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## Accumulation of heavy metals in some commercially important food fishes from Nizampatnam coast, Andhra Pradesh, India

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Water pollution is one of the serious problems that affect the marine ecosystem globally. Among all, high concentrations of the trace metal levels are severe threat to human health concern. Releases of heavy metal in the marine ecosystem are as byproducts and end products of industrialization which is consequent contamination of water ways created greater health hazards in aquatic organisms particularly fishes. A study was conducted between August 2010 to July 2011 to assess the accumulation of Cu, Co, Cr, Pb, Hg, Fe and Mn in gill tissue, gut content and muscles of selected commercially important food fishes Asian Seabass (*Latescalcarifer*) and Seer fish (*Scomberomorusguttatus*) from Nizampatnam coast, Andhra Pradesh. In the present investigations the concentration of heavy metals in the gut content was significantly higher than that of gills, followed by muscle. The highest metal concentrations found in the organisms of fishes which leads to the oxidative stress shorten the lifespan of the fishes are postulated primary result from anthropogenic activities, shrimp pond effluents and sewage water and effluents from local industrial activities in the Nizampatnam coast.

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## Meeting the needs of a changing world

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As etiologies of infectious diseases were uncovered, and approaches to their diagnosis and prevention developed, great progress for disease control resulted. An important date, 1977, marks the last case of smallpox in the world. For this disease, the protection of humans by inoculating them with cowpox was discovered almost 200 years before. But it was the advances in technology to produce a form of this vaccine that was highly effective and heat stable vaccine that allowed eradication. From the mid 1970's until today, huge additional technological advances have been made in vaccine development, production and delivery. These advances have led to vaccines for meningitis, rubella, pneumonia, haemophilus influenza B, hepatitis B, typhoid, hepatitis A, rotavirus, and HPV (cervical cancer). With concerns for disease occurrence in all corners of the world, nations and wealthy, socially conscious citizens have put resources into vaccine development and purchase so that children in all corners of the world have benefited. More and more of the world's vaccine supply are now being produced in high-tech facilities in less developed countries (LDCs). Now many are self -sufficient in vaccine production and many are supplying vaccines to their neighbors. In 1997, UNICEF purchased only 10% of its vaccine from LDC producers but this rose to almost 50% by 2012. Now, several organizations around the world are working with LDC governments and/or companies to invent and produce state-of-the-art products.

## Biography

Donald P Francis, completed undergraduate studies at the U.C. Berkeley, received his MD from Northwestern University and his Doctor of Science in Virology from Harvard. He joined CDC in the early 1970s, where combated smallpox, cholera, Ebola and AIDS. His early work on HIV/AIDS was chronicled in Randy Shilts' *And the Band Played On*. From 1988 to 1992, he was Special Consultant on AIDS to San Francisco Mayor Art Agnos. After retiring from CDC in 1992 he worked on HIV vaccines at Genentech, VaxGen and now a not-for-profit company Global Solutions for Infectious Diseases.

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