# OUTCOMES AND LESSONS LEARNT

## Partners

### UN Environment

Review of existing information of human exposure to and environmental concentration of mercury

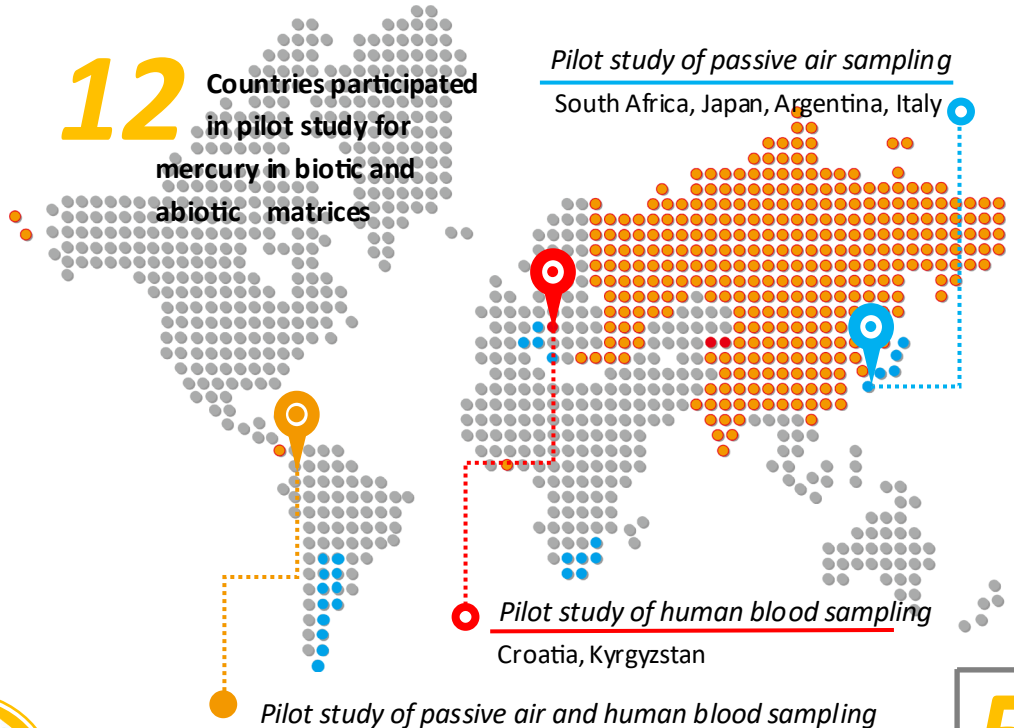
### WHO

Development element for a monitoring plan on human exposure to mercury

### CNR-IIA

Development elements for a monitoring plan on presence of mercury in ambient air

**12** Countries participated in pilot study for mercury in biotic and abiotic matrices



*Pilot study of passive air sampling*

South Africa, Japan, Argentina, Italy

*Pilot study of human blood sampling*

Croatia, Kyrgyzstan

*Pilot study of passive air and human blood sampling*

Russia, Mongolia, China, Costa Rica, Ghana, India

**210** laboratories registered in the mercury laboratory databank.

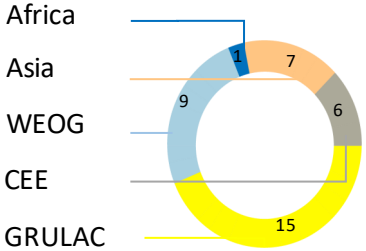
Out of which:

**182** labs have quality control

**152** labs have quality assurance program

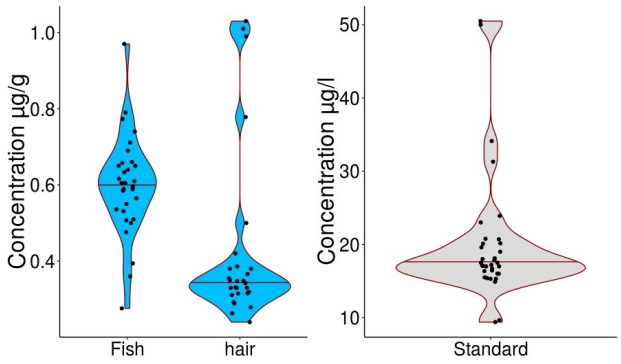
**5** Manuals, standard operating procedures and protocols and National survey protocols have been prepared **6**

**38** Laboratories from all UN Regions participated in the first round inter-laboratory assessment



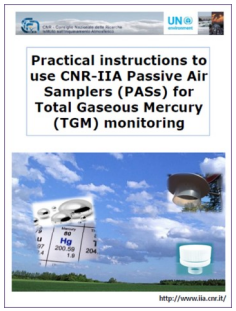

Pre-prepared uniformed samples for three matrices: Fish, Hair and Standard solution. Distribution of analytical results from all labs for the three matrices are presented in the chart on the right.

| | No. Labs | Ave. | Std. |
|---|---|---|---|
| Standard solution | 34 | 17.930 | 2.77 |
| fish | 32 | 0.600 | 0.093 |
| hair | 28 | 0.349 | 0.056 |



## Technical outputs which can contribute to establishing national, regional and global monitoring programs

- Standard operating procedures (SOPs) on sampling and analysis of mercury in human scalp hair, cord blood and urine, and in the ambient air;
- Recommendations on quality control of mercury human biomonitoring and practical instruction on the use of passive air samplers for mercury;
- Survey Protocol for assessment of prenatal exposure to mercury using biomarkers in cord blood, maternal urine and hair (a toll for the development of national protocols);
- Templates for storage, statistical analysis and assessment of results of human biomonitoring and air monitoring.

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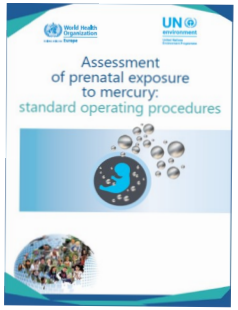


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## Increasing Knowledge on human exposure to and environmental concentration of mercury

- Global Review of Mercury Monitoring Networks
- Worldwide capacity on the analysis of mercury : an overview;
- Databank of mercury laboratories;
- Inter-laboratory assessment of mercury analyses in abiotic and biotic matrices

## Highlights and Conclusions of the Project

* Cost-effective methodologies to assess human exposure to and environmental concentration of mercury are well-established.
* It is possible to build on existing initiatives a global monitoring plan for mercury.
* The project contributed to the generation of comparable global data by producing standard operating procedures, protocols and manuals.
* The performance of laboratories undertaking mercury analyses all over the world shows potential of building on already existing captaincies and networks.
* Long-term capacity building strategies are needed to enhance the transfers of knowledge among mercury stakeholders.