

Protection from a Toxic Menace *by Sasha Henriques*

IAEA helps El Salvador handle the threat from Harmful Algal Blooms

The potentially deadly toxins released by Harmful Algal Blooms (HABs) threaten El Salvador's shellfish harvest and pose a grave health risk. Through several of the IAEA's Technical Cooperation projects, scientists at the Laboratory of Marine Toxins of the University of El Salvador (LABTOX-UES) have received support from the IAEA's Technical Cooperation Programme in setting up a permanent monitoring system that provides early warning of toxins in microalgae and seafood products.

The IAEA equipped the laboratory and provided training on specialized detection equipment that is used to monitor HABs. This is a unique capability that no other laboratory in the region has yet developed.

The government relies on the facility to detect toxicity in HABs for its early warning system, which is used to alert fisherman and locals as soon as there is a dangerous concentration of toxins in the water.

This system depends on a network of monitoring stations located in fishing parks. Samples from the monitoring station are brought to the facility for analysis. The new toxin detection methods are faster and allow scientists to analyse more samples, and thus provide an early warning of a HAB-induced spread of toxins.

The concept was proven when an early warning of a "red tide" was issued in 2010. LABTOX-UES publishes its analyses online (<http://toxinasmarinas.cimat.ues.edu.sv>) to support early warnings of algal outbreaks and help reduce the health threat posed by this natural killer.

What is the IAEA doing globally?

The IAEA's Department of Technical Cooperation, together with international and national organisations around the world, works with national marine institutes and governments to tackle the issue.

HAB events have become a common problem both in developed and developing countries, affecting public health and the shellfish and fish farming industry.

(Photos: Nancy Falcon Castro/ UNIDO)



The IAEA equipped the Laboratory of Marine Toxins of the University of El Salvador and provided training on specialized detection equipment used to monitor HABs.

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In addition to its work in El Salvador, the IAEA works with the Philippine Nuclear Research Institute, which is the only IAEA collaborating centre on HABs in the world. The Institute undertakes research with the IAEA Environment Laboratories in Monaco to track the impact and fate of biotoxins in the marine food-chain.

Through the Technical Cooperation programme, 14 marine laboratories were established in Africa, Asia and in Central and Latin America. Through an on-going project in the Caribbean and Latin America, the IAEA will be establishing three more laboratories by 2013 and will develop the capabilities of eight other countries to detect HABs.

Also, a new regional project in Asia will enhance the capacity to monitor the impact of toxic algae by addressing ciguatera (a disease contracted when one eats fish contaminated by toxins).

These facilities are prime examples of the benefits of cooperation between the IAEA and Member States to protect national food security, public health and the economy.

They contribute to the sustainable management of fishery products and the coastal economy, increase food security and are a resource for faculty, students and the Government: all benefits that will last long into the future. ☸

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The IAEA's Technical Cooperation Department's Communication staff also contributed to this article.

