

## Brief Communications

# Impact of flashfloods on the cage farms in Kerala

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Cage fish farmers across the coastal districts of Kerala suffered massive losses in the floods of August, 2018. The flooding and crop loss was also a setback to efforts of ICAR-CMFRI to popularize cage fish farming. The flood waters which completely washed many cages along with the cultured fishes meant loss was in terms of cage structure and nets, harvest ready fishes and juvenile fishes stocked for new cropping in cages. Around eight species of fish were being farmed in cages including the Asian seabass, pearl spot, red snapper, *Caranx* sp. and tilapia.

All these died either due to heavy water flow of muddy waters and some escaped from the damaged nets. Many farmers thus lost their entire investments including the cage structure, nets, mooring, fish, seeds etc. The losses varied from 2 to 25 lakh rupees per person depending on the number of cages, fishes stocked and size of the fishes in the cages at the time of disaster.

A rapid damage and loss assessment was done immediately after the flood waters had receded in the affected coastal



Fig.1 Battery of cage farms damaged

districts of Kerala. The extent of damage and economic loss to cage farms was done based on data collected from fish farmers in the selected districts and data from state department of fisheries. The deluge affected the cage farmers in terms of loss or damage to cage structures and loss of fishes stocked in the cages. The economic loss to cage farms was assessed in terms of foregone value of output due to loss of fishes stocked in cages and

damages in terms of input loss and infrastructure loss. The economic loss due to damage or loss of infrastructure was estimated based on partial or full destruction of cage structures at its value prior to the disaster. This also includes the repair cost of cage structure prior to its destruction. The loss of stored inputs and accessories were also included under damages. The inputs are valued at farm gate price or market rates. The economic loss

Table 1. Estimated economic loss to cage farms in the flood affected coastal districts of Kerala

Districts	Affected areas	No of affected units	Fish production loss in quantity (t)	Fish production loss in value ( lakhs)	Infrastructure & Input loss ( lakhs).
Alappuzha	Chengannur, Cherthala	62	14.88	66.96	15.14
Ernakulam	Kadamakkudy(Pizhala, Kothad), Gothuruthu, Ezhikkara, Kottuvally(Cheriyappilly) Chendamangalam, Moothakunnam, Aluva and Poothotta	426	191.32	661.22	90.89
Kollam	Chemmakkad, Perinad, Prakkulam	8	0.144	3.57	0.12
Kozhikode	Chelanure, Olavanna, Kadalundi, Feroke Kozhikode, Thalakulathure, Vadakara Maniyur, Koyilandy, Keezhariyur Payyoli	19	7.15	19.16	9.7
Thrissur	Methala(Anappuzha) Kaippamangalam, Mala, Kottappuram, Manalur and Naduvilkkara	70	88.25	220.07	97.21
Total		585	301.6	968.11	216.51

Source: Based on primary data collected from farmers and data from Department of Fisheries, Kerala



Fig.2 Overturned cages following the flashflood

due to production loss was estimated based on the final fish production which could have been achieved by the affected units at the time of harvest. The average yields and prices recorded in the previous farming seasons were used for estimating the economic loss for different species of fishes.

The damage estimated in and around Ernakulum and Thrissur districts showed that farmers of the cage farming areas like, Pizhala, Kadamakkudy, Kothad, Aluva, Cheriyaipilly, Gothuruthu, Mala, Kaipamangalam and Moothakunnam area were affected very badly as their cages were completely damaged and fishes were lost. Around 150 fish cages had been washed away or seriously damaged in and around Kadamakkudy panchayat. Around 300 cages were submerged under the muddy waters and equal number was lost in the flood. Pizhala Island, a model village in cage fish farming, with around 200 units, experienced a massive loss when those units were washed away in the floods. Similarly Gothuruth another village where many self-help groups were involved in cage farming lost nearly 350 cages. The cages in areas like, Engandiyur, Kodungallur, Kottappuram and Sathaar Island were washed off along with fishes and the

farmers have to start afresh. In all these places cage farming of fishes was emerging as a major farming activity of the people.

The cage farms in Alappuzha district were partially damaged with partial or complete loss of fishes. More than 95% of the cage farms in Alappuzha district were promoted through various state government schemes. The small sized cages (8m<sup>3</sup>) in the district were predominantly stocked with pearl spot, which fetches a premium price of ₹500-600/kg in the domestic markets. The cages installed in the districts of Kozhikode and Kollam also suffered massive losses during the deluge. The aggregate economic loss to cage farms in the state was to the tune of ₹11.84 crores. The maximum loss occurred due to loss of fishes stocked in the cages followed by infrastructure loss. An estimated loss of ₹9.68 crores occurred due to fish loss and damage to infrastructure and inputs together contributed another ₹2.16 crores. Cage farms in Ernakulam and Thrissur districts suffered the maximum economic loss amounting to ₹10.69 crores. Lack of insurance coverage in the cage farming sector has become a major impediment in the current situation and the issue needs to be seriously addressed.