

# WHO Global Environment Monitoring System (GEMS/Food)

Dr Philippe Verger

WHO/ EMRO/CEHA



Regional Roundtable Meeting

**Advancing the Implementation  
of Framework for Action  
on Food Safety**

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# GEMS/Food programme

*Sharing data and methods to support scientific advice*

- Databases to help the Codex Alimentarius and scientific bodies assessing risk, setting food safety standards and estimating the burden of foodborne diseases.
  - Food consumption data from 36 countries
  - More than 8 million analytical results for contaminants and pesticides from Member States and private sector
- A network of institutions to share good practices about food chemicals monitoring and food consumption survey
- A roster of exposure experts to develop international exposure assessment methodologies

# Food consumption data – summary statistics (CIFOCOss)

- Individual food consumption data are available from 36 countries: 4 countries in SEAR (Bangladesh, India, Indonesia, Thailand),
- Detailed level of food categorization (about 500 items)
- Mean, standard deviation, high and low percentiles for consumer groups
- All data are integrated in CIFOCOss, the FAO/WHO Chronic Individual Food Consumption database – Summary statistics (<http://apps.who.int/foscollab/>)

# Food consumption data – raw individual data (GIFT)





## Explore the available data

Select the survey of interest among the available data in the FAO/WHO GIFT database.

For each survey, you can:

- Visualize ready-to-use indicators in the areas of food consumption, food safety and nutrition;
- Download the microdata of food consumption for further analysis.



Advanced Search: select datasets which contain information according to your criteria

### Results

Title	Sample Size	Country	Start Year	End Year	
India - 2009/2012 - Diet and Nutritional status of Rural population, Prevalence of hypertension and Diabetes among Adults and Infant & Young child feeding practices	39719	India	2009	2012	<a href="#">Indicators</a> <a href="#">Download</a>
HarvestPlus Bangladesh Bio-fortified Rice Project - Baseline Dietary Survey	475	Bangladesh	2007	2008	<a href="#">Indicators</a> <a href="#">Download</a>
Women First Dietary Recall Data: Belagavi, Karnataka, India 2014/2016	245	India	2014	2015	<a href="#">Indicators</a> <a href="#">Download</a>

Showing 1 to 3 of 3 rows



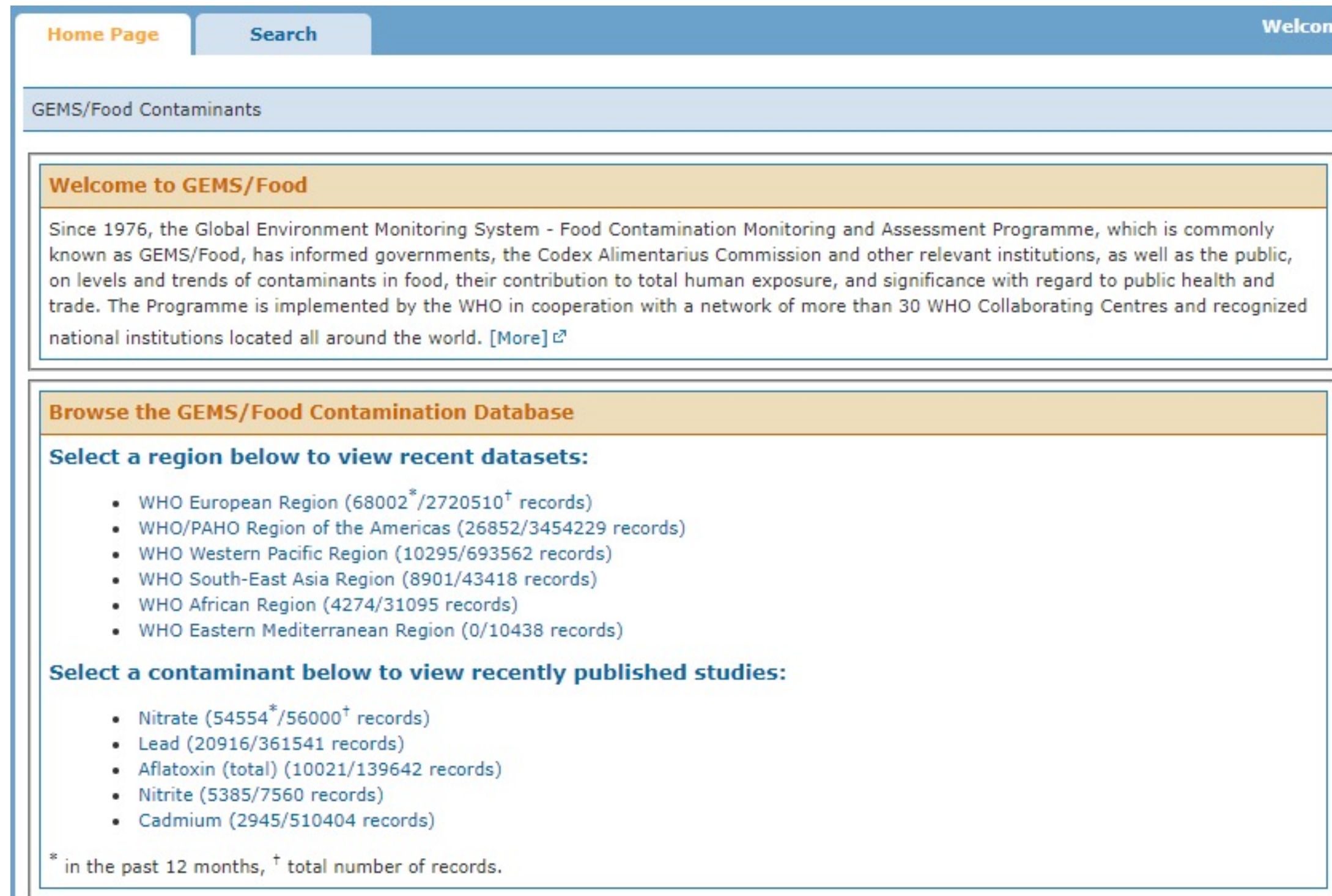
# The GEMS/Food chemical database

Country labels or names are not visible to the public. Instead, the region is displayed.

The number of samples submitted by region is displayed.

The number of samples submitted for each contaminant is displayed.

All data visible on the screen are exportable as an excel or CSV.



The screenshot shows the homepage of the GEMS/Food database. At the top, there is a navigation bar with 'Home Page' and 'Search' links, and a 'Welcome' message. Below this is a header section titled 'GEMS/Food Contaminants'. The main content area is divided into two sections. The first section, 'Welcome to GEMS/Food', provides a brief history of the program since 1976 and mentions its implementation by WHO in cooperation with a network of more than 30 WHO Collaborating Centres. The second section, 'Browse the GEMS/Food Contamination Database', contains two sub-sections. The first sub-section, 'Select a region below to view recent datasets:', lists six WHO regions with their respective record counts: WHO European Region (68002\*/2720510† records), WHO/PAHO Region of the Americas (26852/3454229 records), WHO Western Pacific Region (10295/693562 records), WHO South-East Asia Region (8901/43418 records), WHO African Region (4274/31095 records), and WHO Eastern Mediterranean Region (0/10438 records). The second sub-section, 'Select a contaminant below to view recently published studies:', lists five contaminants with their respective record counts: Nitrate (54554\*/56000† records), Lead (20916/361541 records), Aflatoxin (total) (10021/139642 records), Nitrite (5385/7560 records), and Cadmium (2945/510404 records). A footnote at the bottom left states: '\* in the past 12 months, † total number of records.'

Home Page Search Welcome

GEMS/Food Contaminants

**Welcome to GEMS/Food**

Since 1976, the Global Environment Monitoring System - Food Contamination Monitoring and Assessment Programme, which is commonly known as GEMS/Food, has informed governments, the Codex Alimentarius Commission and other relevant institutions, as well as the public, on levels and trends of contaminants in food, their contribution to total human exposure, and significance with regard to public health and trade. The Programme is implemented by the WHO in cooperation with a network of more than 30 WHO Collaborating Centres and recognized national institutions located all around the world. [\[More\]](#)

**Browse the GEMS/Food Contamination Database**

**Select a region below to view recent datasets:**

- WHO European Region (68002\*/2720510† records)
- WHO/PAHO Region of the Americas (26852/3454229 records)
- WHO Western Pacific Region (10295/693562 records)
- WHO South-East Asia Region (8901/43418 records)
- WHO African Region (4274/31095 records)
- WHO Eastern Mediterranean Region (0/10438 records)

**Select a contaminant below to view recently published studies:**

- Nitrate (54554\*/56000† records)
- Lead (20916/361541 records)
- Aflatoxin (total) (10021/139642 records)
- Nitrite (5385/7560 records)
- Cadmium (2945/510404 records)

\* in the past 12 months, † total number of records.

# The GEMS/Food chemical database

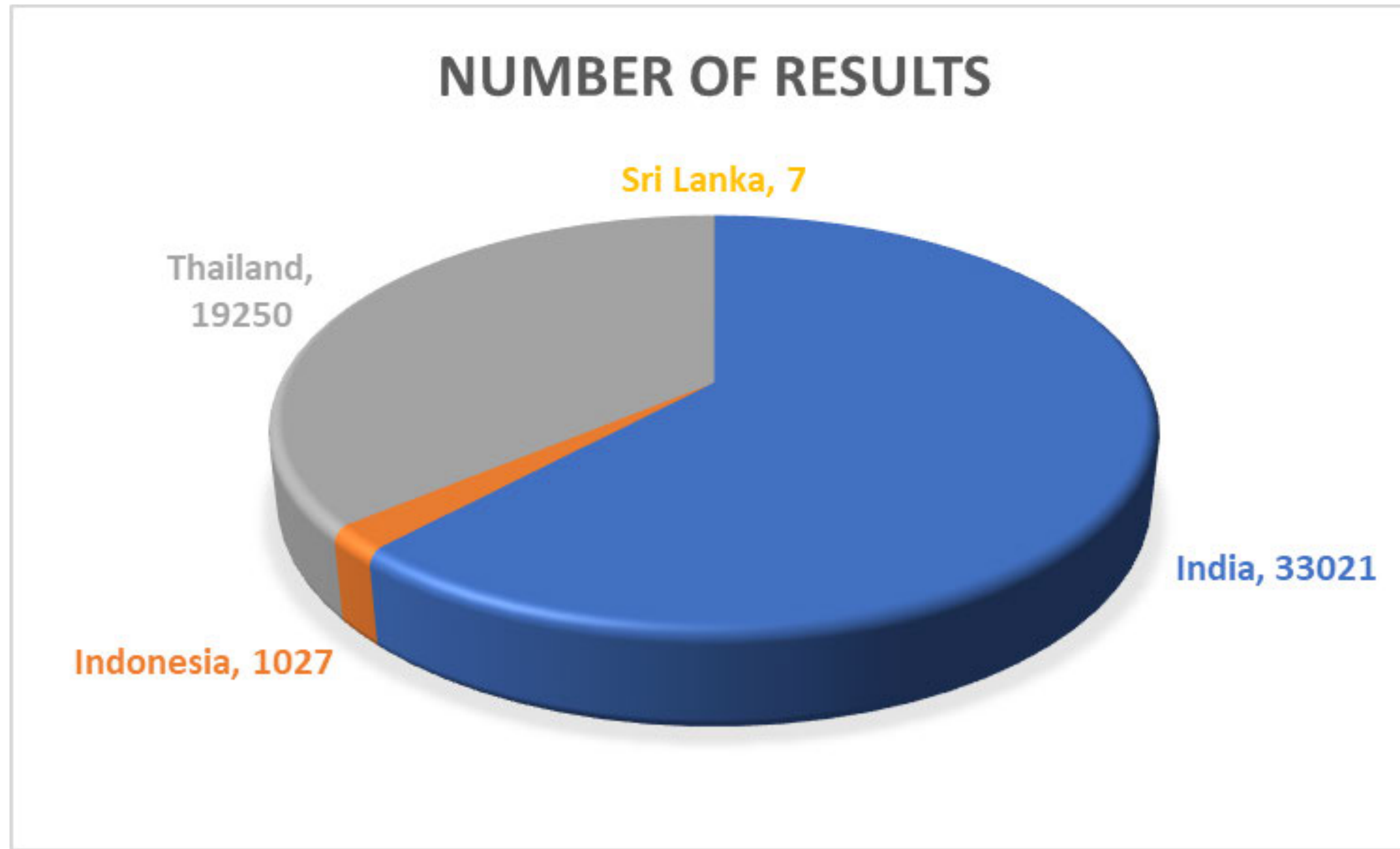
- Who can submit data?

- National Institutions: WHO Collaborating Centres, National Institutions recognized by WHO and Codex Member States
- Non-state actors: Private sector, consumer's organization, university...

- Who can access data?

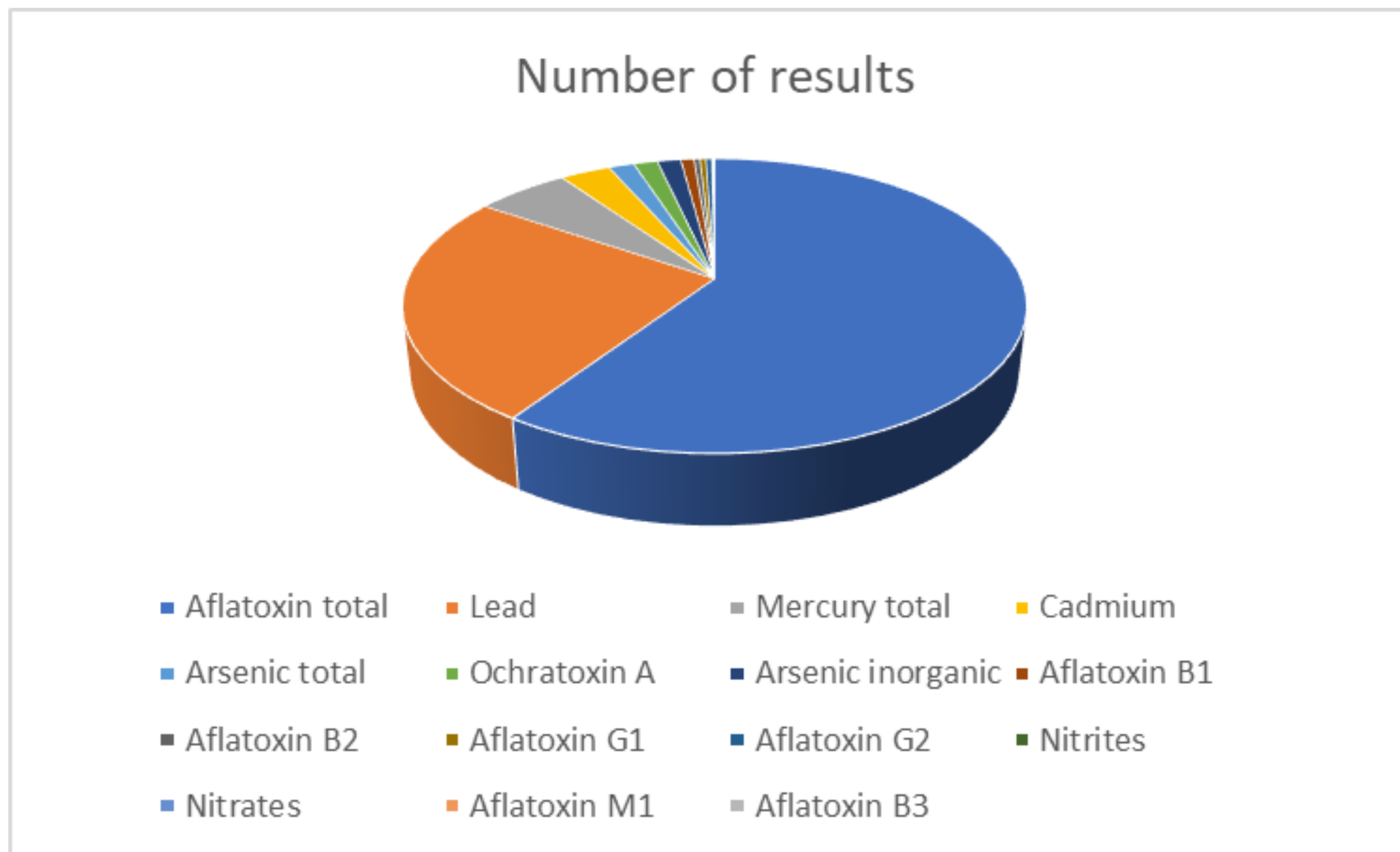
- Public access to non confidential data by region
- Chairs of CCCF working group can access all data
- JECFA experts involved in dietary exposure assessment can access all data

# SEAR Countries contributing to GEMS/Food





# Chemicals reported by SEAR to GEMS/Food



# The GEMS/Food chemical database

- WHO developed a distance learning tool (DLT) in collaboration with the Chulabhorn Research Institute (Bangkok, Thailand), a WHO Collaborating Centre.
- This DTL should be used by scientists and risk managers to analyse the food contamination data submitted to GEMS/Food.
- A password protected access to the learning tool is available upon request to: [vergerp@who.int](mailto:vergerp@who.int)



# Thank you

<http://www.who.int/foodsafety/databases/en/>