Global Mercury Monitoring Project

17 November 2018, Geneva

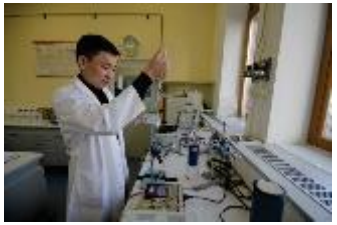
Human Exposure to and Environment Concentration of Mercury Project outcomes

UN Environment, Chemicals and Health Branch

UN environment
United Nations Environment Programme

CNR-IIA

gef



OVERVIEW

Objectives

To harmonize approaches for monitoring mercury in humans and the environment.

To strengthen the capacity for mercury analysis in humans and the environment to accurately determine their concentrations globally.

World Health Organization European Centre for Environment and Health

Italian National Research Council
Institute of Atmospheric Pollution Research

UN Environment
Chemicals and Health Branch

Global Environment Facility

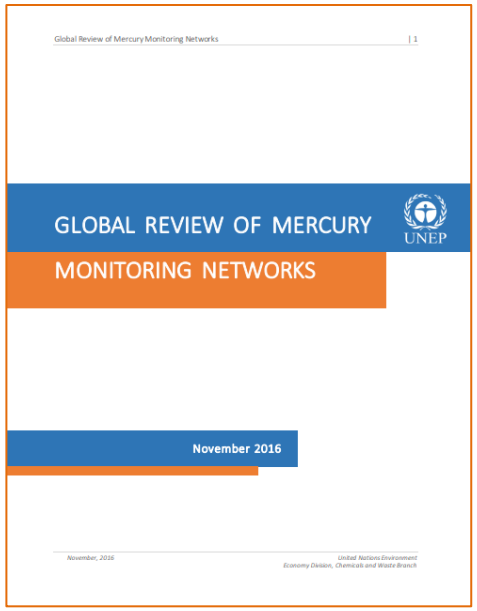
COMPONENTS

COMPONENT 1 - Review of existing information on human exposure to and environmental concentrations of mercury

COMPONENT 2 - Development of a monitoring plan on presence of mercury in ambient air

COMPONENT 3 - Development of a monitoring plan on human exposure to mercury

OUTPUTS

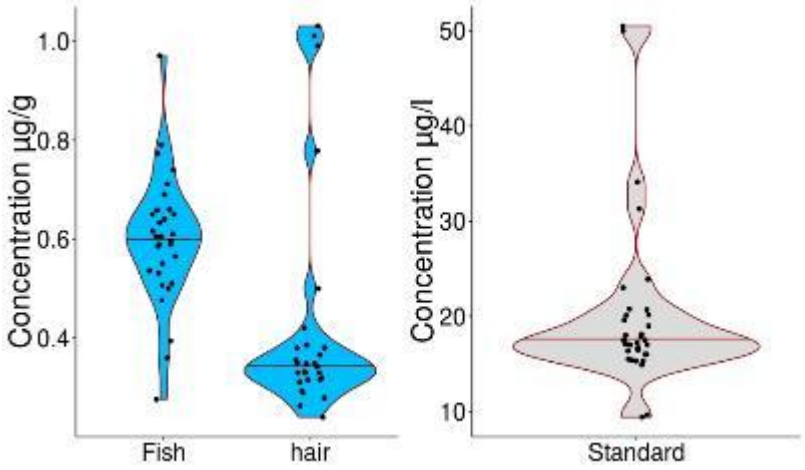


210 laboratories registered in the mercury laboratory databank.

Out of which:

182 labs have quality control

152 labs have quality assurance program



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

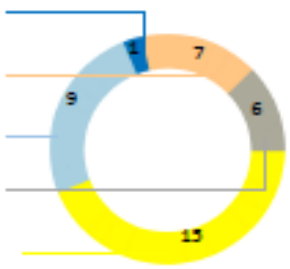
Africa

Asia

WEOG

CEE

GRULAC



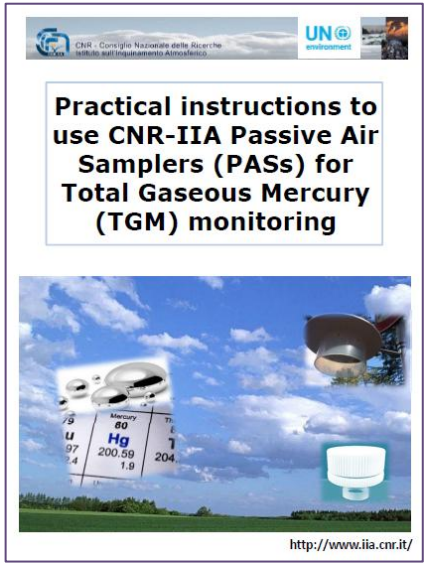
Pre-prepared uniformed samples for three matrices: Fish, Hair and Standard solution. Distribution of analytical results from all labs for the three matrices are presented in the chart on the right.

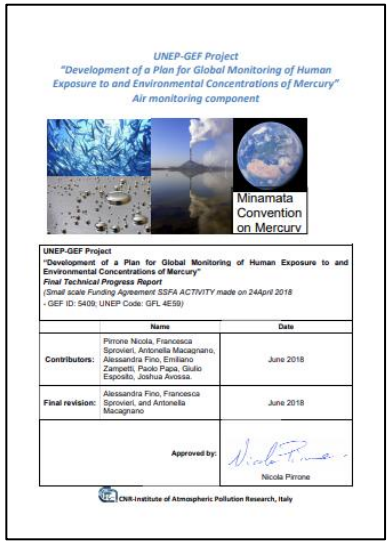
OUTPUTS

Network of stations for mercury atmospheric samples

One-year pilot testing of atmospheric mercury monitoring network

Elements to consider when developing air monitoring for mercury





OUTPUTS

Standard Operating Procedures for human biomonitoring of mercury

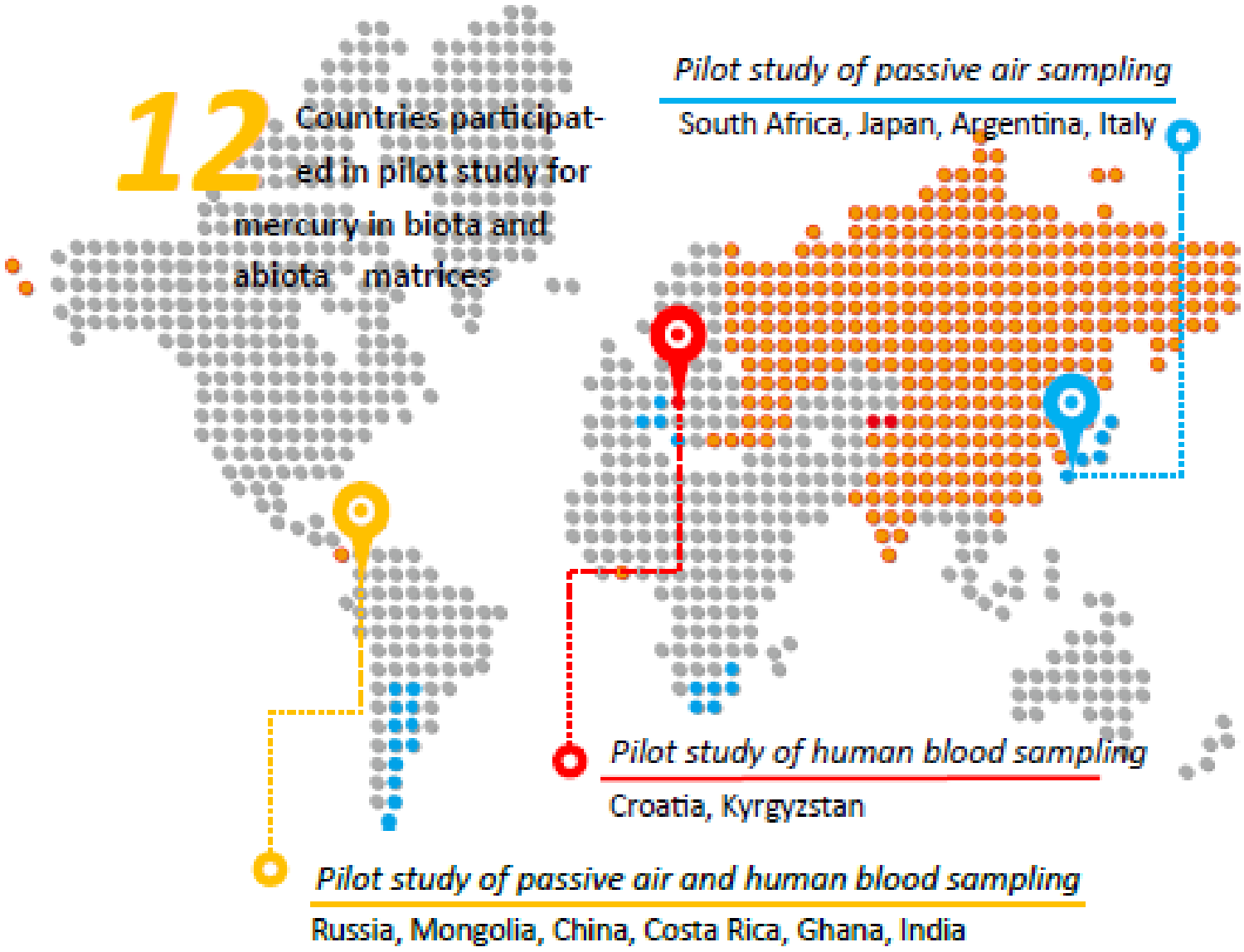
Network for mercury biomonitoring and harmonized protocols for national assessment are available

Elements to consider when developing human biomonitoring for mercury

HBM survey assessment:
Site specific protocols in:

- China
- Ghana
- India
- Mongolia
- Russia F.
- Kyrgyzstan

- English & Spanish v


12
Countries participated in pilot study for mercury in biota and abiota 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

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.

Thank you