

## Marketing and Hygiene



Fresh fish is so popular in much of eastern India that harvesting will usually draw a crowd of pond-side customers. Marketing is no problem as long as the quantities are small.



When bulk quantities are fished out, a trader, wholesaler or middleman may take the fish and, depending on the distance, time of the day and season, transport them to the market with or without ice.

Large quantities are usually auctioned; the bids fluctuate depending on arrivals, demand, festival or marriage seasons, and also the variety, size and condition of the fish itself. A Commission Agent (who buys from a producer and sells to a wholesaler) or the wholesalers are involved before it is taken over by the retailers who in turn might distribute still smaller quantities to be sold by petty merchants on wayside "stalls" or from door-to-door. The longer the chain through which the fish passes the more handling affects the quality of fish and also increases its price. Ice and clean water are often in short supply and hot and humid weather can lead to spoilage.



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Keeping fish alive in a large hapa will ensure they stay fresh and may avoid having to agree to a rapid sale at a low price.



This hapa can hold 150 kg of carp for many hours.

Conditions at the site of harvest should be clean with fish sold from a washable surface.



Let's keep the fish clean!

Conditions in many wholesale and retail markets could be made more hygienic. Wholesale markets are generally close to railway stations or bus stands and many are not enclosed or fenced. Retail markets in villages are commonly in the open. Often fish is sold on the roadside; there are no platforms and no drains. There is commonly not enough water to wash fish, or containers or gunny bags. Larger fish are cut on a piece of wood or the gunny bag itself and there may be dogs, crows and flies all around. The sale of fish in poor and unhygienic conditions brings no benefit to the producer, the seller, the buyer or the consumer.



## Fresh fish is good to eat!



Fish is a good thing to eat regularly; it provides a high protein food, and is especially good for children and mothers. It is rich in calcium, iron and vitamin A. Vitamin A deficiency is the leading cause of preventable blindness in children and raises the risk of disease and death from severe infections. The Orissa Government recognizes this and was the first Indian state to combine vitamin A supplementation and polio immunization. Regular intake of foods rich in vitamin A is the best way to provide for the needs of children and women.

- The fish's eyes should be clear and bulge a little.
- Whole fish and fillets should have firm and shiny flesh.
- Dull flesh may mean the fish is old.
- Fresh whole fish should also have bright red gills free of slime.
- If the flesh doesn't spring back when pressed, the fish isn't fresh.
- There should be no darkening around the edges of the fish or brown or yellowish discoloration.
- The fish should smell fresh and mild, not fishy or ammonia-like.



- Some of the fats in carp (omega 3 fatty acids) are good for a healthy heart.
- Whole small fish, often fried, are an important source of calcium in rural communities where dairy products are limited due to problems with availability or storage.
- Fish is a popular part of the diet in Orissa. Though at present much of Orissa's fish is imported from Andhra Pradesh, local fresh fish, even of a small size, will often sell better than imported fish.



### A note from the cook

#### Recipe for Delicious Steamed *Rohu*

Put 8 pieces of *Rohu* fish in a container, marinate with salt (to taste),  $\frac{1}{2}$  teaspoon of turmeric powder, 2 tablespoons of mustard seed and green chili paste, and 20 ml (6-7 tablespoons) of mustard oil. Then close the container tightly with the lid and place it in a pressure cooker and cook for 10 minutes (3-4 whistles of the pressure cooker).

## Food safety

Keeping food safe is everybody's business. Try to do the following things:

Think about the best point to avoid each hazard - At the time of growing, catching, transporting, selling or processing fish.

Look out for hazards - like germs; chemicals, such as a pesticide; or solids, such as stones, glass or metal and the chance they will affect the fish.

... and what has to be done - for example, using platforms that can be cleaned to sell from, or for cooked fish. This might include suggesting a minimum cooking temperature and time to kill germs.

And who should do it ...

It's good to discuss the possible hazards and to agree on the best actions to take. Keep a record of what you do. Find out the best ways to keep foods safe!



It can be useful to draw a table for each hazard, saying what can be done to prevent it, how often and by whom. Some examples are given below.

Tables like these are used by people who are making their best efforts to understand and control hazards that might happen at any point in the chain of production, transport, marketing, preparation and consumption of fish.

1	2	3	4	5	6	7	8	9	10
Control Point	Hazard	Critical Limits for Each Preventive Measure	Monitoring				Corrective Action(s)	Records	Verification
			What	How	Frequency	Who			
Before harvest	Chemical contaminants	Agricultural and industrial practices in the area immediately surrounding the pond must not be reasonably likely to cause contamination of the fish flesh above the guidance levels.	Agricultural and industrial practices near the pond	Ask questions and observe agricultural and industrial practices	Once per year	Field agent	Make suitable arrangements with neighbors	Field agent report	Review monitoring and corrective action records

1	2	3	4	5	6	7	8	9	10
Control Point	Hazard	Critical Limits for Each Preventive Measure	Monitoring				Corrective Action(s)	Records	Verification
			What	How	Frequency	Who			
At the point of selling	Glass, stones and metal	Clean up the area immediately around the point of selling. Glass, stones and metal must not be reasonably likely to cause contamination of the fish.	Glass stones and metal near the point-of-sale	Use a cleanable platform for selling	Every time	Seller	Discard fish that become contaminated	Sellers report	Review monitoring and corrective action records

You can get more information about food safety from:

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## Useful Contacts

### Other Better-Practice Guidelines

There are many more Better-Practice Guidelines in this series.

You can get more copies of this and other Better-Practice Guidelines from your local One-stop Aqua Shop, STREAM India Communications Hub, from the STREAM Regional Office or from the STREAM Website.

[www.streaminitiative.org](http://www.streaminitiative.org)

We would like your feedback about these Better-Practice Guidelines. You can let us know by phoning, emailing or writing to the Communications Hub Manager at your STREAM Country Office.

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