

# **Mercury exposure and ecosystem health in the Amazon: Building solutions with the community**

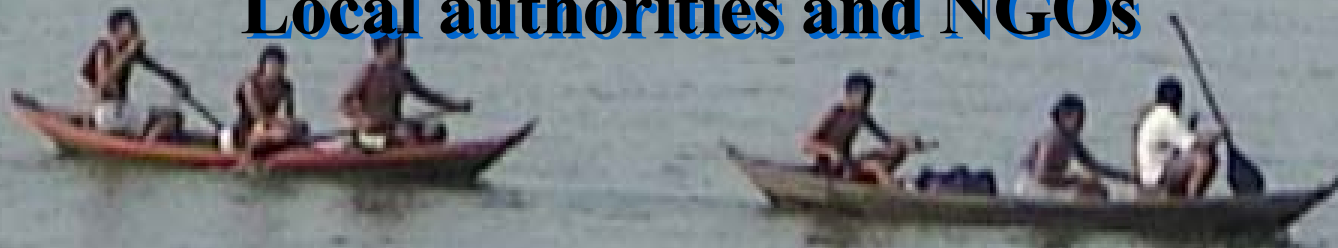
**University of Quebec in Montreal**

**Federal University of Pará**

**Federal University of Rio de Janeiro**

**Riverside villagers of the Rio Tapajós**

**Local authorities and NGOs**



**Caruso**

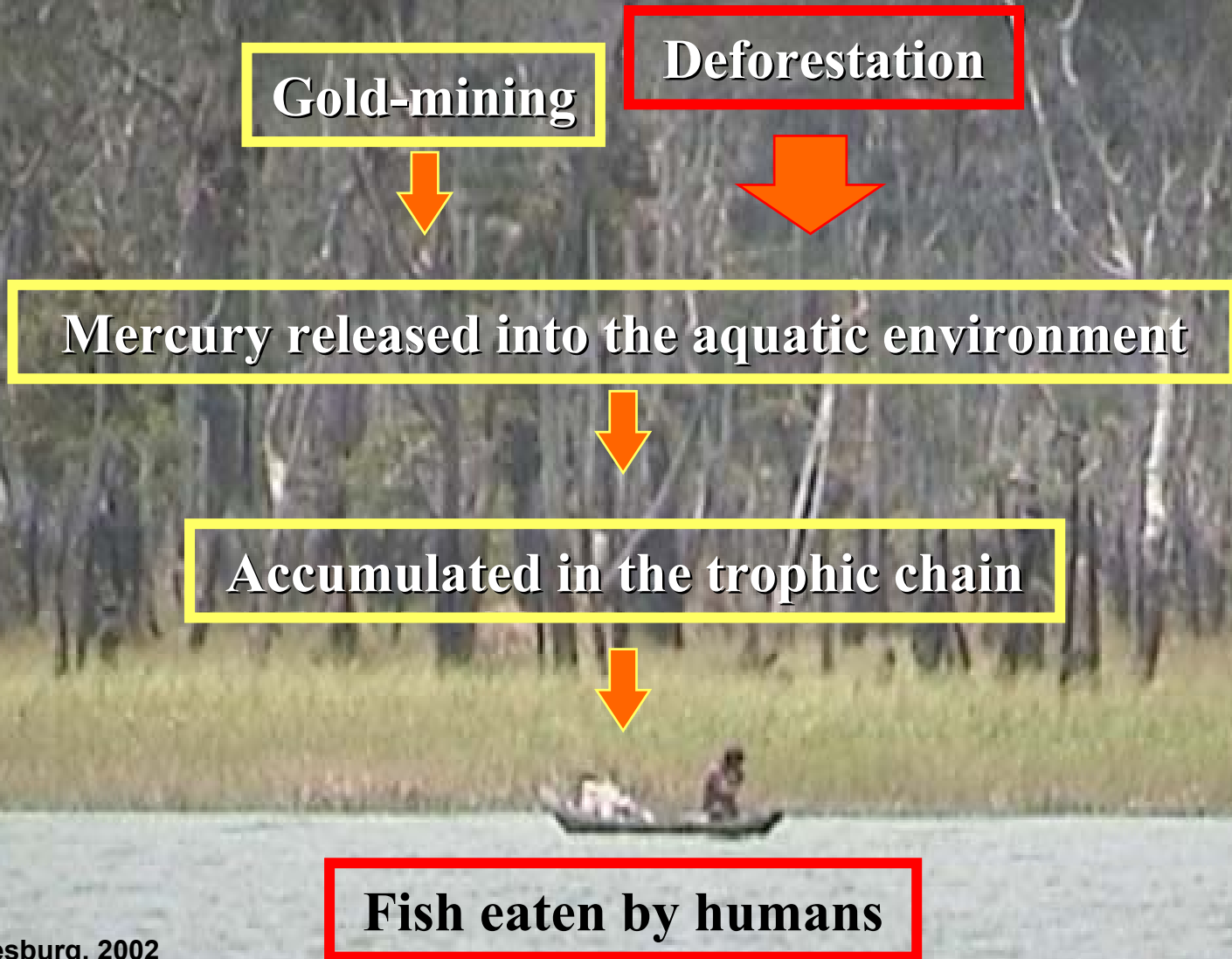
*funded by International Development Research Centre  
(IDRC), Canada*

# **Mercury contamination in the Amazon**

---

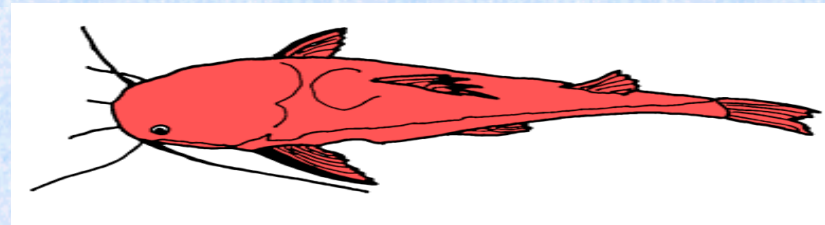
- ◆ **High levels of mercury in fish**
- ◆ **High levels of mercury in human populations**

# What did we learn?

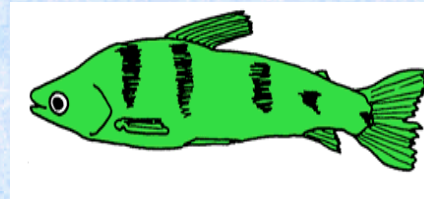


# Mercury in fish

- ◆ **Carnivorous fish have high levels of mercury (half were over the recommended limit: 0.5 ppm)**



- ◆ **Herbivorous fish have very little mercury**



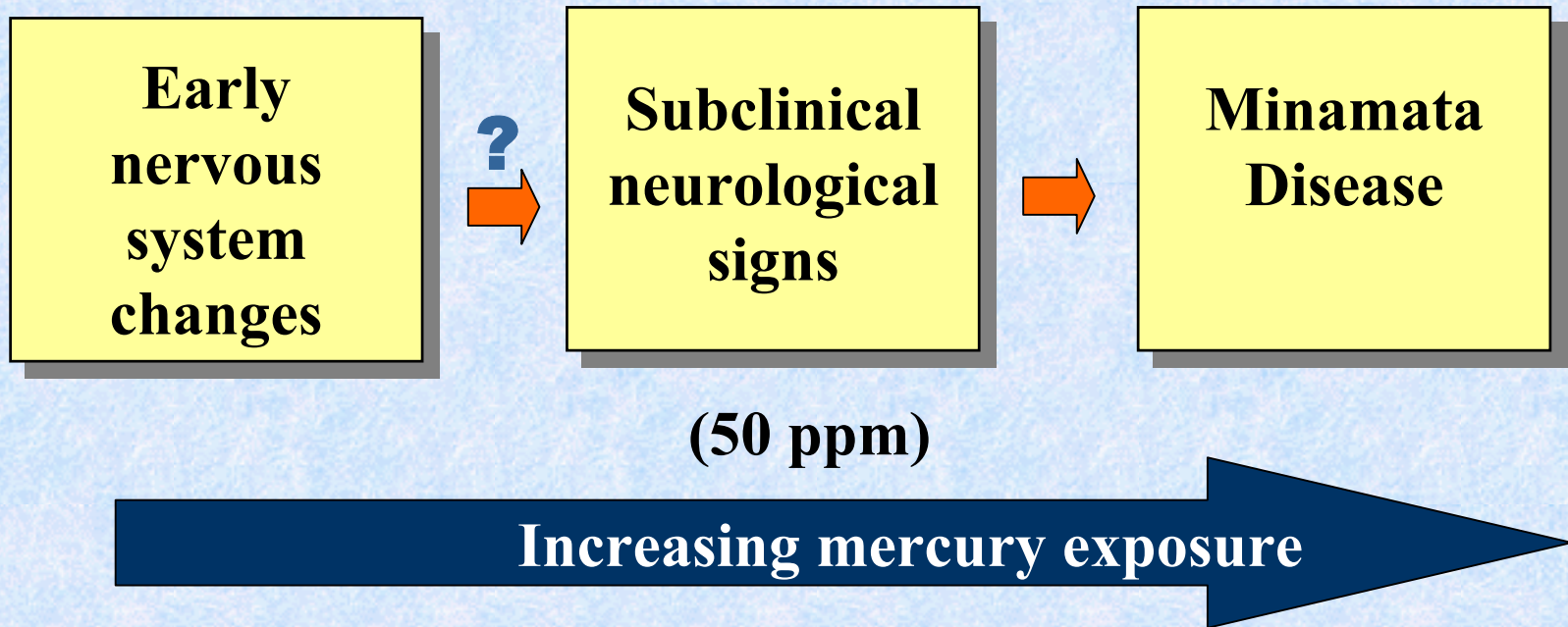
# Mercury in humans



- ◆ **Mercury in villagers' hair increased with the number of fish meals:**
  - ☒ **Higher among those who ate fish daily**
  - ☒ **Higher among those who ate more carnivorous fish**
  - ☒ **Varied seasonally with the bioavailability of fish**



# Was this affecting health?



# Dexterity

## Vision



# Results consistent with mercury poisoning

- ◆ Decrease in motor, tactile and visual functions with increasing hair mercury levels;
- ◆ Neurological exam normal with the exception of disorganised coordinated movements which increased with increasing mercury



# Building solutions



- ◆ **Short term: Fish- eating practices: Maximize nutrition and minimize toxic risk**
- ◆ **Medium term: Identify ‘hot spots’ for methylation**
- ◆ **Long term: Regional Agroforestry practices**

