

**Children's Environmental Health Indicators (CEHI):**  
**Presenting Regional Successes**  
**Learning for the Future**

# Summary



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# Contents

Summary – Children’s Environmental Health Indicators (CEHI): Presenting Regional Successes, Learning for the Future	2
A Framework for Children’s Environmental Health Indicators	5
Key Findings Across the CEHI Projects	6
Comparing Different Experiences in Implementing CEHI	7
Linking Indicators to Existing Mechanisms	9
Moving Forward	12
Conclusion	14
Acknowledgements	15
National and Regional Information on Children’s Environmental Health Indicator Development	18

# Summary –

## Children's Environmental Health Indicators (CEHI): Presenting Regional Successes Learning for the Future

Children's environmental health indicators are aimed at improving the assessment of children's environmental health, monitoring the effects of interventions to improve children's health in relation to the environment and reporting on the state of children's environmental health.

The World Health Organization (WHO) has been coordinating the development and implementation of this initiative with funding support from the Office of Children's Health

Protection at the United States Environmental Protection Agency (USEPA), thereby enabling pilot projects in Africa, North America, Latin America, the Caribbean and the Middle East (Box 1). The initiative builds on existing international, regional and national work on child health and environmental indicators. Several countries have chosen to collect new data as part of the implementation of the CEHI initiative (e.g. Tunisia, Oman and Cameroon). In addition, several countries are contributing to the objectives of the initiative independently through the development and reporting of children's environmental health with their own sources of funding, while sharing results and experiences along the way (e.g. The Commission for Environmental Cooperation (CEC) of North America and the WHO European Region Environment and

Health Information System (ENHIS) project).

Many countries came forward to be part of the initial phase to develop children's environmental health indicators. Their experience proved very beneficial for other countries that joined later. It is hoped that even more countries will engage actively in future efforts.

The initiative took a flexible approach to the implementation of projects, focusing on what was feasible in the short-term while working towards a common set of indicators in the medium- and long-term where possible. Each regional or country project chose the path most suited to its specific circumstances (e.g. burden of disease, availability of resources).

### The objectives of the initiative are to:

- Develop and promote use of children's environmental health indicators;
- Improve assessment of children's environmental health and monitor the success or failure of interventions;
- Provide data to inform policy-makers and to allow measurement of the effectiveness of policies and programmes to improve environmental conditions for children.



In order to provide a solid basis for indicator development and collection, WHO proposed a set of core indicators at the global level, which countries adapted to suit their specific needs. Subsequently, they defined and collected indicators at the national level and integrated them at the regional level where feasible.

Throughout the CEHI initiative the aim has been to ensure equal relevance of the indicators for the health and environment sectors so that both can monitor their efforts towards realizing healthy environments for healthy children. The initiative aims to assess best practices and lessons learned among the different indicator development projects.

### Box 1. Countries and projects contributing to children's environmental health indicator development:

#### THE AFRICAN REGION:

- Cameroon, Kenya, Zimbabwe

#### THE AMERICAS:

- Canada, Mexico, the United States, United States-Mexico Border, Argentina

#### THE EASTERN MEDITERRANEAN REGION:

- Oman, Tunisia

#### THE EUROPEAN REGION:

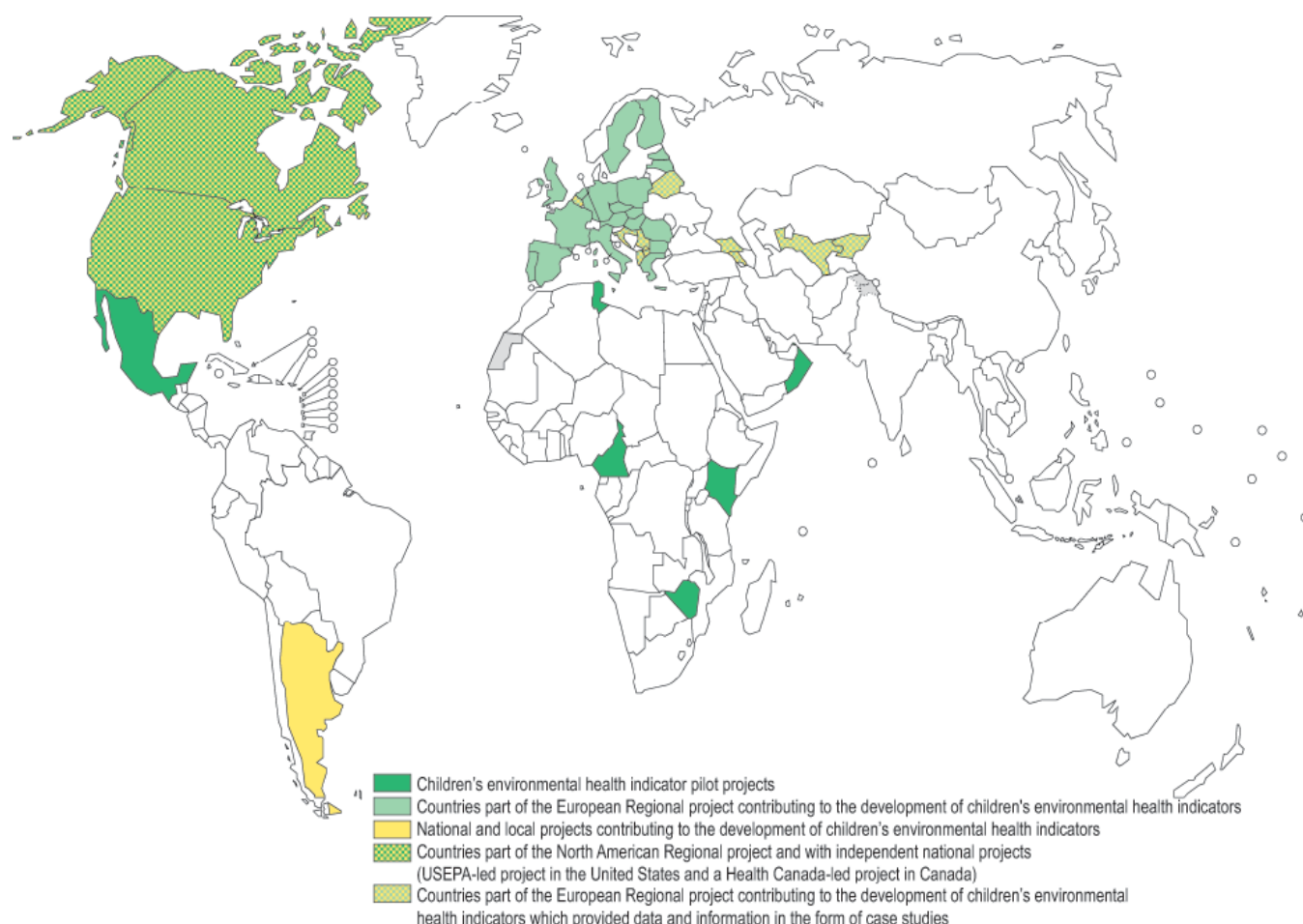
- <sup>(1)</sup> Austria, Bulgaria, Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain
- <sup>(2)</sup> Sweden and the United Kingdom<sup>2</sup>
- <sup>(3)</sup> Albania, Armenia, Belarus, Belgium, Croatia, Georgia, Kyrgyzstan, Malta, Serbia, the former Yugoslav Republic of Macedonia, Uzbekistan<sup>3</sup>

<sup>(1)</sup> Formal partners

<sup>(2)</sup> Volunteering partners

<sup>(3)</sup> Partners who provided data and information (case studies) input

**Figure 1. Countries and projects contributing to the development of children's environmental health indicators**

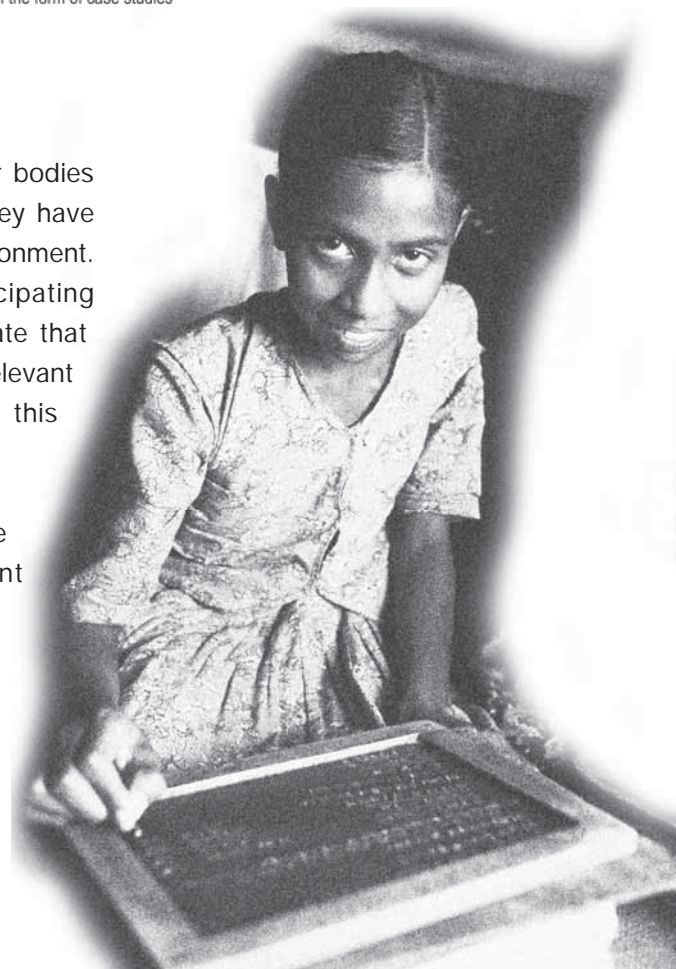


Indicators provide a basis for assessing environmental risks to children's health, prioritizing policy, and ultimately reducing environmental risks for children.

Children's environmental health indicators are important not merely in emphasizing the links between environment and health, but in drawing attention to an often neglected issue. Special attention should be devoted to children because they are generally more vulnerable than adults to environmental hazards. They breathe more air and consume more food and water relative to

their size than adults, their bodies are still developing and they have little control over their environment. The findings of the participating projects clearly demonstrate that some priority issues are relevant to children everywhere on this planet.

An assessment of all these efforts provides important information and lessons on developing and implementing children's environmental health indicators and will help guide future efforts.



# A Framework for Children's Environmental Health Indicators

Children's environmental health indicators measure the multiple links between exposure to environmental risks and health outcomes. The Multiple Exposures Multiple Effects (MEME) model is a conceptual model for the definition, collection and reporting of children's environmental health indicators on the basis of the Driving forces – Pressures – State – Exposure – Effects – Actions (DPSEEA) framework (Figure 2).

Although several frameworks are available, embedding indicators for children's health and the environment within the MEME model has several advantages. It helps to:

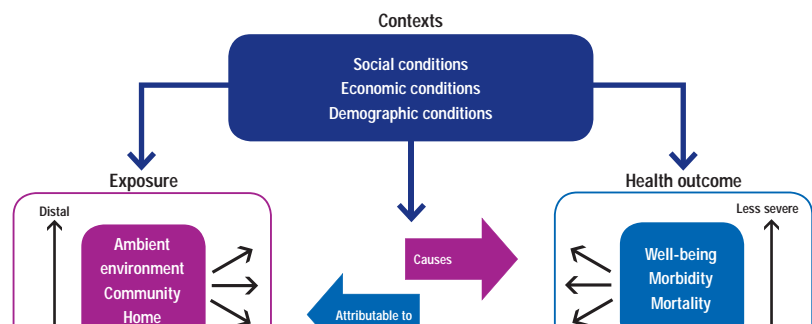
- Demonstrate the many links

site of exposure - or in a remedial fashion, through the treatment of negative health outcomes.

Figure 3 shows an adapted example of the MEME model applied to indoor air pollution as used in the North American project led by the CEC in 2006. As the model suggests,

a number of air contaminants – individually or in combination – can produce or be associated with a number of health outcomes (Briggs, 2003). Conversely, a single health outcome may be attributable to or associated with multiple exposures to multiple substances over time.

**Figure 2. Multiple Exposures – Multiple Effects (MEME)**



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