Press Release

Silver Poison in Fish Platter

For Immediate Release

February 6, 2009,New Delhi/ INDIA: Toxics Link in association with **DISHA** released a study report on levels of Mercury found in fish collected from Kolkata and other locations in West Bengal.

This report compiles findings from the present survey and investigation, set in the context of global mercury concerns and scientific approaches to methyl mercury toxicology and safety parameters.

More specifically, the objectives of this study were:

- to quantify and assess the level of mercury in fish collected from –
    - ✓ water bodies in selected areas in West Bengal
    - ✓ Five prominent markets in Kolkata
- to try and arrive at a reasonable conclusion regarding the nature and extent of mercury contamination of fish, on the basis of analysing the results from the Laboratory.

During 2007-8, Toxics Link and DISHA carried out moderately large-scale survey of methyl mercury in fish in West Bengal. 60 samples of finfish and shellfish were purchased from 5 Kolkata markets and 204 samples were procured from different parts of West Bengal and all these were tested for mercury at SGS India Private Ltd., Kolkata. These 264 samples were spread over 56 varieties of fish and crustaceans. The results from the Laboratory were analysed and the findings are as follows:

Main findings:

Fish contamination

- 52 samples were found to have mercury concentrations above PFA standards (0.50 mg/kg).
- Out of 52 such cases of excess mercury, mercury levels have exceeded by more than 50% over PFA stipulations and in 21 cases it has exceeded by more than 100% above PFA stipulations.
- 129 samples showed methyl mercury concentrations above PFA stipulations (0.25 mg/kg).

- Out of 129 cases of excess methyl mercury concentration, 53 samples exceeded by more than 50% above PFA stipulations. 52 cases showed methyl mercury excess of more than 100% above PFA stipulations. 20 samples showed methyl mercury excess of more than 200% of PFA stipulations. 8 samples showed methyl mercury excess of more than 300% of PFA stipulations.

Fish consumption

The study also surveyed fish consuming families in West Bengal to estimate fish flesh intake per week. The survey among 43 families in Kolkata and surrounding areas and with incomes as diverse as Rs. 8,000 per month (4 family members), Rs. 10,000 per month (9 family members) and 90,000 per month (4 family members) came up with the following results:

- Only 2 families exhibited average per head intake of less than 300 gm per week.
- 12 families were consuming at the average per head rate of 300 gm to 500 gm per week.
- 29 families were consuming at the average per head rate of more than 500 gm per week.
- 24 families were consuming at the average per head rate of more than 650 gm per week.

Risk Assessment

Combining these results with contamination levels, the study found that in overwhelming number of cases the Provisional Tolerable Weekly Intake (PTWI) was exceeded. Considering two scenario i) that of a child of 25 Kg body weight and weekly fish flesh consumption of 250 gm and ii) that of an adolescent/ adult of body weight 50 Kg and weekly fish flesh consumption of 500 gm, PTWI is exceeded in 181 samples in scenario (i). Of these 181 samples, the PTWI is exceeded by more than 100% in the case of 105 samples, and by more than 200% in the case of 54 samples.

The PTWI is exceeded in 155 samples in scenario (ii). Among these 155 samples the PTWI is exceeded by more than 100% in the case of 80 samples, and by more than 200% in the case of 37.

The Indian FOOD SAFETY AND STANDARDS ACT, does not apply to products of farming, fishing and aquaculture. The Prevention of Food Adulteration Act and Rules, 1954 gives the limit of mercury in fish as 0.5 ppm by weight and that of methyl mercury (calculated as the element) in the case of all foods (including fish) as 0.25 ppm by weight.

“The risks associated with the observed mercury concentrations found in this study suggest an alarming level. Given the fact that West Bengal has a large population dependent upon fish

consumption, it becomes even more significant, requiring public health actions." said Santanau Chacraverti of DISHA.

Dr. Abhay Kumar of Toxics Link, one of the investigators of this study said, "Mercury is one of the most dangerous environmental pollutants, both in its elemental form and in chemical combination. When mercury is released into the environment it gets transformed into methyl mercury through microbial action. The methylation of mercury is a key step in the entrance of mercury into food chains. This methyl mercury is mercury in its most pernicious form. Methyl mercury bioaccumulates in fish and enters the human body when the fish is eaten."

UNEP's Governing Council first identified mercury as a serious global threat over six years ago. It has since supported extensive research that all leads to one conclusion: serious, concerted global action must be taken immediately to reduce the level of mercury in the environment and protect fish as a important source of protein for many communities. It is very essential that the government of india should investigate further and issue fish eating advisories in the country said Ravi Agarwal, Director Toxics Link

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