it supports cooperatives in various fields.

Addressing the gathering of fish farmers as a Chief Guest of the program, Dr HN Dwivedi said that continuous efforts are being made by Directorate of Fisheries, NCDC and the State Government for the successful implementation of this ambitious scheme of Government of India. On this occasion Manoj Kumar states that PMMSY is an ambitious scheme of Government of India under "Aatmnirbhar Bharat". He gave detailed information about the PMMSY scheme and said that the main objective of PMMSY scheme is to double the income of fish farmers, along with the assistance to be provided for qualitative increase in fish productivity, latest technical support for fisheries management and development of necessary infrastructure. "In the PMMSY, the contribution of the Government of India, State Government, the beneficiary is contained, in which total 60 per cent of the Government assistance for the Scheduled Castes, Scheduled Tribes and women of all categories and for other categories 40 per cent of the cost is payable as grant," he added. NCDC, Regional Director, Ranchi said that FFPO is to be formed under PMSSY and along with other benefits of PMMSY FFPOs can do fisheries business in a more organized manner. On this occasion around 150 Fish farmers were present and great enthusiasm has been seen among them regarding this program.

It was informed by Arup Kumar Choudhary that various projects are being implemented continuously under the Pradhan Mantri Matsya Sampada Yojana in Ranchi and the instructions issued by the department from time to time under the scheme are also being followed smoothly.

Jharkhand: Cage farming of pangasius and tilapia proves profitable in Eastern India

<https://thefishsite.com/articles/cage-farming-of-pangasius-and-tilapia-proves-profitable-in-eastern-india-chandil-dam-jharkhand>

"Arjun Kewat began farming fish in Chandil dam, in Seraikela district of Jharkhand State in 2019, as his income from fishing was barely enough to secure his livelihood. The 42-year-old heard of a state government initiative to promote cage culture and was given two 6m x 8m cages. Two years later, he says he is now earning a handsome income for his family, "The fishing in the dam [reservoir] was the sole source of livelihood for several thousand people here. But the catch was falling with each passing day because of too many people were involved in fishing. It was becoming difficult for me to support my family. I heard about the government's initiative to promote cage culture and decided to opt for it," he says. "It was a wise decision as the return is several times higher than the traditional fish catching in the dam. I stocked around 7,000 tilapia and 9,000 pangasius fingerlings in my two cages last year, which is expected to generate good profit for me, as each fish would be sold for at least for Rs 100 (US \$1.5) per piece while the production cost is around Rs 50 INR (\$0.75)," he says with a broad smile on his face. But Kewatbegan is not alone. He belongs to the group of around 100,000 people who were displaced after the construction of Chandil dam began in 1980.

Villagers recollect the time when they were forced to live in penury after they were evicted from their land. "We were not ready to forgo the land of our ancestors that we used for farming and staying. We held regular protest to stop the government from evicting us. Bullets were also fired during protests," recalls Hiren Yadav, 55, who is now a fish farmer. "But the government took away the land, promising proper compensation and a job to every household that had lost its land to the dam. The compensation paid was not enough to run our livelihood and only handful of people were given jobs. We were forced to migrate to cities in search of livelihood and began to do odd jobs for survival." Farmers claimed that around 100,000 people residing across 114 villages, were affected by the construction of the reservoir, which was built to produce power and supply water for agriculture in low-lying areas. "But the dam has failed to live its purpose as the work got stopped after the building of the structure and gates in 1992. It has no utility except to supply water to a big business conglomerate.

The cage culture and fishing has helped us to bring our life back on track," says Buddheswar Majhi, 38, another fish farmer. The roots of cage farming Cage farming in the dam began in

2011, after the government decided to promote it to people that had lost their agricultural land and houses to the reservoir and were living in utter poverty. “The initiative began after the government came to the rescue of people who had turned paupers and were doing odd jobs after losing their land to the dam,” said Mithun Majhi, fishery extension officer (FEO) of Seraikela district. “Cage culture was relatively a new concept then and faced its own teething troubles in the beginning. Prior to 2011, bamboo was used to make the cages but they were swept away in the water. But slowly, things began to move in right direction. The cages were also placed near the bank to ensure they do not drift away in strong water currents.” Government incentives Senior officials from the department of fisheries explain that the government provides a lot of subsidies to attract farmers and offer them better livelihood opportunities. “The government does the complete installation work of the cages and also offers fingerlings and feed completely free to beginners, to ensure that they start farming without having the headache of arranging financial resources,” points out Pradeep Kumar, district fisheries officer.

“The farmers are given 50 percent subsidy on feeds, while the fingerlings are offered free from the second time onwards. The fingerlings are normally procured from the state itself. The chemicals are also provided to keep the cages disease-free. The dam water has a depth of around 150 feet, while cages are around 16-18 feet deep.” The senior official adds that there are strict provisions regarding harvesting the fish. “The farmers are allowed to collect the catch only after 8-10 months, once the fish have reach at least 1 kg. This is done to ensure that they get good price for the produce. But they are allowed to harvest before if they show genuine reasons for it,” he explains. Counting the benefits of cage culture, Dr HN Dwivedi, the director of fisheries in Jharkhand, says that the cage production works well. “Fish farming in ponds produces around 1-1.4nkg / m3, whereas in cage culture the harvest is around 25-30 kg / m3. We also train farmers in various aspects of fish rearing, such as hatchery skills, nursery management and maintaining water quality,” he explains. “The fish production in Jharkhand has increased several fold over the years largely due to cage culture. The annual production of fish stood at paltry 14,000 metric tonnes in 2000-2001 that has now increased 238,000 metric tonnes in 2020-21. We have kept the target 265,000 metric tonnes for the next financial year,” he adds. Due diligence Farmers are grouped in 18 co-operative societies, each of which have around 80 members involved in fishing and farming in the reservoir.

The co-operative societies finalise the list of people who are eligible for cages before passing the list to the government. “There has been a huge demand for cages among the villagers, as they are bringing good profits. But we have a very strict policy while selecting them, as many people want to start the business for high profits but lack the seriousness and hard work required for fish farming,” said Narayan Gope, president of the Chandil dam displaced fish farmers co-operative society. “Such people mar our efforts. We do thorough background checksto ensure that cages

are handed over to the right people. A person is eligible to take only cage in their own name, though they can take more cages in the name of his family members.” Government officials confirm that there has been a surge in people seeking cages for fish farming. “We have been witnessing a huge increase in applicants wanting to start cage farming, especially since Covid, but the cages are issued only after clearance from the co-operative societies. We had distributed 90 cages in 2019-20 but we expect to get around 1,000 cages from the government. We have so far distributed 987 cages to 600 farmers since 2011, but still the demand is high,” says Majhi. A strong market Navkishore Gope, 35, says that cage farming has helped him to send his two daughters to a reputed English language school.

“It is a rare honour for me that my daughters are studying in a convent school. I had never thought that it would be possible before I started cage farming around six years ago. It has changed my life. I have one large cage that yields around 4-5 tonnes of fish after nearly 8 months of stocking fingerlings that are given free to us from the government. The subsidy on feeds also helps us to increase our income,” he says. Gope adds that there is a strong demand for his produce in the local market due to its high protein value and that is also sent to neighbouring states of West Bengal and Bihar. Senior government officials said that they have a plant for feed production and fish health levels are encouraging. “We do not face any serious disease issues as the water quality is good. During winters, there are negligible problems. The mortality rate is just 4-5 percent of the total production. But poaching is a serious issue here. We try to maintain strict monitoring but still it happens. Farmers also do vigil at nights to ward off the poachers,” adds Pradeep Kumar. Empowering women The local fisheries department also began promoting the empowerment of women as carp farmers in the corners of the reservoir last year. The department distributed over 1,000 fingerlings of rohu (*Labeo rohita*), catla (*Catla catla*) and mrigal (*Cirrhinus cirrhosus*) to around 700 women living across tribal villages around the reservoir. “The department gave us over 100,000 fingerlings but we procured another 15,000 fingerlings after we realised that fish farming has such huge potential. The cages here are enclosed with bamboo structures. The fish have grown in size and we can harvest them whenever we need cash for our household or fund the education of our children. It is like an ATM for us,” chuckled Seemati Majhi, 35.

Jharkhand: Farmer, first in India to adopt US fishing ‘raceway’ technology

<https://telanganatoday.com/jharkhand-farmer-first-in-india-to-adopt-us-fishing-raceway-technology>

"Even as the government is focusing on increasing the farmers income, a farmer in India's mineral rich eastern state of Jharkhand is all set to become the first in the country to adopt the “floating raceway technology” of the United States for fishing in existing open ponds.

The new technology for the existing pond fishing has been brought to India by a journalist turned entrepreneur Arvind Dubey, based in Mumbai through his company Superior Aquaculture India Pvt Ltd. Dubey said that the new technology is being implemented by Sadanand Verma and Subodh Prakash, both residents of Jharkhand's Giridih. He said by the month of the August this year, this new system will be installed in the ponds in Giridih. Explaining the new fishing system, which is called floating raceways (IPRS), Dubey said that for using the new technology a farmer does not need to dig a new pond, as it can be done in the existing pond. Dubey said that the prime source of the system's aeration is the pond-water interface coupled with the oxygen production by the pond's flora, primarily algae. Explaining the technology, Dubey said that Superior Aquaculture uniquely offers a Superior Floating Raceway System (patented) that can perform all of the standard RAS or Biofloc functions (except perfect temperature control) but in a pond or other waterway.

“The huge volume of water in our systems provides a very forgiving and non-volatile water reserve that continuously flows through the raceway. The system is simple, of low cost, and both financially and environmentally sustainable,” he said. He explained that it is listed as a best management practice in North America, and Returns on Investments (ROI's) can often be achieved in less than two years. Dubey also said that powered by the sun and wind, the system's pond water is naturally aerated and automatically treated for ammonia. “Soluble nutrients and carbon dioxide are absorbed by the algae and used to produce omega-3, oxygen and nutritious food. The phytoplankton are then consumed by the zooplankton, and the nutrient laden zooplankton are like a super healthy candy for the fish,” he said. Dr Jay Warecki, who had developed this technology told IANS, “As there is lot of wastage in fishing today, so we have been able to put up the components together for aquaculture which is very simple.

He said simplicity and being bio friendly is important as we all live together in tighter places with less water that we had 50 years ago. “And it is important that we use that in fishing of saving water. So that is the essence of the programme to be able to present inexpensive solution for the water quality issues that are faced by the aqua culture farmers in places like India, US, Vietnam and Africa,” he said. He said that solids collected in the raceway's settling zone have their own well-established value, but can sometimes be “pressed” for enough algae oil to provide 100 per cent of the farm's energy needs –all from the sun. “In cases where the host water body might contain higher levels of algae than desired, additional auxiliary equipment such as rotating drum filters, can easily be added,” he said. Explaining how the technology works, Warecki, who is based in the US said, “Prime purpose of the airlift is to move high quality pond water through the raceway. If the dissolved oxygen (DO) level of the pond regularly becomes lower than desired, the diffuser membrane of the airlift may be easily changed to a smaller bubble diffuser (Large bubbles move water while small bubbles aerate).

The diffuser customarily used is of medium size and results in both good aeration and water flow.” When asked, how much training is required for the farmers, he said, “Not much training is required. A couple of hours will be adequate to get started. The biggest thing is the instruments, to measure the dissolved oxygen and to keep the water flowing through the raceways. And if the oxygen level in the raceway goes low, they need to clean the raceway. There is about three or four problem areas that farmers need to learn.” When asked about the cost involved in setting up the technology, Dubey said, “It will cost about \$25,000 to \$30,000 for one model of the raceway system.

And it will be installed on the site. We are coming up with the demo model at four cities in India in east, west, south and North India.” Dubey said that it is not costly like RAS system which is around Rs 1.5 crore and requires new infrastructure. Whereas in the raceway we don’t need any new infrastructure as this will be installed in the existing pond. He said that in the one hectare pond, 2 system of the model can be installed. “What we need is good quality water and a depth of eight feet all the time. And if the farmer is an experienced farmer he can get a return of around 20 tonne annually. And if the farmer is an expert then he can get a production of 40 to 50 tonne annually. And this is production per model,” Dubey said. But we recommend to take 20 tonne initially then depending on his experience he can increase the production, he said. He also said that second model will be installed in Maharashtra, which will be based on salt water. Dubey also said that the first model being installed in Jharkhand will be a fresh water model whereas the second model in Maharashtra will be salt water model.

Jharkhand: After Whiplashing West Bengal & Odisha, Cyclone Yaas weakens into deep depression

<https://news.abplive.com/news/india/after-whiplashing-west-bengal-and-odisha-cyclone-yaas-weakens-into-deep-depression-over-jharkhand-10-points-1460374>

"The storm has weakened into a deep depression and one more state which could have been severely impacted by the intense storm will now receive moderate to heavy rainfall on Thursday according to IMD. However, cyclone 'Yaas', which whiplashed the country's eastern coasts, dumping heavy rain and damaging houses and farmlands have severely affected West Bengal and Odisha. While Jharkhand is witnessing such intense effects of cyclone for the first time, Cyclone Yaas uprooted lives in Bengal and Odisha. Both the state CMs took immediate steps for relief operation and centre's planning is helping states to overcome the disaster.

1) West Bengal Chief Minister said one crore people were affected in the state due to cyclone 'Yaas'. One person also died ""accidentally"" when he had gone out fishing, she said. ""West Bengal has been the most affected because we also experienced high tide along with the cyclone

fury. "At least one crore people were impacted, and three lakh houses and 134 embankments damaged," she told reporters at the state secretariat. 2) Cyclone Yaas that barrelled through coastal Odisha triggering damage of varying degrees spared Bhitarkanika National Park and adjoining hamlets in Kendrapara district with its luxuriant mangrove cover acting as a protective barrier against Nature's fury. An official said that the mangrove forest has withstood the wind velocity of the cyclone yet again. The region has witnessed seven major cyclones in the past two decades including Yaas. Each time, the cyclonic storm has not impacted the national park and the nearby human habitations, said Divisional Forest Officer, Rajnagar Mangrove (wildlife) Forest Division, Bikash Ranjan Dash. 3) Odisha chief minister Naveen Pattnaik has announced seven-day relief for all families of 128 marooned villages of Cyclone Yaas-affected districts. All major roads and 80 per cent electricity supply will be restored for commutation in the next 24 hours. 4) The Regional Meteorological Centre has forecast thunderstorm with lightning and light to moderate rainfall in parts of Kolkata, East and West Medinipur districts of West Bengal in the next 1-2 hours from 6 am today. 5) The IMD said that isolated rain with thunderstorms is possible over east Uttar Pradesh, Jammu & Kashmir and Ladakh, Gujarat, Konkan & Goa, Maharashtra, Marathwada, Chhattisgarh, coastal Andhra Pradesh, Telangana, Tamil Nadu, Puducherry, Karaikal and northern interior Karnataka. Scattered rain with thunderstorms is expected over Bihar and southern interior Karnataka. 6) Despite being hit by Cyclone Yaas, the Odisha government has ensured the uninterrupted supply of liquid medical oxygen (LMO) which is required by several states where the cases of Covid-19 are still high. State government officials said that the uninterrupted supply of LMO was due to proper planning by the government. Speaking to IANS, YK Jethwa, ADG Law and Order of Odisha police said, "Advanced planning was done and standard operating procedure was prepared for ensuring unhindered Oxygen movement, while ensuring the safety of oxygen production centres, tankers, drivers and other staff." Jethwa said that each tanker was moved under close supervision and escort of Odisha Police. 7) Rescue operations are still continuing as many trees and electric poles are uprooted after the cyclone hit areas. Teams, which are deployed on the ground, are removing these uprooted trees from the roads to keep communication lines clear. 8) The Indian Army rescued around 700 people marooned at different places in West Bengal's East Midnapore district, which bore the brunt of cyclone 'Yaas', as large tracts of land in coastal areas of the state were inundated in a storm surge, a Defence official said. Stranded people were also rescued from places submerged in the storm surge in South 24 Parganas and Howrah, he said. 9) People of 14 of the 23 districts of West Bengal faced electricity outage due to Cyclone Yaas and many sub-stations are under water following heavy rain induced by the storm on Wednesday, Power Minister Aroop Biswas said. He said he sought a report from the power utilities of the state for loss assessment within 72 hours. "There is waist-level water in many locations. A number of sub-stations are now under water. Loss assessment will be available after ground surveys,"

Biswas said. The state-owned West Bengal State Electricity Distribution Company Limited (WBSEDCL) supplies power to most of the districts. 10) The government on Wednesday said there was the minimal impact of the cyclone on telecom infrastructure and the networks were extensively used to alert people in local languages to reduce damages. Telecom secretary Anshu Prakash told PTI that it was the first time voice messages were used to reach out to people in local languages and alert them about the cyclone Yaas threat. ""This is the first time voice alerts were sent to people in their local language, which should have had an impact. Telecom service providers (TSPs) readily cooperated to offer this facility free of cost. We will add this facility as standard protocol for disaster management,"" Prakash said.

Bihar and Jharkhand: Cyclone Yaas becomes ‘severe’, alert

<https://www.hindustantimes.com/india-news/cyclone-yaas-becomes-severe-alerts-in-bihar-and-jharkhand-10-points-101621908907579.html>

"The states on India's eastern coast are on alert ahead of the landfall of Cyclone Yaas, which has been brewing in the Bay of Bengal. It comes days after another powerful cyclonic storm Tauktae battered the country's western coast and killed at least 140 people. Cyclone Yaas, which intensified into severe cyclonic storm on Monday night, is expected to make landfall between Paradip and Sagar islands (in West Bengal) close to Balasore in Odisha early on Wednesday morning and could pack sustained winds of up to 165 kilometers per hour, according to India Meteorological Department (IMD). The IMD has predicted a tidal surge of 2-4.5 metres during the landfall of Yaas, according to officials.

The massive storm comes as India is battling a second wave of Covid-19, complicating efforts to deal with both. Here are the latest on Cyclone Yaas: 1) The IMD has said that Yaas is likely to intensify into a 'very severe cyclonic storm' before it hits the coast. After crossing the coast on the afternoon of May 26, it will intensify further. The IMD had earlier said that Yaas would make landfall around Wednesday evening, but on Monday, it advanced the time. 2) Disaster relief teams have already been deployed in West Bengal and Odisha, which will face the brunt, and the coastal areas are being evacuated. The air force and navy said they have kept some of helicopters and vessels ready to carry out relief work. 3) In Odisha, the administration evacuated locals from their homes to shelter homes in Jagatsinghpur district. Balasore, Bhadrak, Kendrapara and Jagastinghpur districts have been identified as high-risk zones along with Mayurbhanj and Keonjhar. 4) In West Bengal, the wind speed in Kolkata, Howrah and Hooghly will reach 70 kmph to 80 kmph gusting to 90 kmph on May 26, according to weather department. Coastal areas of North and South 24 Parganas will experience 90 kmph to 100 kmph wind speed, gusting to 120 kmph. Chief minister Mamata Banerjee said that the state

government is targeting to shift at least 10 lakh people to safer places. She added that Yaas' impact is going to be much more than Cyclone Amphan's. 5) Union home minister Amit Shah on Monday reviewed preparations, including evacuation of people in vulnerable coastal areas and safe return of all ships and vessels as well as safety of Covid-19 facilities such as oxygen plants situated in the region. 6) At a video conference held with the chief ministers of Andhra Pradesh, Odisha and West Bengal and the Lieutenant Governor of Andaman and Nicobar Islands, besides officials of concerned ministries, Shah said a 24x7 control room is functioning in the MHA, which can be contacted by them any time for assistance. 7) The storm will lead to intense rain activity in states as far away as Bihar. The Patna Meteorological Centre (PMC) said on Monday that Cyclone Yaas is likely to trigger heavy to extremely heavy rain in the parts of the state in the next two to three days. It has also issued an orange-colour warning for May 27 and 28. 8) Bihar's neighbour Jharkhand has been placed under red alert category by the weather department. The IMD has predicted extreme rainfall in southern and central parts of the state on Wednesday and Thursday. The teams of the National Disaster Response Force (NDRF) have been deputed in East Singhbhum and Ranchi districts. 9) The cyclone will also impact Bangladesh. The authorities there have asked all fishing boats and trawlers over the north Bay of Bengal and the deep sea to move closer to the coast ahead of Yaas. 10) Scientists say cyclones in India are becoming more frequent and changing climate patterns have caused them to become more intense. Last May, nearly 100 people died in Cyclone Amphan, the most powerful storm to hit eastern India in more than a decade. It flattened villages, destroyed farms and left millions without power in eastern India and Bangladesh.

Jharkhand: Set to produce 2.4 lakh metric tons of fish in FY 2020-21

<https://www.dajjiworld.com/news/newsDisplay?newsID=812491>

"Jharkhand has set a target to produce 2.4 lakh metric ton of fish in the current Financial Year 2020-21. For achieving this, the state is encouraging farmers to opt for fish farming and earn higher profits. The Jharkhand government is promoting fish farming and trying to encourage it as a practice among the farmers. In addition to public ponds, fish farming is being practised in privately-owned ponds as well. With the goal of making Jharkhand a leading producer of fish in the country, the state government has set a target of producing 2.65 lakh metric ton of fish during the Financial Year 2021-22. ""In FY 2020-21, the state government has set a target to produce 2.4 lakh metric ton of fish. As compared to this target, by January this year, more than 1.94 lakh metric ton fish has been produced,"" said the Animal Husbandry department. The target of 1,000 crore fish seed production in FY 2020-21 has also been achieved.

Additionally, during 2020-21, the state government created a fish rearing pond on 58 acres of land. In the recently tabled state budget for 2021-22, the government has revised its target in the sector and aims at producing 1,100 crore fish seeds and develop a fish rearing pond utilising 80 acres of land. With support from the state government, the number of fish farmers and fish producers has risen to 7,390. Jharkhand also aims to become a leader in fish seed production in the country. To support fish farmers and promote the occupation, the state government has stored 349.24 lakh major carp and 81 lakh grass carp fish seeds along with 1,44,438 fish spawn. The government is promoting feed-based fisheries to quicken the pace of development for this sector. During the Financial Year 2021-22, the Central government has promised support with fish seeds and provide boats at subsidised rates. The Central government is also providing floating fish seed to the fisheries at a subsidy of 50 per cent to help increase the fish production for more profits.

Jharkhand: Nabard presents credit potential for Jharkhand

<https://www.telegraphindia.com/jharkhand/nabard-presents-credit-potential-for-jharkhand/cid/1801550>

"The Ranchi regional office of National Bank for Agriculture and Rural Development (Nabard) projected a credit potential of Rs 28,643.64 crore for priority sectors of Jharkhand during 2021-22 which was 6 per cent higher than Rs 27,020.81 crore that was projected for the current financial year 2020-21. This was revealed in the state focus paper for 2021-22 released by chief minister Hemant Soren at a state credit seminar organised by Nabard at a Ranchi hotel on Thursday. While Rs 11,183.07 crore that accounts for 39.04 per cent of the total projected credit for priority sectors has been earmarked for agriculture sector, Rs 12,669.20 crore (42.83%) has been suggested for MSME sector in the focus paper.

Of the total amount projected for agriculture sector, Rs 6,908.70 crore accounting for 61.78 per cent has been earmarked for crop loan while Rs 3,382.25 crore (30.24%) suggested for allied agriculture activities and Rs 495.15 crore (4.42%) for agricultural infrastructure and ancillary activities. "Nabard has been playing an important role in giving financial assistance to the state and also advising it but more loans are required to be given to the farmers as low interest loans help them a lot in becoming self-reliant, Soren said after releasing the state focus paper. Citing example of neighbouring Chhattisgarh, he said farmers were given loans worth Rs 7,000 crore in that state during 2019-20, which was much higher than the loans worth Rs 233 crore only given to 65,000 farmers of Jharkhand. "Strengthening rural economy by helping farmers is like strengthening the roots of the society, Soren opined, adding improvement in farmers' economic condition would help securing a sustainable growth. State's finance and planning secretary Himani Pandey stressed on improving investment in dairy and fisheries sectors. "Since Jharkhand was formed in 2000, Nabard has given it financial assistance worth Rs 16,000 crore,

helped build 15,000 km rural roads, irrigate 3 lakh hectares of cultivable land and construct bridges measuring about 1.5 lakh metres, informed Nabard chief general manager A.K. Padhi. As a part of its credit planning function, Nabard has been preparing potential linked credit plans for all the districts of the state in consultation with stakeholders, he further said, adding the basic objective behind the exercise was to map credit potential in different sectors depending on availability of infrastructure and linkages, thrust areas, government policies and strengths and weaknesses of financial institutions.

Jharkhand : 25,000 trained to fish ‘Inland’: how one Jharkhand man created a food revolution

<https://www.thebetterindia.com/227428/inland-fish-earnings-how-to-farming-rural-economy-livelihood-microentrepreneurs-ngo-ang136/>

"According to the Economic Survey of India, about 70 per cent of rural households depend on agriculture for their livelihood. Moreover, about 82 per cent of these farmers are small and marginal. In addition to the glaring inequities, small and marginal farmers are worst hit by weather conditions like droughts, floods, pest attacks, all resulting in low productivity. Neelkanth Mishra identified the strenuous conditions of marginal farmers. A social entrepreneur from Jharkhand, he began interacting with fishing communities while working as a Program Officer with Oxfam from 2006 to 2009. He saw that inland fisheries were an excellent way for farmers to earn a steady source of livelihood. It was a primitive sector, and he saw the opportunity in developing it. For this, he founded the Centre for Aquatic Livelihood- Jaljeevika – a fishery-based non-profit organisation, in 2013. The organisation introduces rural folk to inland fisheries and trains fish farmers in developing cost-effective technology. They also teach them how to manage fisheries to improve production and profitability.

“Through Jaljeevika, we have taught fish farmers how to make fishing tools and equipment with minimum investments, promoted women to take up fish farming, taught them how to produce fish seed, while also helping fisherfolk to become micro-entrepreneurs through value addition and processing of fish. For example, a lot of them have learnt how to process dry fish which they could also be selling, shares the 45-year-old. Jaljeevika has engaged with fish farmers in Jharkhand, Madhya Pradesh, Bihar, Odisha, West Bengal, and Andhra Pradesh, transforming over 1,000+ fisherfolk into microentrepreneurs. Overall, their projects have improved the lives of over 25,000 people in the country, which include over 5,000+ women organised in Self Help Groups (SHGs). Journey from a social worker to a changemaker Neelkanth was born in Jamshedpur, the city famous for its steel industries. Fascinated by the world of numbers, Neelkanth decided to pursue his bachelor's in Mathematics from Banaras Hindu University (BHU) and graduated in 1998.

“During this time, I started reading up and got inclined towards addressing social issues. So, I thought of either pursuing journalism or working in the development sector, recalls Neelkanth. He decided to bring his plan into action by pursuing a Master's degree in Rural Development from Ranchi's Xavier Institute of Social Service. After completing his course in 2000, he joined The Free Legal Aid Committee in Jamshedpur and addressed the problem of ‘witch-hunting’ in Jharkhand and Bihar. He prepared case studies of 150 victims, raised widespread awareness on the issue, and worked with lawyers and individuals to facilitate legal action. In 2001, these efforts bore fruit when the Jharkhand government enforced the Witchcraft Prevention Act. For the next few years, he worked with a few NGOs on issues of tribal rights, human rights, Dalit rights, child rights, helping raise funds, creating awareness and promoting improvement in the lives of minority groups.

However, the most crucial turning point came when he joined Oxfam's office in Lucknow as a Program Officer. This was the first time he was working on a livelihood development programme involving fishing communities based out of Bundelkhand in Madhya Pradesh. “There were three main takeaways from this experience. For inland fishers to be successful, you need to teach farmers how to reduce their production costs. This could be achieved by teaching them how to make fishing equipment and fish feed by themselves. Also, market linkages needed to be established along with promoting the benefits of integrated farming, he says. He immediately realised that this model could be replicated across different parts of the country. To spread the information, he joined Revitalising Rainfed Agriculture (RRA), a network of NGOs from Odisha, Maharashtra, Jharkhand, Madhya Pradesh, and Bihar. “By tapping into this network, we conducted several training workshops with NGO leaders and with people on the ground. I also began guiding pilot projects that began in these states, he says.

After three years of fisheries training and development, Neelkanth saw the need to found a formal organisation that focused on the subject. Thus, in 2013, Jaljeevika was founded and registered as an NGO. Empowering fisherfolk with knowledge and skill “In the initial days, swing, there was resistance from people because many of them had never engaged in fisheries management. The novelty of the concept brought in a lot of scepticism, shares Neelkanth. However, they were certain that the financial benefits from the trade would dissipate all doubts. “To improve the catch, a proper fishing cage is needed. However, this increases the cost for the fisherman as the equipment costs over Rs 2 lakh! We decided that this cage could be made by the fisherfolk using locally-sourced materials like bamboo, nets, wood, he explains. They also gave essential pointers regarding cultivating fish seed or baby fish.

“Fish seed bought from hatcheries was expensive, and in several cases, we noticed that farmers were getting it from West Bengal and Andhra Pradesh. Despite all the money and efforts, the

farmers did not know the quality of the seed, and often they would get dead ones. They also did not know when these should be released in the ponds, the appropriate temperature of the water, or how to ensure a low mortality rate for more production, he states.

Tamil Nadu will take care of people from Jharkhand and AP fishermen'

<https://www.daijiworld.com/news/newsDisplay.aspx?newsID=690415>

"Tamil Nadu Chief Minister K.Palaniswami on Monday assured his Jharkhand counterpart Hemant Soren that the state will take care of the people who are stuck in Vellore. ""We will provide them with food and will take care of them. I will inform our team in CMC (Christian Medical College) Vellore to act on it,"" Palaniswami tweeted replying to Soren's tweet earlier. Earlier Soren had sought Palaniswami's intervention pointing many people from Jharkhand who had gone to CMC Vellore for health treatment got stuck there due to nationwide lockdown and have little means to support themselves. Thirteen people from Jharkhand were stranded in Vellore. They had gone there for treatment at CMC and are living in a lodge at Rs 300/day, tweeted Right to Food Campaign. Palaniswami also assured Telugu actor-turned-politician Pawan Kalyan that the 99 fishermen stuck in Chennai will be taken care of and the concerned department has been informed to act immediately on it. The fisherman from a village in Srikakulam district had gone for fishing and got stuck in Chennai.

Jharkhand: Meet the social entrepreneur who is revolutionising the Indian inland fisheries industry

<https://yourstory.com/socialstory/2019/12/social-entrepreneur-inland-fisheries-farmers>

"For Neelkanth Mishra, inland fisheries always seemed like a viable means of creating livelihood for the 273 million small and landless farmers in India. Born and raised in the industrial town of Jamshedpur in Jharkhand, Neelkanth self-identified as a changemaker from very early on in his life. The ability to empathise with people and their problems, co-create solutions, and build teams has been a constant narrative of his life. Neelkanth recalls that the very first time he engaged in a process of changemaking was at college, where he created a youth club to promote advancements in science and make them accessible to the student body. Seeing the potential Neelkanth's passion to address problems has taken him on a journey with a number of organisations, small and large, where he got to understand and work with systems that were preventing struggling farmers from accessing sustainable livelihood opportunities.

After participating in the Right to Food Movement in 2001, Neelkanth went on join Oxfam, where he saw the untapped potential of the inland fisheries sector as well as the struggles that the associated communities were facing. Realising that there were numerous waterbodies across

India and very limited focus on utilising these for economic opportunities, Neelkanth set out to explore what he could do. With 74 percent of Indian farmers being landless and/or small, most are vulnerable to exploitation by landowners and other middlemen in the supply chain. Realising that control was almost always out of the hands of individuals and communities, Neelkanth's central question of exploration has been, 'How do I give control of resources to farmers and take it away from people that can exploit them?' Gaining a deep understanding "I realised that there were so many water bodies all over the country, but that very few organisations were working on or even looking at fisheries as a livelihood option. People were working on agriculture and livestock, but not this, says the social entrepreneur.

From the point of view of a productive output, the country's inland fisheries continue to constitute a cottage industry, producing 10 folds less than its full potential. Neelkanth realised that the industry was largely fragmented, with no standard code of conduct or policy for the leasing of these waterbodies. Often, those with more power and access to resources are given the responsibility to both lease the lands and sell the output to the market, which leaves the farmers exposed to exploitation. While most fishermen in the industry have the skillset to catch fish, a majority doesn't have the knowledge or expertise to undertake fish farming, which is diverse and complex in methodology. Also, while there are government schemes that mandate agricultural research institutes to extend inputs, knowledge, and training to these communities, the resources often do not reach them, thus leaving them disadvantaged in their livelihood and critical resources underutilised. Building an industry to impact livelihoods Neelkanth established The Center for Aquatic Livelihood (Jaljeevika) with the vision of legitimising the sector and transforming it into one where farmers could access the resources and support they need for a sustainable livelihood.

At the core of this vision is the insight that access to shared aquatic resources needs to be placed in the hands of farming communities, such as cooperatives and women's self-help groups (SHGs). Neelkanth believes that it is important the benefits of this high-potential industry are distributed to the farming communities themselves. Understanding that building trust and highlighting the economic viability of the industry are the most important initial steps, Neelkanth works with newly formed farmer groups to identify water bodies in their local regions that they wish to 'farm'. After identifying these, Neelkanth showcases the economic potential and diversity of output that exist in the entire value chain, from seed production and net making to breed diversity and other value-addition processes. Once the collective groups show interest in engaging in this livelihood opportunity, Neelkanth's organisation works with them to facilitate the short-term lease of the land and provide the necessary training and resources to get started.

These farmer collectives who start to reap the enormous economic benefits through shared resources start to automatically demand access to more knowledge to be able to increase their output and also source out new areas of value addition, such as access to credit and connection to markets. Neelkanth through Jaljeevika, is able to facilitate this process of building institutional capacity, including leadership skill development and conflict management, so that these groups can operate as individual business entities. The farmer collectives also learn how to access existing government schemes for input resources and how to access credit and connect directly to the market, such that they retain control throughout the process. Many of the members of the farming collectives have also started to launch their own micro ventures that facilitate niche value additions, such as fingerlings production or the process of fileting fish. Neelkanth sees this empowerment of communities to be in control of their own destinies as being the most powerful evidence of impact, among the many other small changes that have been brought into their lives.

Influencing large institutions Neelkanth is aware that his organisation cannot potentially provide services and support to all the farmers in the country who could benefit from this initiative.

In order to scale the potential of his model, he is working with existing civil society organisations, state and central governments, and funding agencies to integrate inland fisheries into their programs. He has already seen success through the integration of inland fisheries in the livelihood programs of six Indian states. He has also worked with numerous organisations to include it in their development and livelihood programs. “I realised that one organisation or individual cannot fulfill the full potential that this sector has and that my role was to influence organisations to take it forward, Neelkanth points out. **Changing the lives of small and landless farmers** To date, Jaljeevika has been creating employment for over 5000 people across India every year and, in the process, economically empowered many vulnerable farming communities. In 2019 alone, its impact has reached 18,000 new farmers, who now see inland fishing as a viable means of economic prosperity. On average, individual households are generating an annual income of Rs 45,000, more than they would have otherwise.

For farmers who are applying the best practices, the income exceeds Rs 1 lakh annually. While acknowledging the impact in terms of these numbers, Neelkanth stresses that the economic empowerment leads to an equally important change the social uplift of farmers with self-belief, stronger social cohesion, and fresh opportunities in life. Prime examples of the beneficiaries are the women who are now engaged in inland fishing. Self-organised groups of women in many communities have started generating income for the first time. Traditionally limited to taking care of the household, their opportunity to earn income has resulted in a socio-economic perception shift. Neelkanth's model has thus shown that women are not merely devices for development, but can be active contributors to development as well.

Jharkhand: How fish farming transformed lives of dam displaced people

<https://www.downtoearth.org.in/video/agriculture/watch-how-fishing-helped-jharkhand-farmers-displaced-by-chandil-dam-67653>

"Around 12,000 families lost their livelihood due when the Chandil dam came up in Jharkhand's Saraikela Kharsawan district in the 1980s. Its reservoir on the Subarnarekha river submerged more than 100 villages. The people affected struggled for decades with the Jharkhand government for better rehabilitation and employment. Now they have found an alternative source of income pisciculture. Some of those displaced because of the dam formed a cooperative society in '05 to rear fish in the reservoir. The right to fish in the waterbody that came up on their land was one of the demands of those affected by the project. In the late 2000s, the Jharkhand government focused on developing fisheries as an alternative income source for the state's farmers. The cooperative took the opportunity to benefit from the government's push for commercial fishing in water bodies.

After testing some success the Jharkhand government introduced the cage culture in the state's dam reservoirs to scale up commercial fish production in 2012-13. Cage culture is an intensive fish farming technique in which fish are kept in cubicle-shaped net enclosures. It is ideal for controlled fishing in large waterbodies in which it is otherwise difficult to restrict fish movement. Jharkhand's catch of fish doubled to 208,450 tonnes in 2018-19 from 104,820 tonnes in 2013-14 because of cage culture. There is an annual demand for 200,000 tonnes in the state itself. The state government trains farmers from across the state on various aspects of fish-rearing. To maximise profits, farmers prefer commercial fish such as Pangasius (Basa) for cage culture. The fish take around nine months to reach a weight of around a kilogramme. At times the cultivators sell them even at six months. The Jharkhand government has presented fish farming as a success story, calling it the 'Blue Revolution'. Some 128,000 fish farmers now rear fish in the state's tanks, reservoirs, check dams, and coal pits across two lakh hectares.

Jharkhand: Thousands of fish die due to lack of oxygen in Ranchi

<https://indiatribune.com/thousands-of-fish-die-due-to-lack-of-oxygen-in-ranchi/>

"Thousands of fish have died in a pond here due to lack of oxygen, government officials said on Monday. The dead fish were found floating on the pond on Monday at Line Tank Pond situated in Chadari in Ranchi. Environmentalists say that the immersion of Goddess Durga idols and Deepawali caused the death of the fishes. "Today I visited the Line Tank Pond and found thousands of fishes dead. The fishes were struggling for oxygen for the last few days. The lack of oxygen due to immersion of idols and Deepawali caused the death of the fishes, Nitish Priyadarshi, an environmentalist told IANS. The ponds were not cleaned after the immersion of

the Goddess Durga idols. “The concretization of the pond is also one of the reasons for the lack of oxygen. The Line Tank Pond has been concretized at the peripheries. The natural way of flow of water and oxygen has been restricted which caused the death of the fishes, said Priyadarshi.

Jharkhand: Digital sensors in Jamshedpur fish farms

<https://www.telegraphindia.com/states/jharkhand/digital-sensors-in-jamshedpur-fish-farms/cid/1696187>

The state fisheries department has decided to use digital sensors to monitor water quality of ponds and lakes to try and reduce fish deaths to a minimum. “There are more than 4,000 progressive farmers engaged in intensive fish farming that entails use of controlled production factors like feed, water quality and stocked fingerlings to ensure that the quantity of fish produced per unit of rearing area is large. Gradually, we would like them to install Internet of Things (IoT)-enabled digital sensors in water bodies and monitor the essential parameters required for fish culture on their smart phones,” said fisheries director H. N. Dwiwedi. The Internet of things is the extension of Internet connectivity into physical devices and everyday objects. Embedded with electronics, Internet connectivity, and other forms of hardware, these devices can communicate and interact with others over the Internet, and they can be remotely monitored and controlled.

Jharkhand, which produces over 1.90 lakh MT fish annually, has set itself a target of 2.25MT for 2018-19. Senior officials of the fisheries directorate believe that fish deaths would reduce by over 50 per cent with the use of digital sensors to monitor water quality. The directorate has directed district fisheries officers (DFOs) to invite applications from progressive fish farmers owning ponds for installation of the IoT-enabled digital sensors. They would be provided with such sensors at subsidised rates. “Once fish farmers are able to study the water quality data on their smart phones, they would be able to take immediate remedial steps. Most progressive fish farmers are aware of the dos and don’ts for maintaining water bodies. But due to external factors they are often unaware of the water quality,” the fisheries director said. According to sources in the department, progressive fish farmers of Andhra Pradesh and Kerala are already using digital sensors to monitor water bodies.

“Digital sensors provide real-time data through a mobile app on parameters like dissolved oxygen level, PH level, alkalinity and temperature every five minutes. Alerts are issued on the smart phone of the fish farmer if water quality parameters reach alarming levels,” said a senior official. Dwiwedi said the directorate would be floating tenders to buy digital sensors later in the month. “Each sensor costs around Rs 60,000. The selected agency will have to install the sensors and look after their operation and maintenance for two years. We have directed all district fisheries officers to prepare a list of progressive fish farmers willing to avail of digital sensors which would be provided to them at a highly subsidised rate,” he said, adding that trials of such sensors were on at the Dhurwa fish research centre and the Doranda fish farmers’ training centre. While the state government will bear 90 per cent of the cost of digital sensors, the beneficiary

fish farmers will have to contribute the remaining 10 per cent of the cost. To begin with, each district will be getting a minimum of two and a maximum of four sensors. Hopefully, distribution will begin by September.

Jharkhand: No Job to Rs 1.5 lakh: How 34 Jharkhand youth became an all-India case study

<https://www.thebetterindia.com/159994/jharkhand-unemployment-fish-farming-youth-lakhs/>

Ashrita Horo, who was once unable to arrange food for her family due to extreme poverty is now not just earning a minimum of Rs 1.20 lakh annually but is also providing employment opportunities to other women in her village. Ashrita, a resident of Jalanga, a village in the interiors of Khunti district of Jharkhand was first introduced to aquaculture in 2010. “My husband took me to Ranchi in 2010 to show me around the town, but he made me sit near the gate of Fisheries Training and Research Centre and went to visit the local market,” she said. As Ashrita sat there alone, she noticed people in blue uniforms leaving the building. “I asked the guard and was informed that these were villagers who are being trained in fish culture. I found it fascinating and decided to visit the centre,” she added. Soon Ashrita applied for training in aquaculture and started fish farming in a pond in the village by buying fish spawn on a subsidised rate from the market.

The first year, her income was Rs 55,000 and by the third year, it increased to Rs 1.20 lakh. “My life changed within three years. Now I do not just earn for the entire family, I also send my two children to an English-medium school,” Ashrita said. The success story of Reservoir Fish Farming (RFF) in Salboni, a small village in the Saraikela-Kharsawan district of Jharkhand has become a case study for the fisheries departments of various states. In 2016, as many as 34 unemployed youths of the village got together and started RFF in Chandil Dam. Vibhishan Murmu, who headed the team, said, “The first year, we were able to produce 15 tonnes of fish, which, when sold gave a profit of Rs 50,000 to every member of the group. Over the years, the annual income per head has gone up to Rs 1.5 lakh.” From the production of merely 14,000 metric tonnes of fish in the financial year 2001-02, the State Fisheries Directorate has managed to increase the production to a whopping 1.90 lakh metric tonnes in FY 2017-18.

The various projects, schemes and subsidies offered by the Directorate has not just provided direct and indirect employment opportunities to the unemployed youth of the state but has also led to an increase in the revenue from Rs 132 lakh in FY 2006-07 to Rs 505.98 lakh in FY 2017-18. At present, the Directorate has more than 1,28,000 fishermen enrolled with it, who are involved in various sectors of aquaculture and rear fish in over 1.33 lakh private and government ponds, farm ponds, dams, rivers and tube wells. There are many aspects of aquaculture in which the farmers are involved right from hatchery management to nursery pond management, rearing pond management and composite fish culture management. However, the major projects which

led to the tremendous growth in fish production in the state included cage farming and reservoir fish farming (RFF). Dr H N Dwivedi, Director, Fisheries Directorate, said, “Jharkhand is the first state to adapt cage farming on a large scale. Cage culture started here in 2011 and has grown tremendously since then.” An average cage is of 6x4x4 metres which is 96 cube metres and can stock up to 6,000 fish.

“Thus, the stocking density of a cage is around 50 to 60 fish per metre cube, while in a regular pond, the stocking density is only one or two fish per metre cube,” he added. The cages are fabricated by professional fabricators in dams, and the fish farmers are given a 90% subsidy to get them installed. 3,625 such cages are installed across the state in various dams including Chandil, Kanke, Getalsud, Patratu, Tillaiya, Maithan, Konar, Tenughat, Masanjore and others. Meanwhile, RFF, another project which helps in high fish production has also been widely appreciated. Under this project, groups of local unemployed youth, including both men and women are trained by the Fisheries Directorate. “The process is simple: pockets of ponds and water bodies having narrow necks are separated using nets, and fish are reared in these areas. We support the farmers in erecting nets and provide them training, fish seed and fish feed,” Dwivedi explained.

With the growth in fish production in the state being tremendously high, officers from other states often visit Jharkhand to study the two processes. “Till date, officers from the fisheries department of states such as Maharashtra, Bihar, West Bengal, Telangana, Odisha, Rajasthan, Chhattisgarh, Madhya Pradesh, Himachal Pradesh, Punjab and many others have visited the state to study cage culture and RFF,” the director said. Apart from providing training to the fish farmers, the Directorate also provides subsidies and facilities—from providing fish seeds to boats and cages on subsidised rates, to providing pucca houses for the fishermen. Till date, 16,843 fishermen families across the state have been provided pucca houses while another 2,735 families would be allotted houses by the end of this year. This apart, the fish farmers have also been provided with mobile vans, pushcarts, freezers and other needed equipment on up to 80% subsidy. Randhir Kumar Singh, state agriculture minister, concluded, “The government is dedicated to providing livelihood to as many people through fish farming as possible. We are aiming to increase the fish production to 2.25 lakh metric tonnes by the end of the current financial year.”

Manipur, Madhya Pradesh, Jharkhand, Bihar and Odisha: Training on fish feed underway at CIFA

<https://www.dailypioneer.com/state-editions/bhubaneswar/training-on-fish-feed-underway-at-cifa.html>

A NFDB-sponsored five-day national training on “Recent Trend on Feed and Feeding Strategy for Various Life Stages of Commercially Important Freshwater Fish” from August 21 to 25 at

the ICAR-CIFA here is underway. Inaugurating the programme, ICAR-CIFA Director Dr BR Pillai emphasised the production of cost-effective diet for different life stages of fish by using locally available feed ingredients. She also expressed that in order to increase the present fish production of 3.0 tons/ha to 6.0 tons/ha, supplementary feed is essentially required. She had advocated for the sustainable and eco-friendly aquaculture. Course Director Dr KN Mohanta opined that for doubling the income of fish farmer, the input optimisation is the need of hour.

He also spoke about the different feeding strategies to be followed to reduce production cost and increase the profit margin. Programme Coordinator Dr KC Das gave the outline of the training program and ICAR-CIFA Principal Scientist Dr SC Rath offered a vote of thanks. Fisheries Department officials from the Government of Manipur, Madhya Pradesh, Jharkhand, Bihar and Odisha and Officers from the other Central Governments, entrepreneurs, progressive fish farmers and the trainers from the Aqua Field School (AFS) participated.

Assam, Jharkhand and Odisha: FISHCOPFED to set up Aqua Centres in states

<http://www.indiancooperative.com/fishcofed/fishcopfed-to-set-up-aqua-centres-in-states/>

FISHCOPFED has signed an MOU with the National Fisheries Development Board (NFDB), Hyderabad to set up initially 16 Aqua One Centers in the state of Assam, Jharkhand and Odisha. On success it shall be replicated in other states of the country. In all six firms have been shortlisted in the country including FISHCOPFED from the cooperative sector whereas the others are from the private sector. Each AOC shall provide ICT enabled aquaculture support services besides all other related services under one roof to the registered fish farmers with an aim to transfer latest technology to enhance fish production and focus on e-traceability. It is an improved modified concept to empower potential fish farmers.

Funding support to the extent of 80% shall be provided for NE states and 50% for other states shall be applicable to FISHCOPFED. The federation which has already opened up eight offices in the country shall coordinate with its member institutions and the concerned state Fisheries Dept to make it a success, said Fishcopfed MD B K Mishra. Earlier, Fishcopfed got into the spotlight with convergence of Group Accident Insurance Scheme with Pradhan Mantri Suraksha Bima Yozana (PMSBY) to be implemented through the cooperative for the fishery sector. The FISHCOPFED has been identified as the nodal agency by the Govt. of India to implement the Scheme for the fisheries sector.

Jharkhand: A fishy story of Getalsud grave

<https://www.telegraphindia.com/states/jharkhand/a-fishy-story-of-getalsud-grave-238579>

The district fisheries department and Jharkhand State Pollution Control Board (JSPCB) are blamestorming over 300 fish dying a sudden death at the 700-acre Getalsud Dam, 30km from

here. While the JSPCB, after a recce of the reservoir on Sunday, has claimed that there is nothing wrong with the water except for it being highly alkaline in a few places, the fisheries department on Monday shot a letter to steel wire manufacturing unit Usha Martin asking it to re-examine its effluent discharge system. "We have written to the company, seeking preventive measures at discharge point. A copy of the letter has been forwarded to the deputy commissioner's office because he has the authority to take punitive action," district fisheries officer Manoj Thakur said. Member-secretary of JSPCB Rajiv Lochan Bakshi, on the other hand, insisted that the fish might have succumbed to some endemic infection that had nothing to do with the quality of water. "Since the fishermen's co-op alleged that the steel wire manufacturing unit was polluting the dam, we had collected samples from the outfall and other places.

At the outfall, the pH is highly alkaline at 12.5, but in other places it is normal," Bakshi said. The pollution watchdog said results of a few other tests such as turbidity was expected in two-three days. "On the basis of scientific studies, there is absolutely no issue with the water quality of Getalsud Dam. Once the full report arrives, it will be shared," Bakshi stressed. "In fact, there seemed to be wounds on the gills, which the fisheries department needs to probe. Death could be due to some infection/disease. We don't know," he added. R.N. Kashyap, a pollution analyst and JSPCB regional officer, seconded Thakur. "Dissolved oxygen (3-5mg/l), pH value (6.5-8.5), biochemical oxygen demand (3mg/l), total dissolved solid (1,500mg/l), et al, are within range not just at Getalsud, but also other dams like Kanke and Hatia," he said. Fisheries officer Thakur refused to buy that all is well.

"The pH of Getalsud is as high as 12.5. The water is high on contaminants that are detrimental to fish health. We shall conduct our own studies once we get a formal report from JSPCB," he said. According to experts, extreme pH can kill adult fish and invertebrates directly. It can also damage developing juvenile fish. Alkaline water is known to strip a fish of its slime coat. High pH level chaps the skin. When the pH of freshwater rises beyond 9.6, the effects on fish may include death, damage to gills, eyes or skin and inability to dispose of metabolic wastes. High pH may also increase the toxicity of other substances. For instance, the toxicity of ammonia is 10 times more severe at a pH of 8 than it is at pH 7. It is directly toxic to aquatic life when it appears in alkaline conditions. Low concentrations of ammonia are generally permitted for discharge.

Jharkhand: Over 3000 fish die of filth in dam

<https://www.telegraphindia.com/states/jharkhand/over-3000-fish-die-of-filth-in-dam-238216>

Around 30 quintal of adult fish were found dead at Getalsud dam, some 30km away from capital limits in Angara block on Saturday, the needle of suspicion falling on industrial units in close proximity to the dam. Fishermen, who informed the state fisheries department of the occurrence, alleged any one of the industries nearby had released untreated effluents in the dam. Speaking to this paper, Bhola Mahto, secretary of Getalsud Matsya Sahog Samiti Limited, a cooperative of

local fishermen who are patronised by state fisheries department, said they had spotted thousands of adult fish carcasses floating on the water body on Saturday and in lesser numbers on Friday. "Yesterday (Friday), we spotted some, but today (Saturday) it was no less than 3,000 kilos (30 quintal) of dead fish floating downstream at Getalsud's Angara side.

I'd say each fish would weigh between 1 and 1.5 kilo. Something is drastically wrong," he said.. Mahto added, "There are quite a few companies (industrial units) on other side of the dam. Someone must have silently discharged their chemicals/untreated wastes into Getalsud waters. The incident requires deep probe and strict punitive action," he demanded, adding that they had informed officials of state fisheries department on Saturday morning itself requesting immediate spot inspections. Mahto said their samiti alone had around 100 fishermen as members. Directly and indirectly close to 5,000 people are dependent on fishing at Getalsud as their lone source of livelihood. "Very few families have land here. Most people fish. So, if the dam water gets polluted and fish die, our families go hungry. Water pollution directly hits our stomachs," he stressed. Ashish Kumar, deputy director of state fisheries department, confirmed having received the information from fishermen.

He said, "I am not exactly sure which company polluted the dam but this is cause for serious concern. We shall soon send a team for inspection and alert pollution board officials." Member secretary of Jharkhand State Pollution Control Board Rajiv Lochan Bakshi said they would take strict action against erring companies if any was found guilty of polluting the water body. "I haven't officially received any complaint but let me assure you that we are highly sensitive towards water pollution in Getalsud dam. We want industries to follow a policy of zero discharge of untreated water. In the past too we had closed down few firms found guilty of polluting the dam.

We will inspect the industries and will close down the unit or units till they establish functional effluent treatment plans," he said. On the eve of World Environment Day, June 5, fish had died in droves at Ranchi Lake or Bada Talab, with conservationists blaming pollution. Ravindra Kumar Sinha, the VC of Nalanda Open University and a noted environmentalist dubbed Dolphin Man who was in Ranchi then, had told the paper that severe water pollution led to fish deaths. "The required DO level for fish to survive is 5ml per litre. Though some species can survive low oxygen levels, usually fish die when pollution depletes required oxygen," he had said.

Jharkhand: Net some fun with Jhascofish tours

<https://www.telegraphindia.com/states/jharkhand/net-some-fun-with-jhascofish-tours-236607>

Jharkhand State Co-operative Fisheries Federation Ltd, also known as Jhascofish, is planning to launch "matsya avlokan sair" or guided fish tours at its training centre at Shalimar in Dhurwa to make people, especially students, researchers and entrepreneurs, aware of the state's richness in this sector. Besides facilitating leisurely strolls around fish ponds, the programme aims to inform

people about various schemes undertaken by the state fisheries department to promote fishery. Those interested can enjoy the 35-40 minute guided tours for free on all days except Sundays. The tours will be conducted twice a day at 10am and 2pm. Jhascofish CEO Manoj Thakur said he was planning to introduce the facility by the end of this month. "State agriculture, fisheries and animal husbandry department secretary Puja Singhal is currently on leave.

We are waiting for her to return to get the proposal cleared formally. In all likelihood, we will start it from the last week of June," Thakur said. Thakur said he got the idea during his visit to Chandigarh where capital complex walks were conducted. They take you on guided tours to high court building complex, secretariats and world heritage sites. The walks are fairly interesting. I thought why not fish parks?" he said, adding that the training centre at Shalimar comprises a host of ponds breeding numerous varieties of fish, hatcheries and fish seed factories. On what one can expect in these tours, he said they would begin with a 10-minute audio-visual presentation on what fishery is all about, the initiatives undertaken and new innovations introduced by the state.

"People will also be taken to the breeding centres for live demonstrations, hatcheries, cage culture section and the feed plant. There will also be an exhibition of various fish products from where people can buy if they wish to," he said. According to Thakur, farmers from various states are coming to Jharkhand to learn new techniques in fishery but local people aren't much aware about good work undertaken by the fisheries department. "Such exposure trips can motivate someone to take up fishery as their career or launch their own start-ups here," he added.

Jharkhand: Bamboo bar for fish theft

<https://www.telegraphindia.com/states/jharkhand/bamboo-bar-for-fish-theft-233708>

Tired of rampant theft of fish from the iconic Jayanti Sarovar lake in Jubilee Park here, Jamshedpur Angling Club (JAC) has decided to install a bamboo mesh about a feet deep under water to foil 'fishy' attempts. The club, which was established in 1947 and oversees fishing activities at Jayanti Sarovar, Beldih Lake and Bara Lake, decided to use this contraption in the hope that the arrangement would prevent fishing nets and hooks making it to the depth of the lake and thus foil unauthorised fishing attempts. "We had started night vigil last year while our members regularly watch out for youths trying to steal fish. However, it is not possible to keep a round-the-clock vigil. Thieves place baits (on fishing hooks) and nets at different points and pick them up later with their catch. We have now decided to place the arrangement nearly a feet below the water surface which will prevent nets or hooks to reach the depth of the lake. This should prevent theft of fishes," said JAC general secretary Aftab Khan.

On Wednesday the first such mesh was placed in the lake near the inlet at the Old Court end (Garamnullah Sakchi side). "This is the point from where we recover the maximum number of nets and rods as the miscreants sneak in easily by climbing past the Old Court wall and escape with their loot. So we have placed the mesh here on a pilot basis and gradually we will put these

at other outlets and inlets (around four) which are used by the thieves," said Khan. Incidentally, JAC had released 2.5 lakh fries in 2017. The lake has a rich stock of rohu, catla, catfish along with other varieties of fish, many of which are stolen and sold by thieves in the open market. The club had formed groups of 10 volunteers for night vigil last year to prevent the pilferage. But the thieves find their opportunity by banking on occasional shortage of volunteers or their absence. "Besides our volunteers, Jusco security men also keep vigil. But the thieves find their gaps and get away with the loot. They prefer the outlets and inlets ," said a JAC member.

Jharkhand: Fear of dead fish haunts steel city lake again

<https://www.telegraphindia.com/states/jharkhand/fear-of-dead-fish-haunts-steel-city-lake-again-226702>

Angling club members and conservationists fear a re-run of what has been a regular occurrence at Jayanti Sarovar here for the last few summers: hundreds of dead fish floating amid those that are alive and gasping for breath. The reasons behind this heart-rending calamity, silt deposits leading to depletion in the water level of lake and oily pollutants near the shallow parts, are as valid this summer as it was in the last four years during April-May, when temperatures shot up above 40°C and there were storms at night. No wonder conservationists have already started to air their concern. "It is April-end and the temperature has not shot up above 40°C," said K.K. Sharma, a conservationist and former zoology head of Jamshedpur Cooperative College. But he warned that if the temperature rose above 40°C, as it was usual in May, and there was a sudden late evening downpour, then there could be a rerun of the tragic occurrence reported by morning walkers who spotted dead fish floating in the lake and people diving in to catch the dying fish that were gasping for breath.

"The depth of the lake has decreased drastically due to silt. One can clearly see oily pollutants floating near inlets. It is time Jusco and Jamshedpur Angling Club take up desperate measures," Kumar, a morning walker, said. He explained why the fish die. "Shallow water gets hot and when there is a sudden change in temperature due to showers, it affects oxygen content leading to the death of fish. The lake is so shallow that egrets walk on the surface while hunting for fish." Aftab Khan, general secretary of Jamshedpur Angling Club that coordinates fishing activity at the lake, admitted silt deposits and pollution were major problems but added damage control had begun. "The lake has to be de-silted since such an exercise has not taken place for years. Soak pits aren't serving the purpose as we spot plastic and other forms of garbage accumulating in the lake. We have tried to increase water level by letting in water from the outlet near Tata zoo," he said.

Khan revealed that they had procured 40kg of toximar - it neutralises toxic binder for aquatic bodies -that is to be sprayed in the lake when temperatures rise. The club has constituted a night committee that will swing into action whenever temperatures cross 40°C and there is possibility

of rain in the evening. The club general secretary said toximar would help maintain oxygen balance. They had already pumped 22 quintals of lime and potassium permanganate, he said. Jusco's horticulture department has started operating four lake fountains regularly to increase oxygen saturation in water. "Our staff are regularly cleaning the lake. We will take steps to prevent oily pollutants," said Jusco spokesperson Rajesh Rajan.

Jharkhand: Fillip for fish farming

<https://www.telegraphindia.com/states/jharkhand/fillip-for-fish-farming-225959>

The state government is working to make fish farming an effective means of supplementing farmers' income. World Bank-assisted Jharkhand Opportunities for Harnessing Rural Growth (Johar) - which functions under the aegis of Jharkhand State Livelihood Promotion Society (JSLPS) - signed an MoU with state fisheries department on Wednesday to facilitate increase in fish production, supply of quality seeds, use of cage culture and boost fish marketing. JSLPS is an initiative of state's rural development department. The MoU was signed by JSLPS chief executive Paritosh Upadhyay and director of fisheries H.N. Dwivedi.

"This scheme will initially be implemented across 46 blocks in 13 districts where over 34,500 farmers will be encouraged to get involved in fish farming to augment production income," Dwivedi said. Fish production in the state, which currently stands at 1.90 lakh metric tonnes per year, will be increased to 2.25 lakh metric tonnes through farming in private ponds and dobhas. The fisheries directorate will train farmers and supply quality seeds and feed. Rural women will also be encouraged to form groups or sakhi mandals to take part in this venture.

Jharkhand and Tamil Nadu: Jharkhand and Tamil Nadu govts. show interest in city's fish vending machine

<http://www.thehindu.com/news/cities/Mangalore/Jharkhand-and-Tamil-Nadu-govts.-show-interest-in-city%E2%80%99s-fish-vending-machine/article17056845.ece>

Even as the governments of Jharkhand and Tamil Nadu have taken the lead in providing fish vendors fish vending machines developed by Mangaluru-based College of Fisheries, the State government is yet to take a decision to provide the machines to vendors here. The 3-ft wide vending machine which is priced around Rs. 25,000 helps in better display of fish, and also ensures its hygienic preservation. It was developed by the college's Department of Fish Processing Technology in 2012. In the same year, a presentation was made before Jharkhand officials in Ranchi. A senior official from the Fisheries Department of Jharkhand came to the city last year to see the machine and other articles displayed during the Matsyamela. C.V. Raju, Professor and Head of Department Fish Processing Technology, told reporters on the sidelines of

a training programme here on Wednesday that the Jharkhand government made some modifications to the vending machine and is now providing it to fish sellers. The Tamil Nadu government too has shown interest in the machine, he said.

[Earlier, the three-day training programme on preparation of dishes from fish for anganwadi workers and fisher-women organised by the College of Fisheries was inaugurated. Mr. Raju was among the resource persons for the training programme.] Mr. Raju said that a proposal was made to the then Fisheries Minister K. Abhyachandra Jain to subsidise the cost and provide the vending machines to fishermen at Rs. 5,000 each. “We are still waiting for the government’s decision,” he said. Features This vending machine has a capacity to stock 100 kg of fish in three stainless steel containers. Ice is put in a compartment for preserving fish. There is space for cleaning fish and also stocking waste. “We have provided space to keep drinking water bottle, purse and other material of the fish sellers,” Mr. Raju said and added that these machines will be of good use in fish markets that are developed. Lakshmesha, a scientist on post-harvest technology of the college, said that they are making further changes to the machine, including adopting solar power for cooling. “By this, we can avoid use of ice and reduce carbon footprint,” Mr. Lakshmesha said. They are in the final stages of coming out with a modified fish vending machine, he added.

Jharkhand: Demonetisation Decimates Ranchi’s Economy

Ranchi survey To get a clearer picture of the extent of the damage, not restricted to a single sector, we conducted a quick survey of traders, shop-keepers and street vendors in Ranchi, Jharkhand. The survey covered seven different locations, spread across the city and its outskirts. In each location, we interviewed a sample of traders and vendors, aiming at a fair representation of the main businesses in the area. We did this precisely one month after “D Day” (November 8, when Rs 500 and 1,000 currency notes were retired), and interviewed 85 respondents. We asked the respondents to evaluate the percentage decline in their earnings during the month that followed demonetisation, compared with earlier months. Most of them had no difficulty in answering the question.

The results are presented in the table below. Post-demonetisation Decline in Economic Activity (85 shops/vendors/traders in Ranchi) Nature of business and Self-reported decline in earnings (%) Labour contractors (2), fruit seller, tailor 81-100 Chicken shops (2), gift corner, tent house, welding shop, hardware, mobile shop, utensils, crockery shop, garments shop, shoe shop, electrical appliances, flower seller, cobbler 61-80 Garments shop (3), tailors (2), carpenters (2), welding shops (2), mobile shops (2), hardware (2), cycle-rickshaw puller (2), grocery shops (2), mutton shops (2), fruit sellers (3), dry fruits, sugarcane juice, egg rolls, watch shop, electrical appliances, fish shop, crockery shop, garage, stationary, labour contractor 41-60 Bicycles shops (2), garments shops (2), pan shop, snacks seller, golgappa, pan gumti, grocery shop, watch shop, optician, stationery, egg rolls, fruit seller, mobile shop, hardware, garage, 21-40 Crockery shops

(2), shoe shop, fruit seller, dhaba, stationary, cobbler, garage 1-20 Newspaper hawker, autowalla, bookshop, chicken shop, hardware, barber, cosmetics, khaineeb, private vehicle transport(b) 0 a Numbers in brackets indicate cases of multiple observations. b Minor increase in earnings.

As the table indicates, almost all the sample trades have been adversely affected. The unweighted average of the reported declines in earnings is as high as 46%. In other words, the level of business activity in Ranchi is barely half of what it used to be. We also asked the respondents how much time they had spent in bank or ATM queues during the preceding month. The average comes to 13 hours (11 hours at the bank and 2 hours at the ATM). Some traders claimed to have spent 30 to 40 hours at the bank since November 8. Personal experiences One respondent pointed out that the picture would look even worse if one were to compare earnings with the same month last year rather than with the months preceding demonetisation, because this is supposed to be a time of peak business activity in Ranchi, with the marriage season in full swing. Several respondents said that they had never seen this kind of slump in decades of trading. One of them, a fruit seller, was on the verge of tears as he explained how his business had come to a virtual standstill. Another fruit seller mentioned that he had been hit by 17 cancellations of marriage orders in a single month. Two lucky respondents reported marginal increases in earnings post-demonetisation. One was selling khaini (chewing tobacco); he said that sales had increased because many labourers were unemployed.

The other one was renting private vehicles; he said that he had done well because petrol pumps were accepting old notes, making it attractive for some people to use his services. One enthusiastic supporter of Narendra Modi tried to dissuade us from doing the survey, arguing that there was no need for it. “Of course,” he said, “business is down. But not by more than 40 to 45%”. That was a fairly accurate prediction of the survey findings. Outlook This economic recession is not difficult to understand. Ranchi’s informal economy is largely cash-driven. When a large part of the local population is strapped for cash, business is bound to suffer. People spend sparingly, postponing what can be postponed (for instance, purchases of durables) in the hope that the situation will ease relatively soon. Overcoming this recession, however, is likely to take time.

The liquidity problem may ease relatively soon, as the economy is remonetised. But the problem is not just a lack of currency notes – it is also a lack of purchasing power, reflecting the adverse effect of the recession on employment and incomes. It may take some time to break this vicious cycle of low sales, low employment, low earnings and low purchasing power. Many respondents, indeed, mentioned that they had laid off workers or assistants during the preceding month, due to low sales. Labour contractors confirmed that the demand for casual labour had sharply dipped after demonetisation. Ranchi may or may not be representative of India’s urban economy, but judging from the recent stream of media reports on demonetisation, the situation is likely to be similar elsewhere. The rural sector, too, is clearly going through a serious crisis. Seen in this light, the impact of demonetisation on economic growth may well be much greater than the

initial estimates suggest. But more importantly, this economic crisis is inflicting intolerable hardship on people who live on the margins of subsistence in the first place.

Jharkhand: Jharkhand to get new fish hatcheries next year

<http://timesofindia.indiatimes.com/city/ranchi/jharkhand-to-get-new-fish-hatcheries-next-year/articleshow/56047111.cms>

At least 325 crore fish seeds will be accumulated in the state by September 2017, making the state self-dependent in fish seed storage, chief secretary Rajbala Verma said on Saturday. In a meeting with the fisheries directorate, Verma directed officials to complete the construction work of 65 hatcheries by January 10. Verma said, "120 new hatcheries will be constructed in the next financial year. For this, agencies managing the existing hatcheries need to be trained so that they can contribute to the construction of more hatcheries." A total of 50 fish entrepreneurs, two from each district, will be identified based on their interest in fish breeding. The entrepreneurs will also be provided with deep fridge vans, on subsidized rates, along with fish credit card which will help them grow their business.

Verma also ordered officials to train sakhi mandals on how to make fishnets so that it can be manufactured in the micro-industry. This way, the state can produce its own nets instead of depending on other states. During the meet, fisheries directorate officials also informed the chief secretary that 775 projects of fiver fish farming (RFF) have been sanctioned this year, the work for which has already begun. Verma directed them to identify 1,000 more RFF projects in the next financial year to increase production. Verma was also informed that fish farming is successfully being carried in 76% dobhas constructed across the state.

Jharkhand: Crop insurance scheme a quantum jump for state

<http://timesofindia.indiatimes.com/city/ranchi/Crop-insurance-scheme-a-quantum-jump-for-state/articleshow/54554944.cms>

Union agriculture minister Radha Mohan Singh on Tuesday praised chief minister Raghubar Das for covering more than 8.5 lakh farmers under the Pradhanmantri Fasal Bima Yojana (PMFBY). Singh, who was in Ranchi's Birsa Agricultural University (BAU) to conduct a review meeting of the state's agriculture, fisheries and dairy departments, complimented Das for registering a 'quantum jump' under the crop insurance scheme launched last year. "The number of farmers brought under the PM Fasal Bima Yojana last year was 5.47 lakhs. Over 8.5 lakh farmers have been covered this year. This is a quantum jump," Singh told media personnel after the meeting. "The Raghubar Das government in Jharkhand has ignored the burden on the state exchequer to cover crop losses due to natural disasters. This was a much sought relief for farmers," he added.

The review meeting, which lasted for a little over two hours at BAU's Senate Hall, was attended by scientists, extension officers, researchers from the Indian Council of Agricultural Research (ICAR) along with state agriculture minister Randhir Kumar Singh. The minister observed that Jharkhand has made a 'rapid progress' on all fronts in the agriculture sector. "A total of 560 seed villages have been set up throughout Jharkhand which are expected to produce 3.7 lakh seeds for distribution for the sowing of kharif crops." Singh praised Jharkhand's efforts in fisheries, too. "The state has also become near self-sufficient in fish production. Over 90% of its needs are being fulfilled internally, thus reducing the dependence on southern states," Singh added. He stressed that Jharkhand is becoming a model for fish production. Singh added that the government's decision to construct one lakh dobhas (farm ponds) will assist fish and farm production in future.

Jharkhand: Dobhas to double up as 'fisheries', fisheries department targets 1.2 lakh dobhas, say officials

<http://indianexpress.com/article/india/india-news-india/jharkhand-dobhas-to-double-up-as-fisheries-fisheries-dept-targets-1-2-lakh-dobhas-say-officials/>

The fisheries department will help setting up small fishery units in dobhas (small farm ponds) that were dug up in lakhs across the state during the summer season, following acute water crisis. Officials said that the exercise for developing these has already begun and, currently, the target is over 1.2 lakh dobhas. "As of now, the seeding process has been completed in around 33,000 dobhas across the state. The work is going on fast and the number would increase further," said Director (Fisheries), Rajeev Kumar. These would be in addition of over 16,000 government ponds for fisheries and over 1.16 lakh private ponds that exist around the state, officials said. "We wanted that the beneficiaries of dobhas could do well by augmenting their income by using these water bodies for rearing fishes. However, with the dobhas dug up and good rain filling them up, it is the beneficiaries, who want it all the more," said Kumar.

He added that the department was only helping them understand the basics of the process. "We are only organising training programmes at Block level to the beneficiaries. The seeding and any related expenditure is being handled by the beneficiaries themselves," said the officer. More than 5,000 volunteers, called 'matsya mitras' in the rural areas have been deployed to help the beneficiaries start the process and also educate them on how and where to sell the fish. As of now, the list of dobhas, where the applicants have applied for development of fisheries, is around 1.2 lakh. The total number of dobhas is in excess of 2.5 lakhs. The overall target for the year is around 5 lakh dobhas, the work on which will resume after the monsoon season is over. The target is cover to all the 1.2 lakh dobhas by the end of this month, said officials. Earlier, the state government had launched programmes in mission mode to dig up dobhas on farm lands across the state to meet with the water crisis arising out of lack of rain for the past two years and

excessive heat. The monsoon season this year has been satisfactory so far. The dobhas had also earned infamy to some extent with children getting drowned in the same.

Jharkhand: Jharkhand's own Amul model

<http://www.downtoearth.org.in/blog/jharkhand-s-own-amul-model-55103>

In India, change is by its very nature slow. But when nature is bringing a change, it is rapid and shattering. Indians are used to going from one cycle of devastation, caused by droughts, to another, brought on by floods. But each year, these cycles are getting longer and the space between the two shorter. While the droughts are becoming more pervasive, floods are coming faster and with even more deadly impact. Just think. Till the end of June, large parts of the country were under drought. Now the same regions are submerged. The spectres of drought and flood seem enjoined. At any time we seem to be in the grip of one crisis or another. Both take lives, and most importantly, shred the development dividend to bits by destroying assets and livelihoods. If any government succeeds in taking people out of desperate poverty, then one such event shoves them back again. It thus makes rebuilding, not growth, the basic task. We are just not getting our water management right. In this age of climate change, rain will be more variable and more extreme.

We know that, therefore, we need to plan for both the scarcity and the plenty of water. This means doing all we know that has to be done to protect waterbodies and provide drainage, but with great deliberateness. But for all the big talk our waterbodies are dying. They are choked with filth or filled with earth to make land. How, then, should we protect these against all odds? My trip to Jharkhand to see the work of the government, not on water but on fisheries, showed me what is possible. It brings me hope. This government programme called Matsya Mitra has nothing to do with waterbodies. It is about training people to rear fish and, thus, provide them employment and some income. But its potential is enormous as I found during my travel to villages. A village pond is now a source of income. People benefit from its protection. The objective of the programme, as explained to me by its director Rajiv Kumar, is to improve the productivity of fisheries.

This time, in addition to using reservoirs, the department decided to do fish rearing in its many village ponds. This decentralised water needed decentralised management. People had to do this, so the government decided to impart training on how to stock and rear fish. In the training centre I visited, I met women, illiterate but resource-smart. They were all learning spawning and marketing methods. Some women I met were even cultivating expensive aquarium fish in their houses. I asked them how they would sell the fish. They had it all planned. The government was also helping them by providing loans for small vehicles that would ferry this perishable item to the nearest market. It was working. As a result of this initiative, the state's fish production has doubled since the mid-2000. When I visited the state in 2015, it had over 88,000 trained fishers

enrolled in this programme and some 3,600 matsya mitras—the cadre of voluntary “friends of fish” who have been trained by the fisheries department and provide services to the community to improve ponds’ fish productivity.

But what really excited me was the potential of this venture. Fish production was possible only if the waterbody were protected. In fact, the first thing the fisheries department did was to physically survey the ponds, tanks and watershed structures in Jharkhand. It found that the state had some 100,000 tanks, covering more than 55,000 hectares. Each village was mapped for its waterbody. An interesting observation was that some 80 per cent of the waterbodies were privately owned. But they were found to be poorly maintained, getting filled with mud and garbage. This changed when the tanks became production centres. The fishers I met told me they earned Rs 50,000 at the minimum from a small tank of less than half a hectare. This income could go up to over a few lakh rupees annually. So they have an economic interest in protecting the waterbody. In most cases, I learnt that the people trained in fisheries would lease the tank from the owner. If the tank was owned by the community, cooperatives were formed, with rules to return part of the income to the community.

The key to the success of this venture lies in improving the productivity of small natural resource assets. It requires careful planning to ensure that skills are imparted and marketing support is provided. In this way livelihoods are secured. This Amul-type fisheries model, where small producers engage in a large-scale economic activity, is an important model in the development laboratory of India. It provides employment, but also water security. The network of rejuvenated tanks will mitigate against both floods and drought. So this model needs to be promoted, nurtured and scaled up. This is also exactly what adaptation to climate change will mean in our weather-uncertain future. This is the lesson of Jharkhand’s fishers.

Jharkhand: Net profit

<http://www.downtoearth.org.in/news/net-profit-52597>

AFFLUENCE IS not a word one would normally associate with Jharkhand’s Jamukhadi village, which falls in one of India’s 250 most backward districts. But almost all the houses in the village have TV sets, computers and motorbikes. “There were only a few pucca (brick) houses in our village till 2000 when the state was created. Today, 80 per cent of the houses are pucca,” says Rameshwar Paswan, a proud resident of the village in Koderma district. He also owns a truck and two pokland machines that he bought with friends for soil excavation. Paswan’s story depicts the meteoric growth the village has witnessed in the recent past. Till 2013, he was a labourer who would occasionally catch fish from the Tilaiya dam reservoir in Koderma district.

“Today, I do commercial fishing in the dam and earn over Rs 16 lakh a year,” says he. Like Paswan, more than 88,000 people across the state are reaping profits through aquaculture. And this has been possible because of the state government’s decision to popularise commercial

fishing. Starting 2007, the state fisheries department has launched a series of initiatives to attract individuals and communities with water bodies to aquaculture. The decision was taken because the state, which has a huge fish-eating population, imported bulk of its fish from Andhra Pradesh and other states. “Over 70 per cent of the state’s population eats fish. So we thought of popularising fishing in the state,” says Rajiv Kumar, director, Jharkhand fisheries department. The impact of the initiatives is visible. Jharkhand doubled its fish production to 106,430 tonnes between 2006-07 and 2014-15 (see ‘Scaling up’). It is expected to reach 120,000 by 2016. The state has also increased its capacity of fish seed production, which is in shortage in the country. Jharkhand doubled its fish seed industry to Rs 110-crore between 2007 and 2015.

Growing with the people “Involving local communities is one of the primary reasons behind the success,” says Kumar. He adds that Jharkhand, unlike neighbouring Bihar and West Bengal, has limited water bodies. And most of them are either privately owned or managed by communities; 85 per cent of the water tanks are privately owned. With this in mind, the state launched the Matsya Mitra initiative in 2007 which invites village residents to join hands with the fisheries department and promote aquaculture. For aquaculture, it is necessary to know the pH scale and content of organic carbon in the pond water and the soil in the surrounding area. The initiative members, called Matsya Mitras, collect these vital information, and in case of an anomaly, instruct farmers to solve the problem. The state has over 3,600 Matsya Mitras who are now helping district fisheries officers in resource assessment, documentation of farming practices and in sourcing of support services. “They have also helped in identification of coal pits, small ponds and wells that are not being used for fish farming. Aquaculture activities have been started in several tanks because of the scheme,” says Kumar.

Nicolas Bando, Matsya Mitra from Sonse village in Chatara district, says he has sent at least 70 village residents to Ranchi for training. He earned around Rs 5 lakh in 2015 from selling seeds that he started rearing in 2014 after seeing a huge demand. Bando has now completely shifted to fish rearing in his four-hectare land that was earlier used for paddy. While the Matsya Mitra scheme is for individuals, the state government has also started initiatives to involve communities in aquaculture. Officials say the initiative is aimed at community water bodies that are largely neglected because there is no sense of ownership. Under this, the government encourages residents to form a cooperative and do collective fishing. The government provides these cooperatives technical guidance and support in terms of vehicles to transport fish to the local market.

According to state government data, 393 cooperative societies are engaged in fishing. One of the recent examples of this is the abandoned Bundu dam in Ranchi district. The 4.5-ha reservoir, which was completely covered with grass till November 2015, is today being used to commercially grow fish (see ‘Jharkhand’s blue revolution’). Encouraged by the success, Jharkhand government started the cage culture initiative in 2013 that involved communities around dams in aquaculture. The initiative has been implemented to take up water

bodies that are traditionally not used for aquaculture. Under the initiative, small portions of a dam reservoir are allotted to individuals, such as Paswan, who grow fish in the cages submerged in the reservoirs. The cages are covered on all sides with nets that do not decompose in water. The state has over 3,000 cages in different reservoirs (see 'Big catch'). "Normally, an individual is given four small cages, together called a battery.

The reason big water bodies such as reservoirs are not used for aquaculture is because one cannot restrict the movement of the fish. This method addresses the problem because the fish are trapped inside the cage," says Dhanraj R Kapse, a fisheries department official in Seraikela district, where the initiative has been successful. He adds that the fish inside the cage are also protected from predators. Kapse says the initiative has not only increased fish production, but also helped in rehabilitation of the communities that were displaced by the construction of the dam in the 1970s. "Residents of the villages that were displaced by the Chandil dam have been demanding for compensation for a long time. In fact, some of the community members also joined ultra-left insurgents. Today, 116 villages around the dam are benefitting from the initiative," say he. Kapse sums it up by saying that Jharkhand's fishery story is a classic example of how government planning and people's support can benefit the state.

Jharkhand: Fish farmers count losses as waterbodies dry up

<http://timesofindia.indiatimes.com/city/ranchi/Fish-farmers-count-losses-as-waterbodies-dry-up/articleshow/52057704.cms>

Nagendra Mahato, a fish farmer in Ranchi district's Rahe block, is worried as ponds are drying up owing to the long dry spell. Mahato rears fish in a pond spread over an acre and his annual turnover is around Rs 1 lakh. But this time, Mahato is worried that he might not even get Rs 30,000. "I start breeding fish in June and the stock lasts till July. But this year, the pond started drying up very early and I have no option but to sell the fish," he said. Like Mahato, many fish farmers are forced to sell their fish. The director of Jharkhand State Co-operative Fisheries Federation Ltd (Jhascofish), Ashish Kumar, said, "Farmers usually sell rohu when it crosses one kg. But now they are selling the fish as soon as they are reaching 150-200 gm. Farmers from Sonahatu, Tamar and other nearby areas are coming to Ranchi markets." The fish farmers' loss has turned into consumers' gain. Now, people are getting fresh fish from Jharkhand and they do not have to buy the six-day-old fish imported from Andhra Pradesh. Many ponds and reservoirs are drying up.

The level of Button talaab, which is situated on the premises of the fisheries department and one of the main centres of fish rearing in the city, has also depleted by six feet and now only three feet water is remaining in the pond. Meanwhile, the nursery, rearing and stocking farms constructed by the department near the Button talaab have dried up completely. "There are 17 nursery farms around 3-4 feet deep, six rearing farm which are 6ft deep and three stocking farms

which are 8ft deep. Only two of these have water remaining in them while we are using the water from Button Talaab to fill up the remaining ponds," Kumar said. While there is no immediate way to deal with the problem, the fisheries department has a few plans to help the farmers make up for the loss in future. "We are planning to use the water pockets formed after drying up of reservoirs to breed spawns. We will put spawns in these water pockets and by the time they start growing, rainfall would begin filling up the reservoirs and providing enough water for these spawns to grow into big fishes," Kumar said. This apart, the department is collecting the data of loss incurred by the farmers in every district. Kumar said, "We will request the disaster management department to provide funds to the farmers who have faced loss."

Jharkhand: Dam Distress

http://www.telegraphindia.com/1160412/jsp/jharkhand/story_79587.jsp#.VwxwodR97s1

The hot, dry weather is quickly dehydrating Jharkhand's reservoirs, with all the three in Ranchi having dipped to half their capacity and water guardians worried about thirsty days ahead if it doesn't rain - and rain well - before mid-June. The dams of Rukka, Kanke or Gonda and Hatia are the lifelines of the capital's 29 lakh-odd population. Among the three, the water level of Hatia is said to be receding at the fastest rate while the two others are a tad better storage position compared to previous years. K.K. Verma, the executive engineer of Hatia Dam, conceded a 50 per cent plunge in water level already. "Against its total capacity of 20-22ft, the current water level is at 9.5ft. In April 2015 and the year before, the level was 8-9ft higher," he said. This reservoir supplies water to around 3 lakh people in Hatia, HEC Township, Dhurwa, Chutia, Doranda, Hinoo and Airport Road, among others. Supply has been rationed to only thrice a week at the moment, Verma said and added, "We can provide water at this rate till June.

Let's hope the skies open up before that." Besides city supply, the receding water level at Hatia Dam has also hit hard the state's flagship cage culture. Initiated by the fisheries department a few years ago, the project specialises in breeding fish in a controlled environment before releasing them into other water bodies. The receding water level has compelled local fishermen to withdraw the cages. The Gonda Dam, which services 8 lakh people in Kanke, parts of Morabadi and Upper Bazar, besides Raj Bhavan, the CM's residence and Rinpas, has left water guardians worried no less. "The water is at 8ft against a total capacity of 21ft. Though the dip is not more than 2-3ft compared to the past couple of years, we are in a tight spot because we shall have to stop supply once the water drops by another feet. My guess is we will last till June 15 unless it rains heavily in the interim period," Gonda executive engineer Rajesh Kumar Singh voiced his concerns. The reservoir is grappling with another handicap, that of low voltage. A.K. Jha, mechanical engineer, said supply was a challenge the whole of last week owing to the erratic power situation.

"The dam has 12 motors of various capacities. Three 60hp ones and two 75hp ones pump raw water. For clean water, we have four of 175hp and three of 120hp. On any given day, only half of the motors are used and the rest put on standby," Jha said, adding that on Sunday, over-voltage had hit supply. Ranchi's main reservoir is Rukka, which supplies to over 80 per cent of the population. Arun Kumar Singh, executive engineer, said the water level stood at 19.8ft against a storage capacity of 36ft. "Roughly, the drop in level is 3-4ft less than last April. The situation isn't alarming, but there should be no room for complacency. The heat is harsh and there has been no rain," he said. Singh maintained that they had 10 motors, each of 630hp. "Four are used to pump clean water while six lift raw water for filtration. The motors are never used together, but activated depending on the need. Last week, there were voltage issues, but now supply is normal," he said. Coal town at ease Water levels in the Maithon and Panchet dams in Dhanbad, which together supply to a population of 15 lakh, have dipped while that of River Damodar is being artificially maintained, but civic guardians aren't calling the situation as alarming as Ranchi.

Public relations officer of Dhanbad Municipal Corporation M. Vijay Kumar said Maithon Lake read 452ft on Monday, 15ft less than April 2015, and the Panchet Lake level stood at 396ft, 12ft lower than last year. "Though the water levels have dropped, the situation is not worrying as yet. We have started rationing supply to various projects in Bengal," he said. Damodar, which feeds the satellite towns of Jharia and Katras, is in a better position. "A small dam near Jamadoba is helping us maintain the level at 456ft, four feet more than last year. We can supply to Dhanbad too, if need be," said Mada SDO (water supply) Shailendra Singh.

Bokaro on alert Tenughat Dam, which supplies water to 8 lakh people in Bokaro steel city through a 34km canal, has pressed the panic button. Executive engineer A.K. Jha said the dam water was receding faster than last year. "In April 11, 2015, the level was 844ft; this year, it is 841ft; and it is still a couple of months before monsoon. The danger mark is 835ft. We cannot afford wastage," he said, adding that routine inspections were being done to plug breaches in the long canal. Hazaribagh anxious Charwa Dam in Katkamsandi, 6km from town, meets water demands of 7 lakh people although it was built in 1952 for a population of only 30,000. Arjun Prasad, a reservoir maintenance employee, said the level had receded to 21ft against 27ft in April 2015 and 28ft in April 2014. "Every day, after filling the eight town towers twice, the water level goes down by half an inch. Coming days will be taxing. The danger mark is 15ft," he added.