

Air Quality and Health in the Eastern Mediterranean Region

1st SDS/WAS Africa Middle East workshop on the Health Impact of Airborne Dust

Amman, Jordan 2-5 November 2015



**World Health
Organization**

Regional Office for the Eastern Mediterranean

WHO Divides the World into Six Regions

AFR: Africa

AMR: Americas

EMR: Eastern Mediterranean Region

EUR: Europe

SEAR: South East Asia

WPR: Western Pacific

Eastern Mediterranean Region (EMR)



About 550 million people lives in the 22 countries of the EMR

Burden of Disease due to environmental risks is huge (24%) and affecting **ALL COUNTRIES** of our Region (**1 million premature deaths, 38 Million DALYs annually**)

	Group 1	Group 2	Group 3
Development	High	Middle	Low
EH Services	Good	Endeavoring	Lacking
EMR Population	7%	44%	49%
DALYs/1000/Y	25.4	39.3	94.4
US\$ Billion/Y	26.5	71.5	45.0

Air Quality and Health

Air pollution **poses risks** to health even at relatively **low levels**, and in view of the large number of people exposed to this risk, it causes significant loss of life and ill-health in countries at all levels of development. It is strongly associated with **stroke, heart and respiratory diseases and cancer**, and with maternal and child health.

Burden of Air Pollution on Health

- In new estimates released in 2014, WHO reported that around **7 million people**, including more than **400 000** in the EMR, are annually dying prematurely as a result of air pollution (mainly **Particulate Matter** and **Burning of Solid Fuel** for cooking and Heating) . *Country estimates will be published by end 2015 or early 2016.*
- These estimates are more or less go along with estimates of the recent global burden of disease studies (**GBD 2012 and 2015**)

Burden of Air Pollution in EMR

Outdoor air pollution → 250,000 deaths/year – mostly from urban exposures

Indoor air pollution → 200,000 deaths/year – mostly from indoor biomass burning



Air Pollution is aggravated by Climate Change

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Asthma cases up by 25% as dust blows across the UAE



Roads yesterday had poor visibility, which police say caused the death of a motorcyclist in RAK. Antonie Robertson / The National



TUE, MAR 10, 2015

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OMAN

Oman health: Dust storms pose risks of bird flu; hospitals under siege

BY RAHUL DAS | FEBRUARY 24, 2015, 9:32 PM GST

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A file photo of officials test poultry at the border with mainland China in Hong Kong as part of measures against the spread of the bird flu. AFP file photo

Muscat: Hospitals in Oman say they are under siege as the changing weather has sparked off health alerts, even as a specialist warned that the walls of dust that barrelled across the Sultanate can transmit a variety of airborne infections, including bird flu.

RELATED STORIES

- VIDEO: Hospitals under siege in Oman and other top stories
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Dr Thashli Thankachen, physician – internal medicine, Lifeline Medical Centre, said that the dreaded bird flu can drift in a sandstorm from an affected area to another region not previously under an epidemic attack.

Read also [20 life lessons from cancer survivors](#)

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- Oman weather: Heavy rain, thundershowers from Wednesday**
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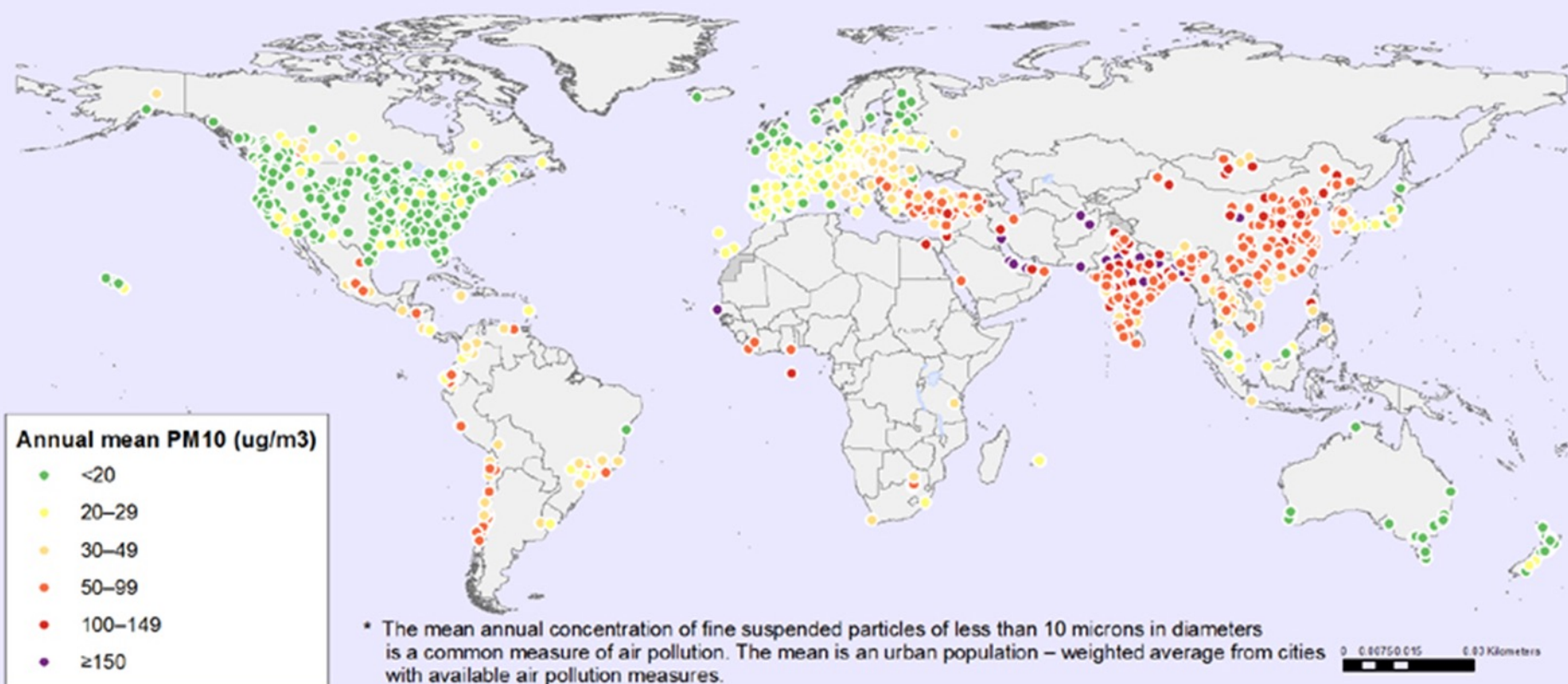
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Challenges in the Region

- Several countries of the Region still **do not have adequate regulations and/or systems for controlling, monitoring, and reporting** air pollution
- Data from the WHO 2014 database on air pollution shows that out of the **1600 cities** that are reporting PM10 data globally **only 26 cities** are in the Region
- There are **some specificities** in the Region (Sand and Dust, 2nd hand smoke, Kerosene, Refugees
- **Research** on Air Quality and Health is **Lacking**

Exposure to particulate matter with an aerodynamic diameter of 10 μm or less (PM₁₀) in 1600 urban areas*, 2008–2013



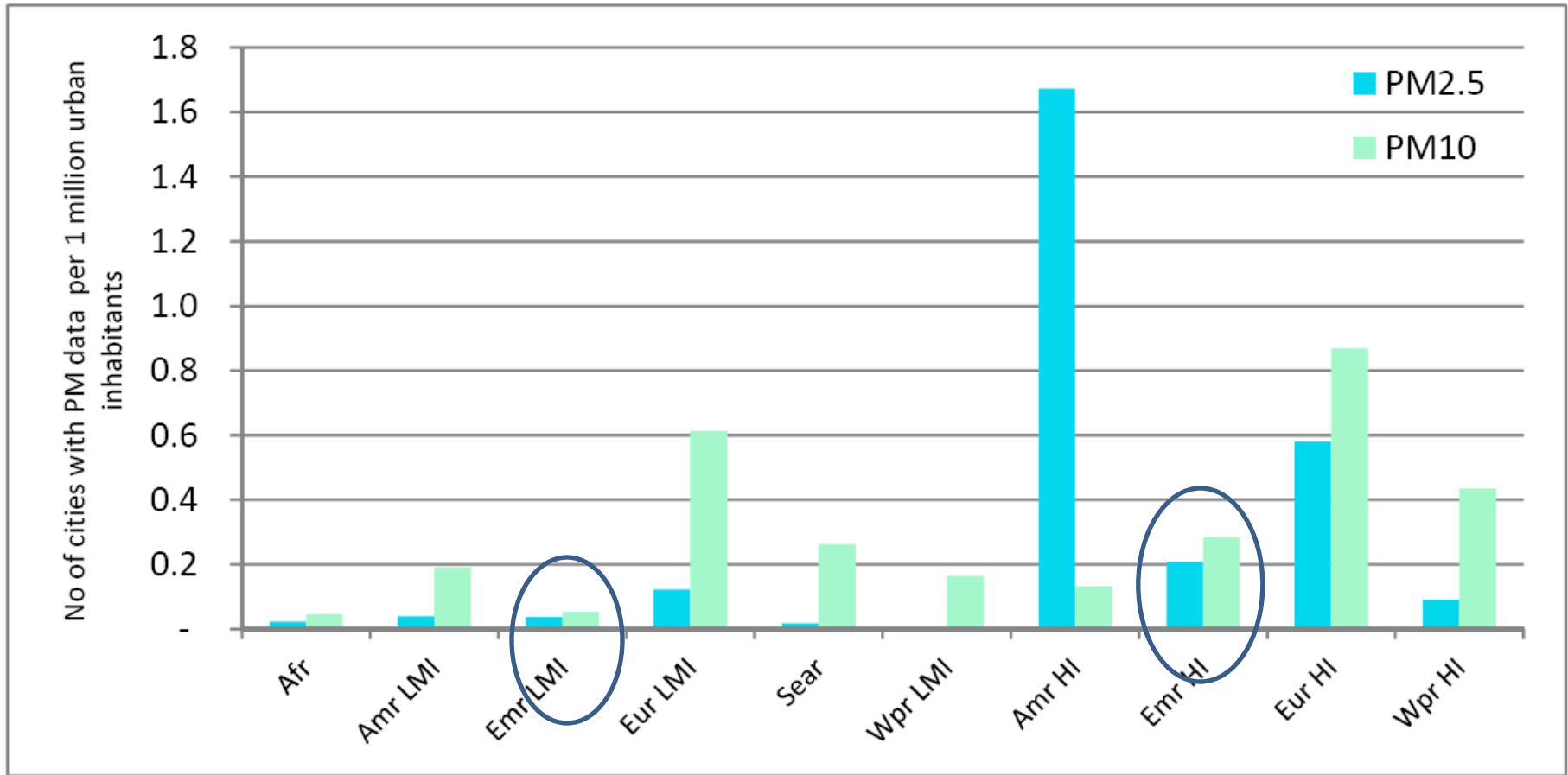
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Data Source: World Health Organization
Map Production: Health Statistics and
Information Systems (HSI)
World Health Organization



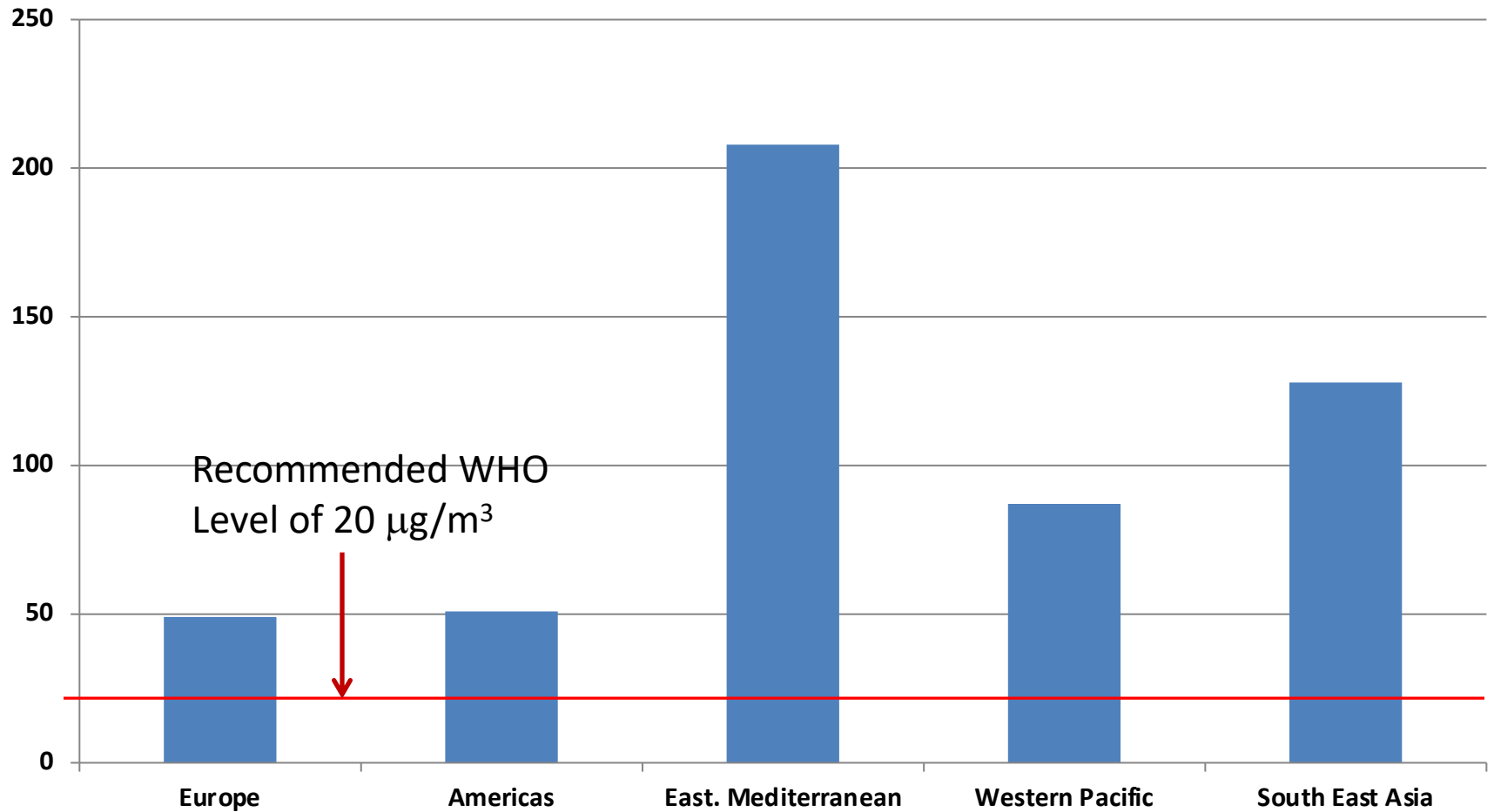
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Number of cities with accessible data per urban population



Afr Africa, Amr Americas, Eur Europe, Emr Eastern Mediterranean, Sear South East Asia, Wpr Western Pacific, LMI low and middle income, HI High income

PM10 Levels by Region 2008-12



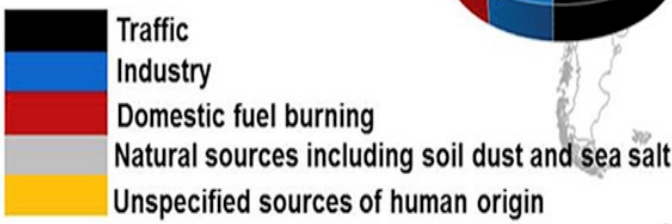
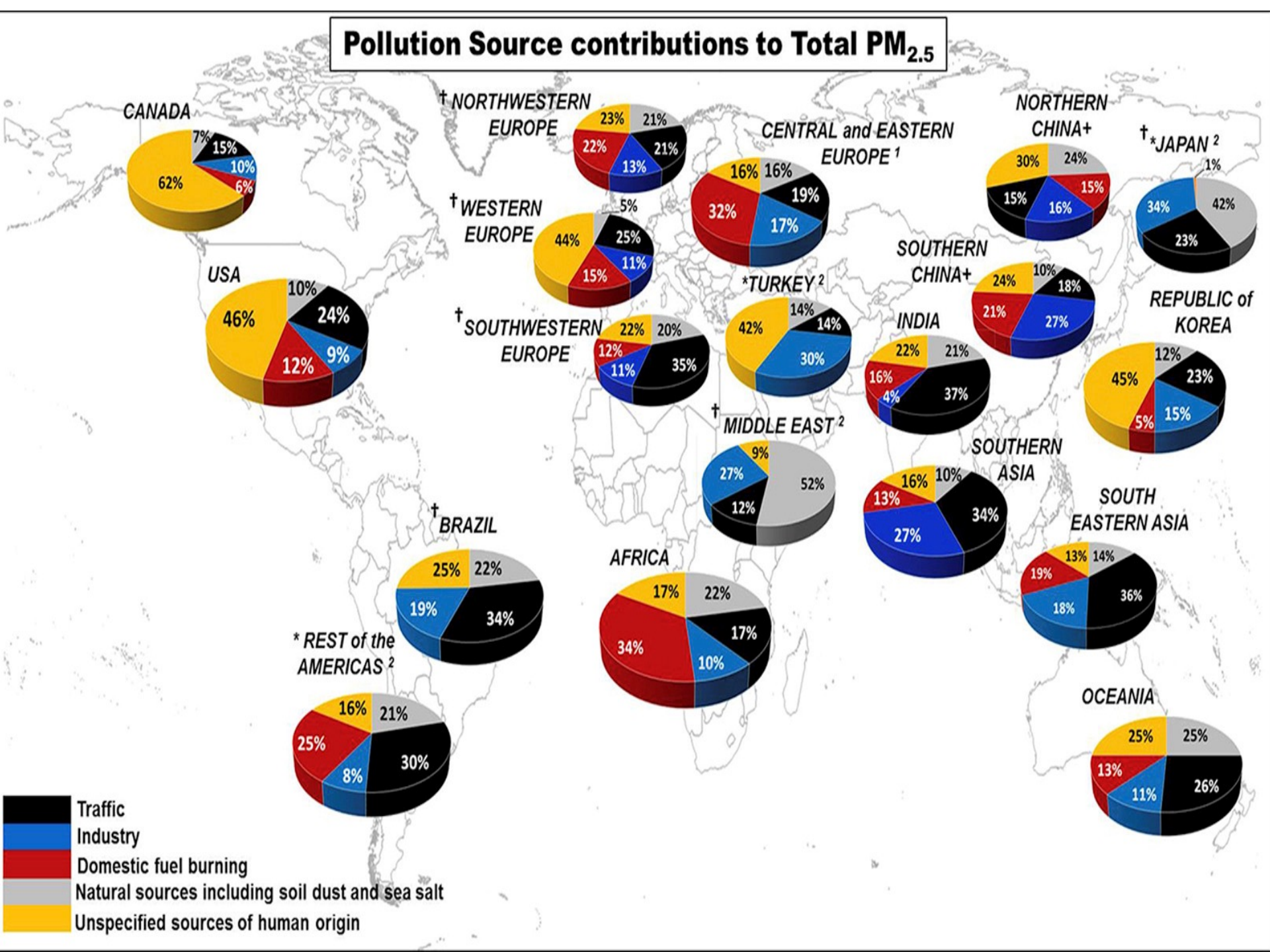
EM Cities Reporting to WHO Database 2014

Air Quality in Cities:

http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/

	Cities	Year	PM10	PM2.5
Afghanistan	2	2009	x	x
Egypt	2	2011	x	
Bahrain	5	2012	x	x
Iran	3	2010	x	x
Jordan	1	2010	x	x
Lebanon	2	2010	x	
Pakistan	4	2010	x	x
Oman	1	2010	x	x
Saudi Arabia	1	2011	x	x
UAE	3	2011	x	
Qatar	2	2012	x	x
	26			

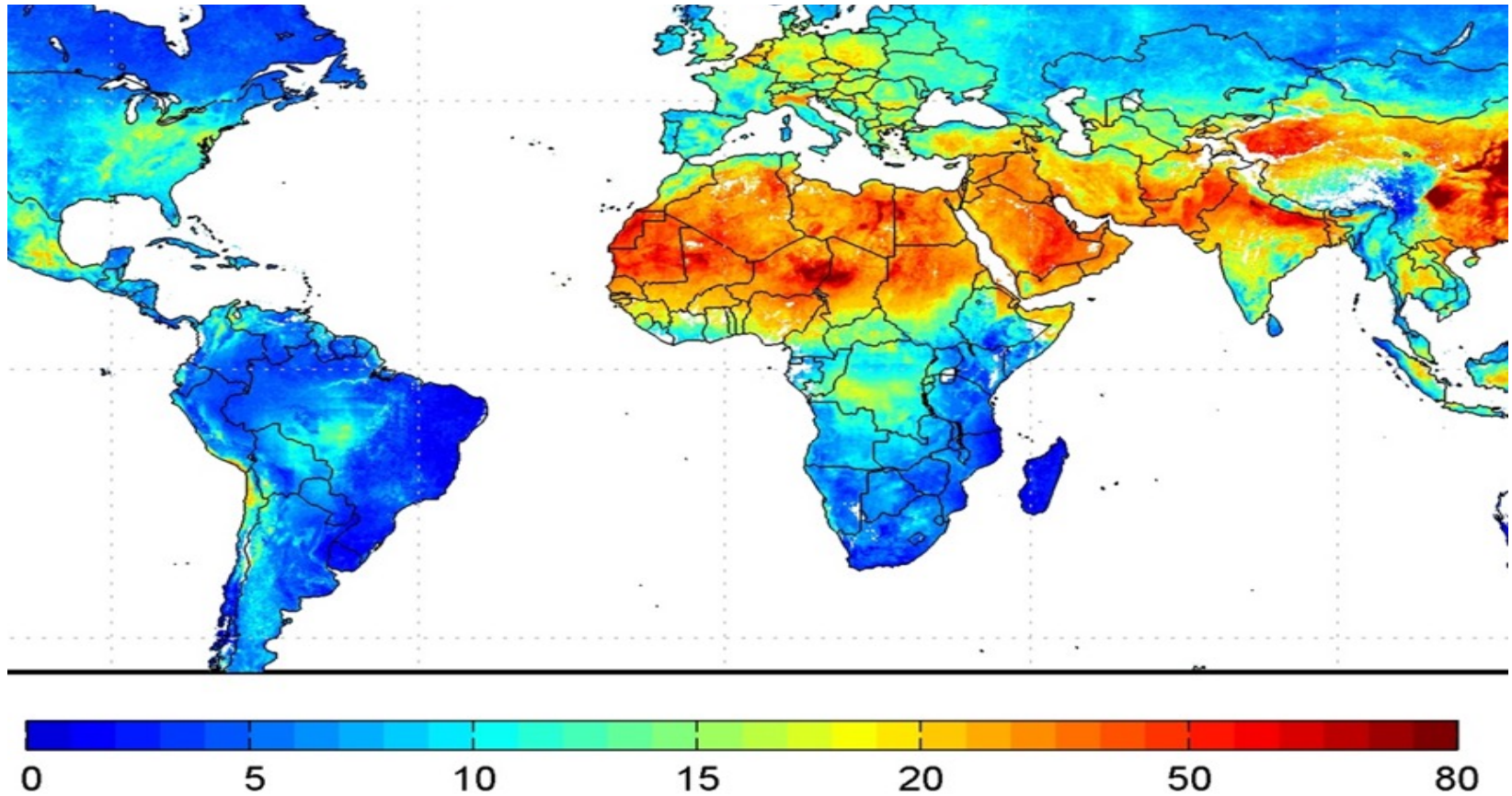
Pollution Source contributions to Total PM_{2.5}



Source Apportionment Studies in the EMR

Country	Source Apportionment Studies	% Dust
Egypt	3	55.7, 7, 33
Iran	1	41.5
Kuwait	2	54,51
Pakistan	3	18, ?, ?
Saudi Arabia	2	39.1
	11	

Global satellite-derived map of PM_{2.5} ($\mu\text{g}/\text{m}^3$) averaged over 2001-2006*



***Credit:** Dalhousie University, Aaron van Donkelaar

Multi-Sectorality

- Excessive air pollution is often a by-product of unsustainable policies in sectors such as transport, energy, waste management and industry.
- Sectoral Policies are not efficiently coordinated in several countries of the EMR

Lacking Research on Air Quality and Health*

Topic of Research	Number of Researches Global	Number of Researches on EMR	% in EMR
Air Pollution or Air Quality	72,558	1,084	1.5%
Health Impact of Air Pollution	34,707	627	1.8%
Sand and Dust Storms	5,803	134	2.3%

* EMR Index Medicus and PubMed databases were used, August 2014

Way Forward

- Regional Strategy on Health and Environment 2014/19
- WHO Issued a resolution on air quality and health 2015. Road Map will be developed in early 2016
- Arab Strategy on Health and Environment 2016-30 is under preparation
- Special Group to address Air Quality and Health in the Region