

Cities, Food and Circular Economy

NCRD Special Sessions on 3R and Circular Economy (29 November 2023) and IPLA- a SDG Partnership (30 November 2023) - Hybrid, Mumbai

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PRESENTATION OUTLINE

01

What is our current food system like?

02

How can we make a change?

03

What are the steps needed to make that change

Food waste consumes



21% of all
fresh water



19% of all
fertilizer



18% of
cropland



21% of **landfill**
volume

PRODUCES A LOT OF WASTE



Source: istock

CAUSES ENVIRONMENTAL POLLUTION



DEGRADES OUR NATURAL RESOURCES

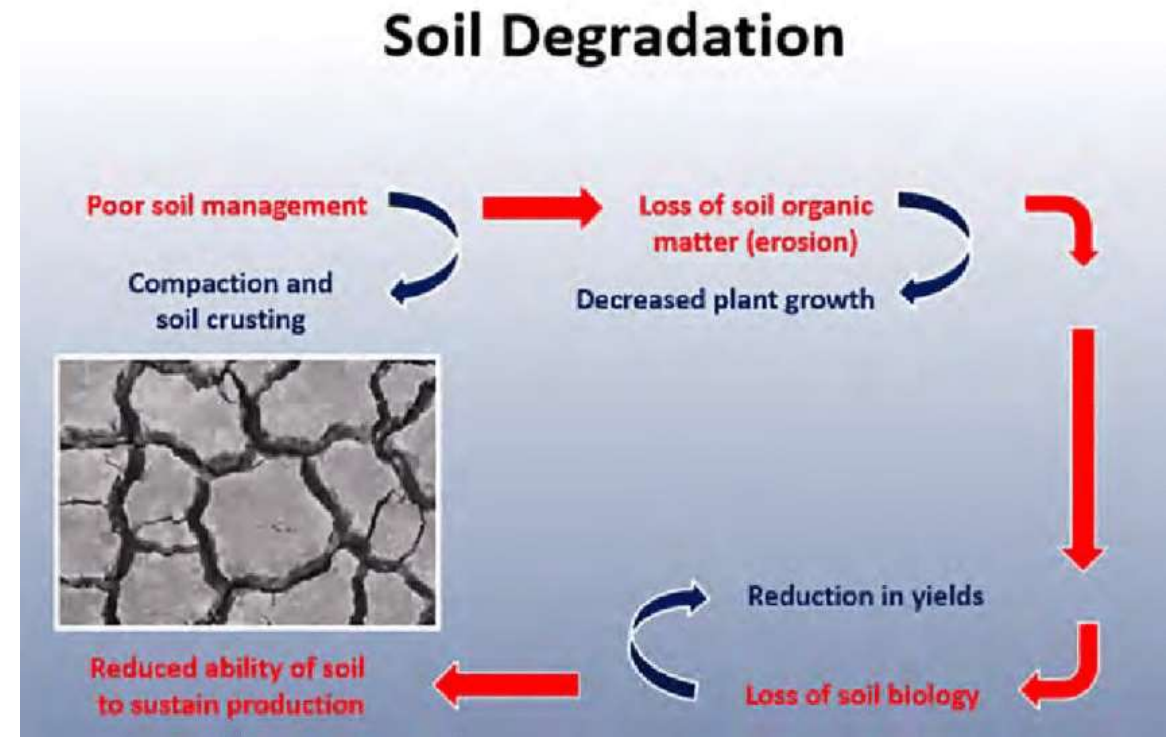


Photo: [IRRI](#). Creative Commons [CC BY-NC-SA 2.0](#)(cropped).

Link: [Food waste in the catering sector | Umweltbundesamt](#)

CAUSES ANTI-MICROBIAL RESISTANCE AND AIR POLLUTION

Ammonia (NH₃) – a pollutant that affects air quality



Agriculture (incl. anaerobic digestion) accounts for **87%** of airborne NH₃

IMPACTS ON HEALTH

Ammonia reacts in the atmosphere to produce particulate matter (PM)



PM has a significant impact on cardiovascular and respiratory disease

Ammonia emissions can travel long distances and combine with urban nitrogen oxides contributing to smog



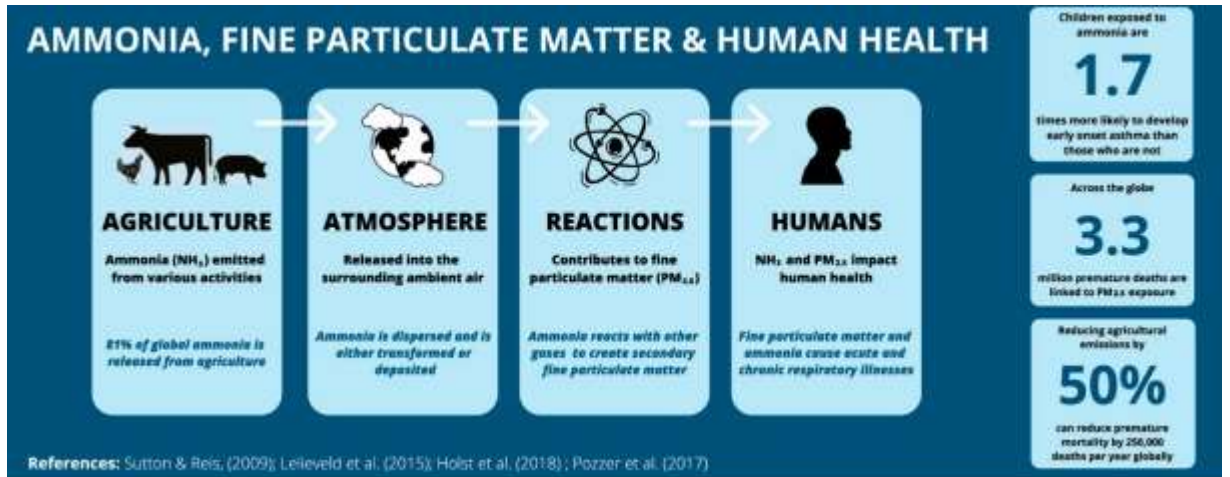
EFFECTS ON THE ENVIRONMENT

Acidification of habitats



Reducing biodiversity

Excessive nitrogen in habitats



Source: [1-s2.0-S0301479722018588-ga1_lrg.jpg \(2213x882\)](https://www.els-cdn.com/1-s2.0-S0301479722018588-ga1_lrg.jpg)
(els-cdn.com)

Environmental impacts of food waste (per 100 persons)

Greenhouse gas emissions



13.2 t CO₂e



42,500 km car drive

Agricultural land use



24,900m²*a



3 soccer fields

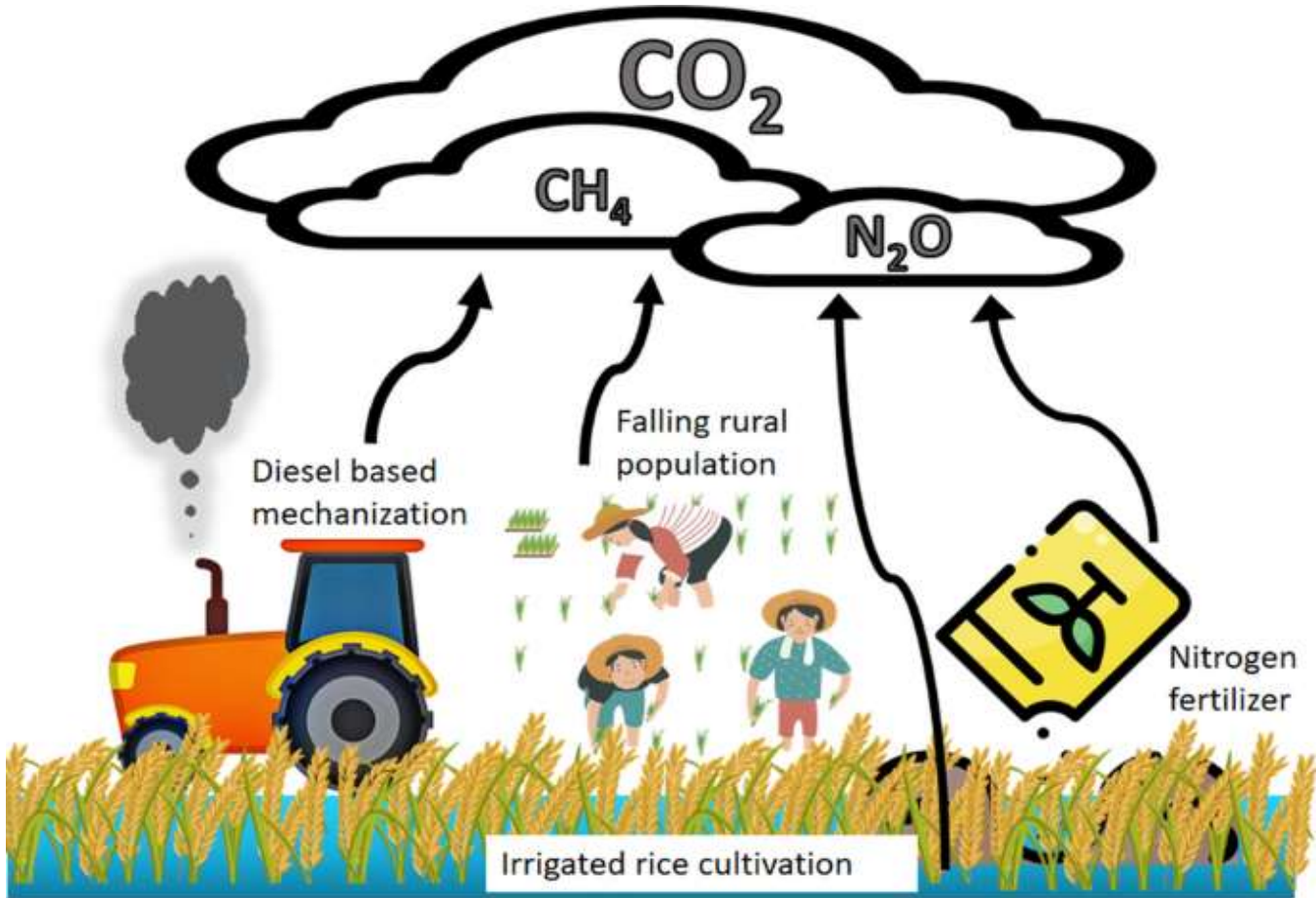
Agricultural water consumption



85,000 litres

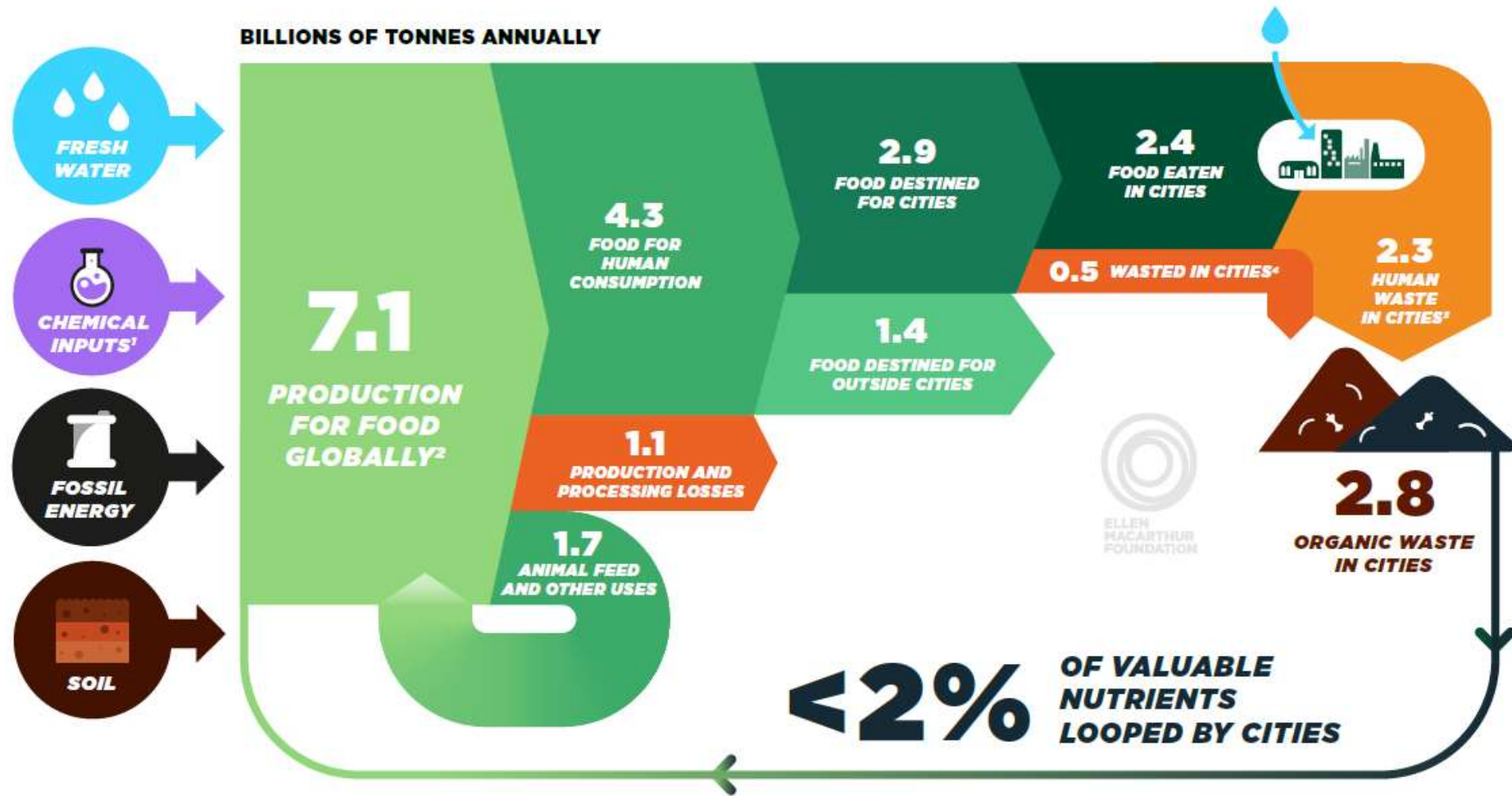


85,000 1-litre water bottles



SO THE CURRENT WAY OF GROWING FOOD WILL NOT ONLY LEAD TO A LOSS OF LIVES, IT WILL ALSO LEAD TO GROWING GHG EMISSIONS.

OUR CURRENT LINEAR FOOD SYSTEM



THERE IS HOPE AND CITIES CAN BE THE CATALYSTS FOR CHANGE

- A food system based on the principles of a circular economy is one that is healthy for people and natural systems.
- The three principles of circular economy are



**Design out waste
and pollution
emissions**

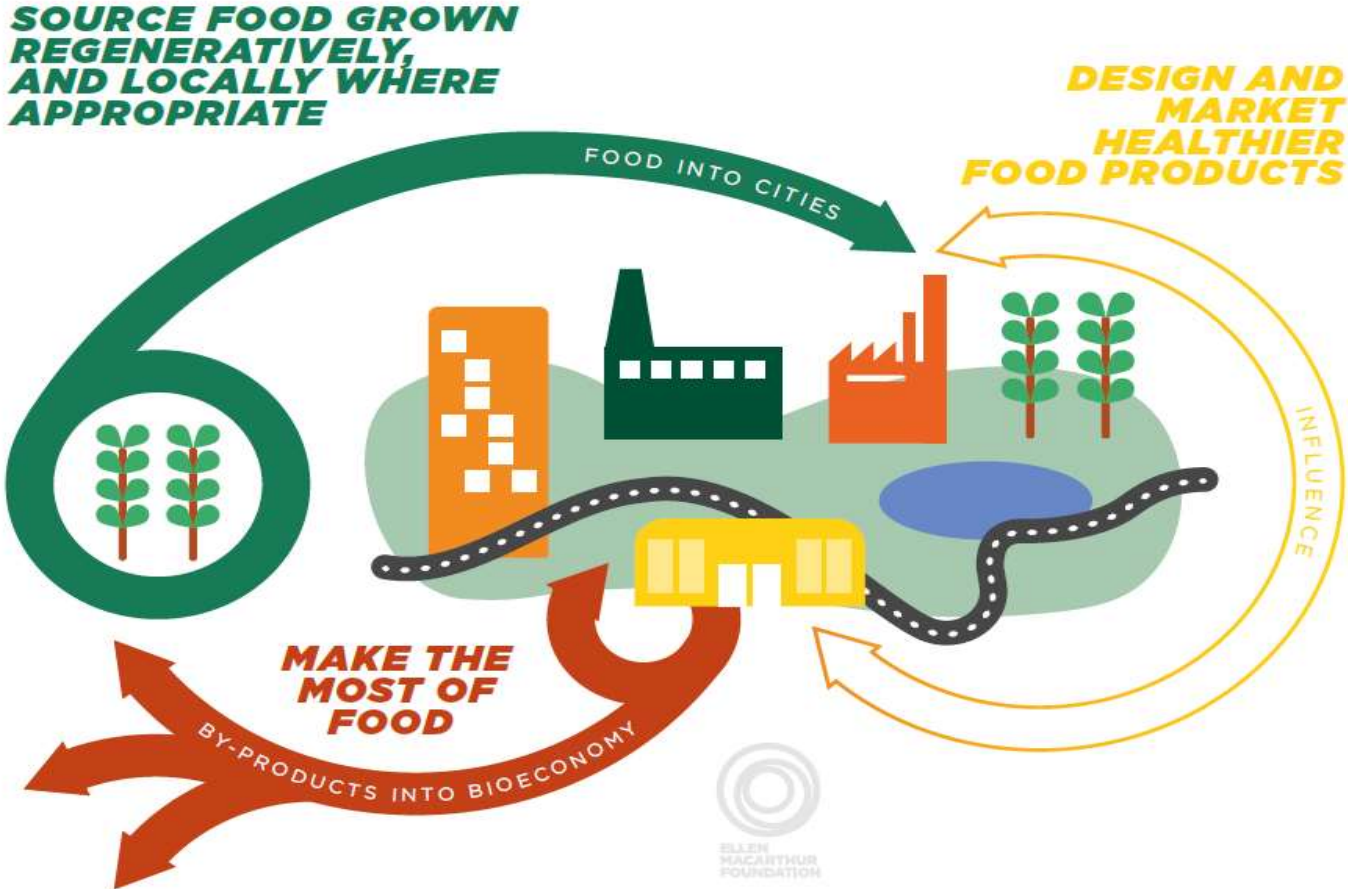


**Keep products
and materials in
use longer**



**Regenerate
natural systems**

CIRCULAR FOOD SYSTEM



STEPS THAT CITIES SHOULD TAKE UP TO TRIGGER THE CHANGE

- Map the system
- Reduce Food waste: Develop infrastructure, and digital tools and increase awareness
- Gather and consolidate funds to encourage and speed up innovations
- Leverage buying power and ensure shorter supply chains to minimize the carbon footprint of food
- Collaborate with all actors – brands, retailers, city officials, and policymakers through the ‘whole of govt. approach’



**Thank
You**



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