



# Seafood Irradiation: The True Cost of Industrialization and Globalization

The demand for seafood is exploding and the seafood industry can hardly keep up. To continue making a profit, the seafood industry must find a way to mass produce fish and deliver them fresh to consumers' supermarkets.

## Irradiation: What is It?

Irradiation is the process by which food is exposed to high doses of radiation—the equivalent of up to 1 billion chest x-rays. Irradiation kills bacteria and extends the shelf life of food, but destroys vitamins and creates new chemical compounds. Although many studies indicate that serious health problems can result from a diet of irradiated food, international and national regulatory bodies refuse to consider the long-term health implications of irradiated foods.

Supporters of irradiation say that it makes food safer by killing microbes and allows food to be shipped over greater distances. Yet this “magic bullet” to the seafood industry’s dilemma will hurt consumers and communities across the world.

## Deadly Sense of Security

Irradiation will not make seafood safer. Seafood is more delicate than land-raised meats. Therefore, high levels of irradiation will cause deterioration of texture and juiciness. Yet, low levels cannot kill all bacteria present in the meat.<sup>1</sup>

Irradiation does not obliterate food-borne viruses that cause more than 9 million people to become sick annually.<sup>2</sup> It also won’t magically cleanse seafood of methylmercury, which causes neurological birth defects, or of the toxins that cause shellfish poisoning.

More importantly, irradiation will not protect consumers from the most common sources of contamination—themselves.

Irradiation addresses less than 7 percent of contamination found in seafood. In fact, if consumers believe their food to be safe, they are less likely to follow strict handling and cooking precautions and are more likely to get sick as a result. If the seafood industry truly wants to

protect consumers, it should educate them about the real sources of poisonings, instead of offering them a deceptive security blanket.

Irradiation, itself, is dangerous to consumers. Forty years of research have pointed to serious health hazards associated with the process or irradiation. Those prob-

### Sources of seafood poisoning<sup>3</sup>

Unsafe holding temperature	62 %
Poor personal hygiene (i.e. dirty hands)	29 %
Inadequate cooking	20 %
Contaminated equipment	18 %
Natural sources	7 %

lems include, but are not limited to, premature death, fatal internal bleeding, prenatal death, suppressed immune systems, tumors, stunted growth and nutritional deficiencies.<sup>4</sup>

## The Bottom Line

Seafood irradiation protects industry wallets, not consumers’ lives. And increased shelf life means less loss due to spoilage and greater reach into global markets. Factory-farmed seafood from Central America and Southeast Asia is shipped to the United States, the U.K. and Japan. Yet, industrialization and globalization of the food supply does not come without cost.

## International Fish Farming - Where Have All the Mangroves Gone?

Fish produced from farming activities currently accounts for over one-quarter of all fish directly consumed by humans and 40 percent of total fish trade.

As demand increases and wild stocks are further depleted, fish farming will account for a greater and greater share of world fish production.

Shrimp are one example of mass-produced seafood.<sup>5</sup> They are farmed in mangroves - tropical coastal forests that protect shorelines from erosion and promote biodiversity. Mangroves serve as spawning and nursery grounds for thousands of marine organisms. Mangroves also discourage coastal flooding, trap sediments and filter inland water.

To create a coastal shrimp farm, mangroves are destroyed and dikes are dug. Because intensive fish farms practice monoculture, they depend on staggering amounts of antibiotics, fungicides, algacides and pesticides that pollute the water. Farms then pump in fresh water and pump out the dirty (up to 30 percent of the total water is discarded per day).

The dirty water is dumped into the coastal sea, resulting in the degradation of the very water on which farms depend. Local communities are often dependent on the fresh water that is redirected for use at the fish farms.

For the 10 types of fish most commonly farmed, an average of two kilograms of wild fish is required for every kilogram of fish produced.<sup>6</sup> This *net loss* in the amount of fish biomass is not promising, considering wild stocks are already depleted, and farms are marketed as alternatives.

## Nowhere to Turn

Large farms move into prized coastal lands, and with the help of the government and loans from the World Bank, privatize public property. Traditionally, local communities depend on the mangrove forests for their survival.

Women gather shellfish, mussels, crabs and other seafood to feed their families and to sell in local markets. Fishermen gain access to the sea through mangroves. Local people throughout Asia and Central America protest the construction and expansion of shrimp farms in order to defend their cultures, lives and livelihoods. Some of these local people have even been killed in the process.

Eighty-five percent of all farmed fish imported to developed nations originate in developing nations.<sup>7</sup> Farmed fish in Southeast Asia and Central America are exported to the U.S. and Europe as delicacies, instead of feeding the local populations. The diversion of fish and fish products from local communities deprives people of traditional and inexpensive, but highly nutritious food.

To make matters worse, local governmental officials benefit directly by owning shares in fish farms, and indirectly by foreign investment in their country. For the indigenous people threatened by intensive fish farming, there is nowhere to turn.

## Irradiated—Industrialized—International

Irradiated, industrialized and international are three things that our global food supply should *never* be.

Irradiation is used by the seafood industry to boost consumer confidence, and thus profits, without regard to consumer safety. Nor does the corporate seafood industry consider the local communities and environment that are affected by the farms that supply the fish.

An industrialized food supply sacrifices the needs of common people for corporate profit. This furthers corporate domination and takes away consumers' freedoms, as well of the freedom of small local economies.

The modern international food supply continues to widen the gap between the rich and the poor. As food is shipped globally, transportation costs (both environmental and economic) increase as small-scale local fishermen watch their culture and livelihoods vanish. Multinational corporations produce cheap food overseas in places with little regulation concerning environmental protection or human rights. They make huge profits but ignore the trail of devastation they leave in their wake.

## What You Can Do!

- Tell your seafood grocer you don't want irradiated seafood.
- Do not buy farm raised seafood.
- Ask your local seafood counter where the shrimp come from and ask for "pot caught" shrimp.
- Support local fishermen; local seafood.
- For up-to-date actions, go to Public Citizen's web site at [www.citizen.org/cmep/foodsafety](http://www.citizen.org/cmep/foodsafety)



<sup>1</sup> See the Seafood Science and Technology Society at <http://sst.ifas.ufl.edu/proceed.html> for studies on the effects of seafood irradiation.

<sup>2</sup> Mead, Paul S. et. al. "Food Related Illness and Death in the United States." Centers for Disease Control. <http://www.cdc.gov>

<sup>3</sup> Fleming, Lora E. et. al. "The Epidemiology of Seafood Poisoning." University of Miami School of Medicine.

<sup>4</sup> *Bad Taste: The Disturbing Truth About the World Health Organization's Endorsement of Food Irradiation*, October 2002. Public Citizen. <http://www.citizen.org/documents/BadTaste.pdf>

<sup>5</sup> For more information, contact Isabel De La Torre at the International Shrimp Action Network (ISA Net) at <http://www.shrimpaction.org>

<sup>6</sup> Naylor, Rosamund L. et. al. "Effect of Shrimp Aquaculture on World Fish Supplies." Institute for International Studies, Stanford University.

<sup>7</sup> <http://www.fao.org/focus/e/fisheries/trade.htm>



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