Creating Green and Sustainable Developments:

At Present and in a Post-COVID-19 Economy

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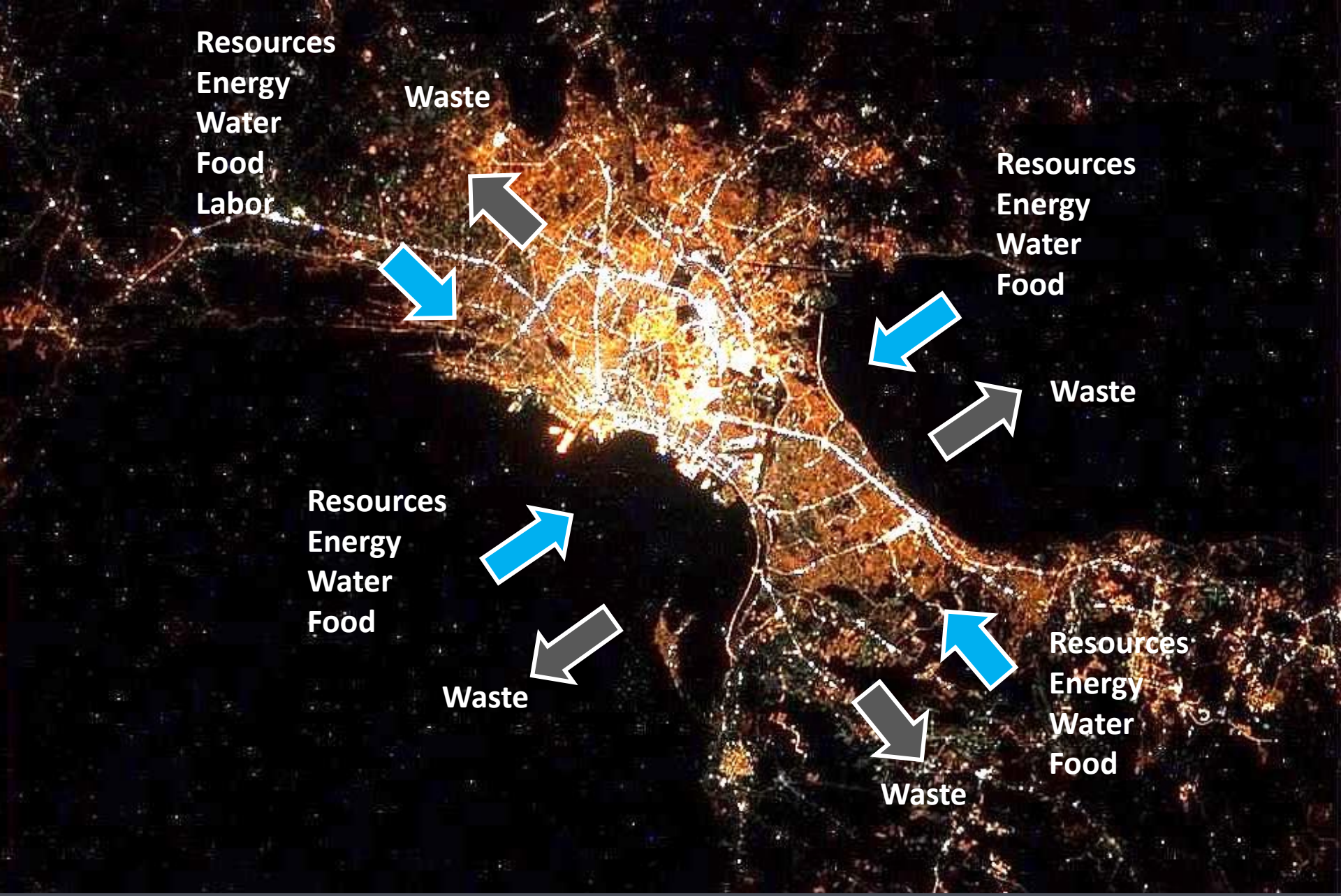
PUSH TO
RESET THE
WORLD

Cities are the Concentration of Surplus And The Manifestation of Our Economic System



Cities are the Concentration of Surplus And The Manifestation of Our Economic System

Cities

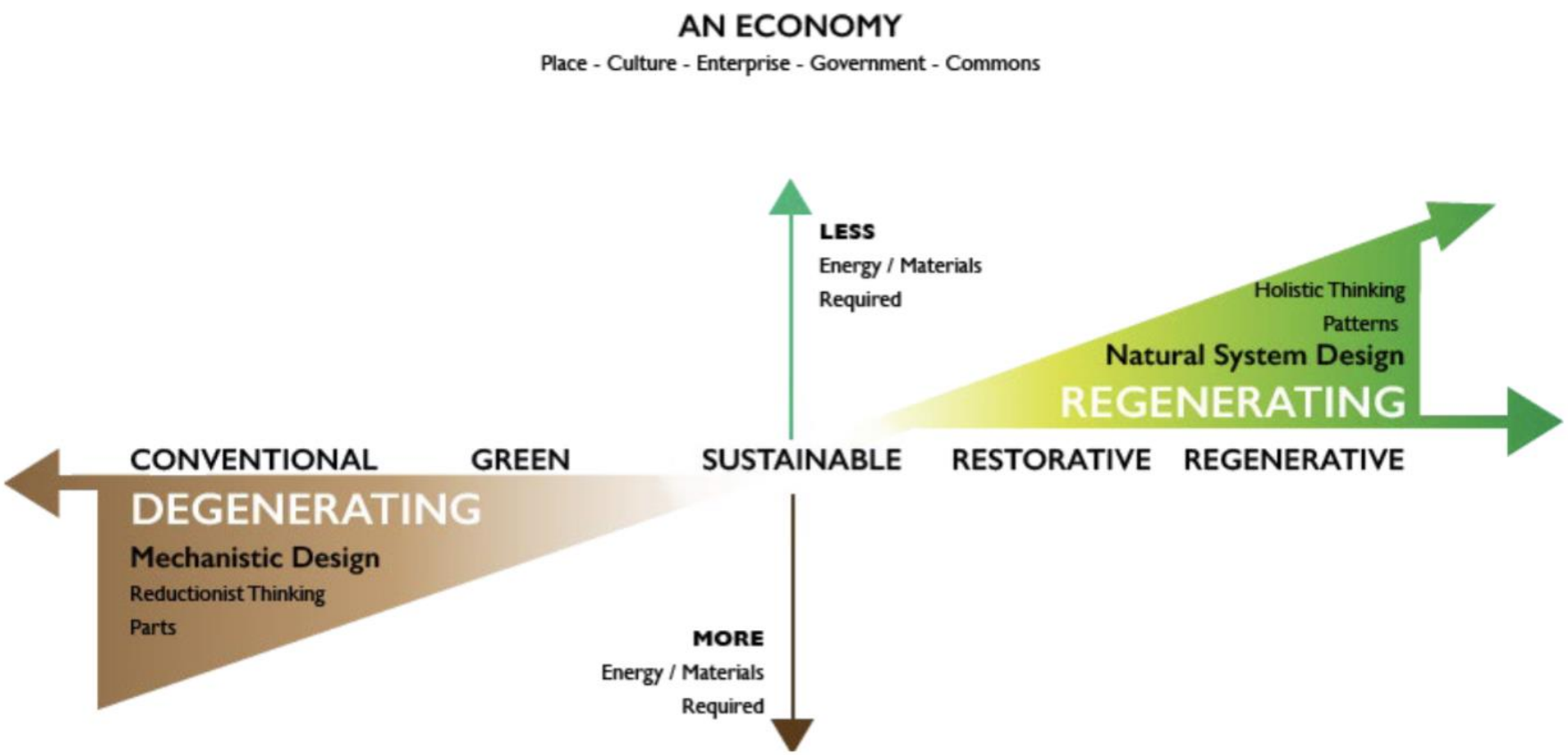
Occupy 2% of the world's land	350 Million hectares
Contain 60% of the world's population	5.2 Billion people
Generate 80% of the world's GDP	US$ 70 Trillion (2019)
Consume 75% of global energy	116,628 TWh
Emit 50 to 60% of greenhouse gases	4.8 Billion tons of CO_2
Generate over 2 Billion Tons of solid waste every year	

Sources: McKinsey Global Institute, UN Habitat

By 2040:

40% Shortfall in Water
50% Increase in Food Demand
40% Increase in Electricity Consumption

A Better Way: From Sustainable to Regenerative Development



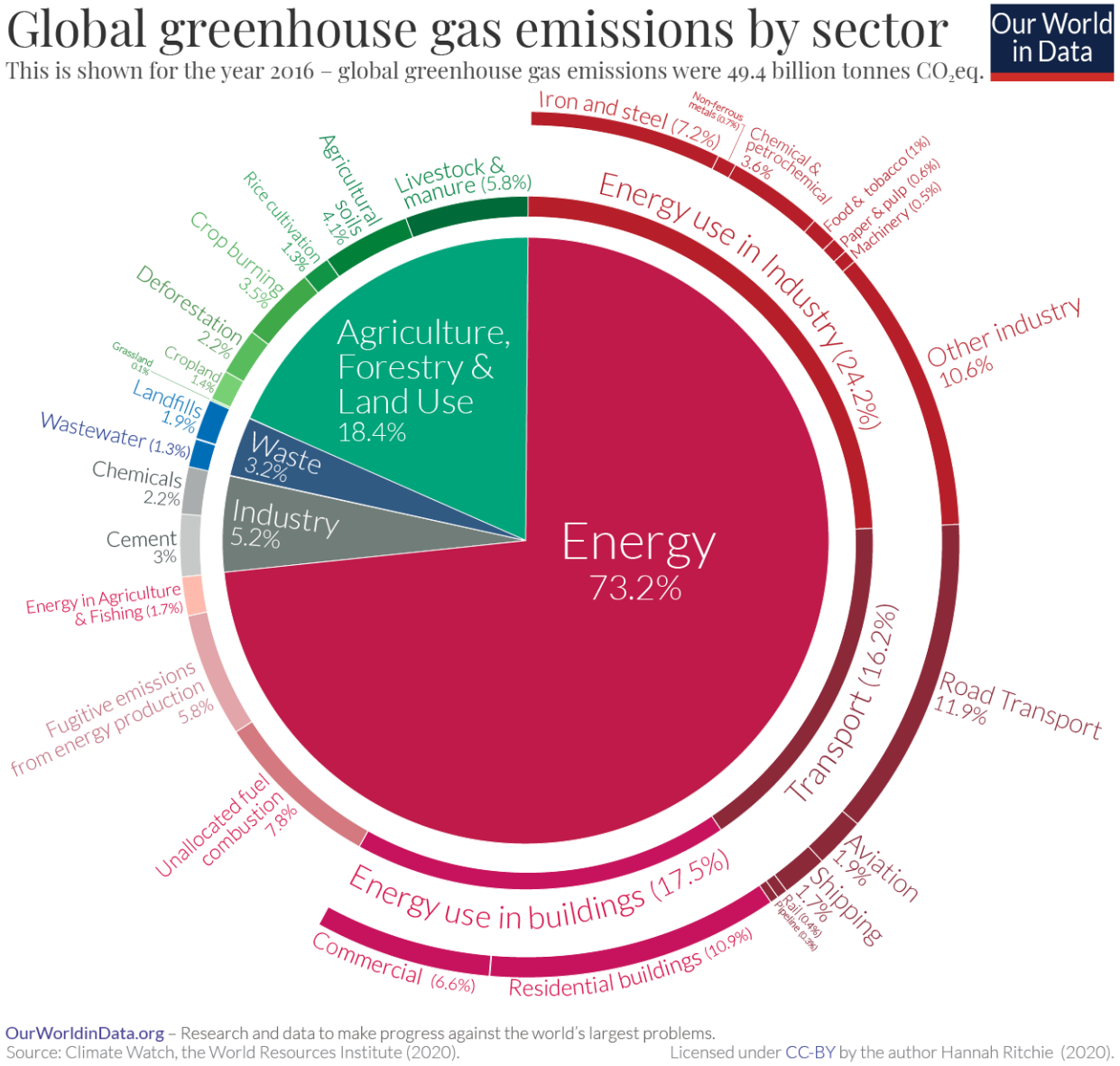
Adapted from "Trajectory of Ecological Design" (courtesy of Bill Reed).

Water and Sustainability

Angat Dam: Lowest in 10 years (May 2019)

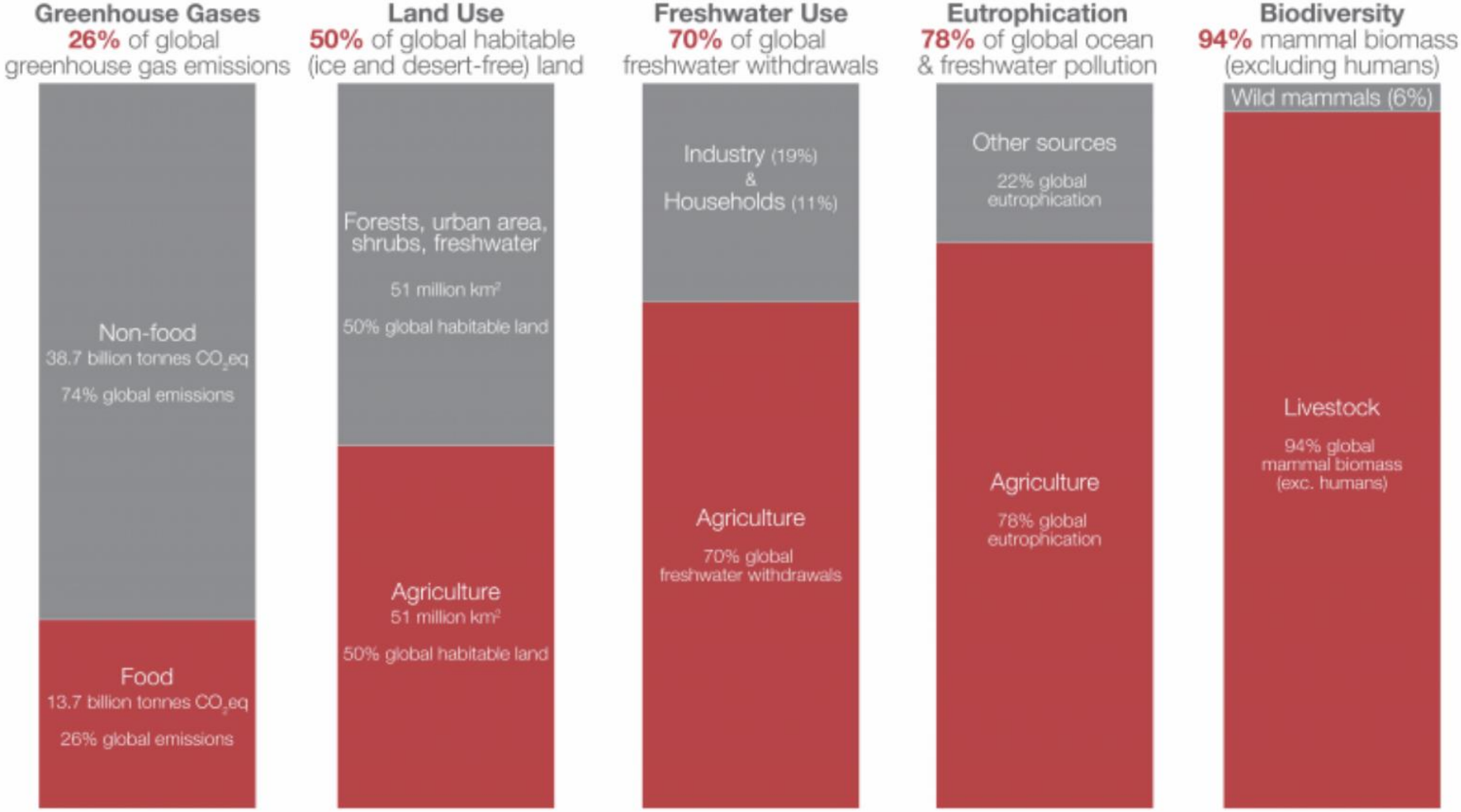
Typhoon Ulysses: Worst flooding since Ondoy , 11 years ago (November 2020)

Energy Consumption and Land Use



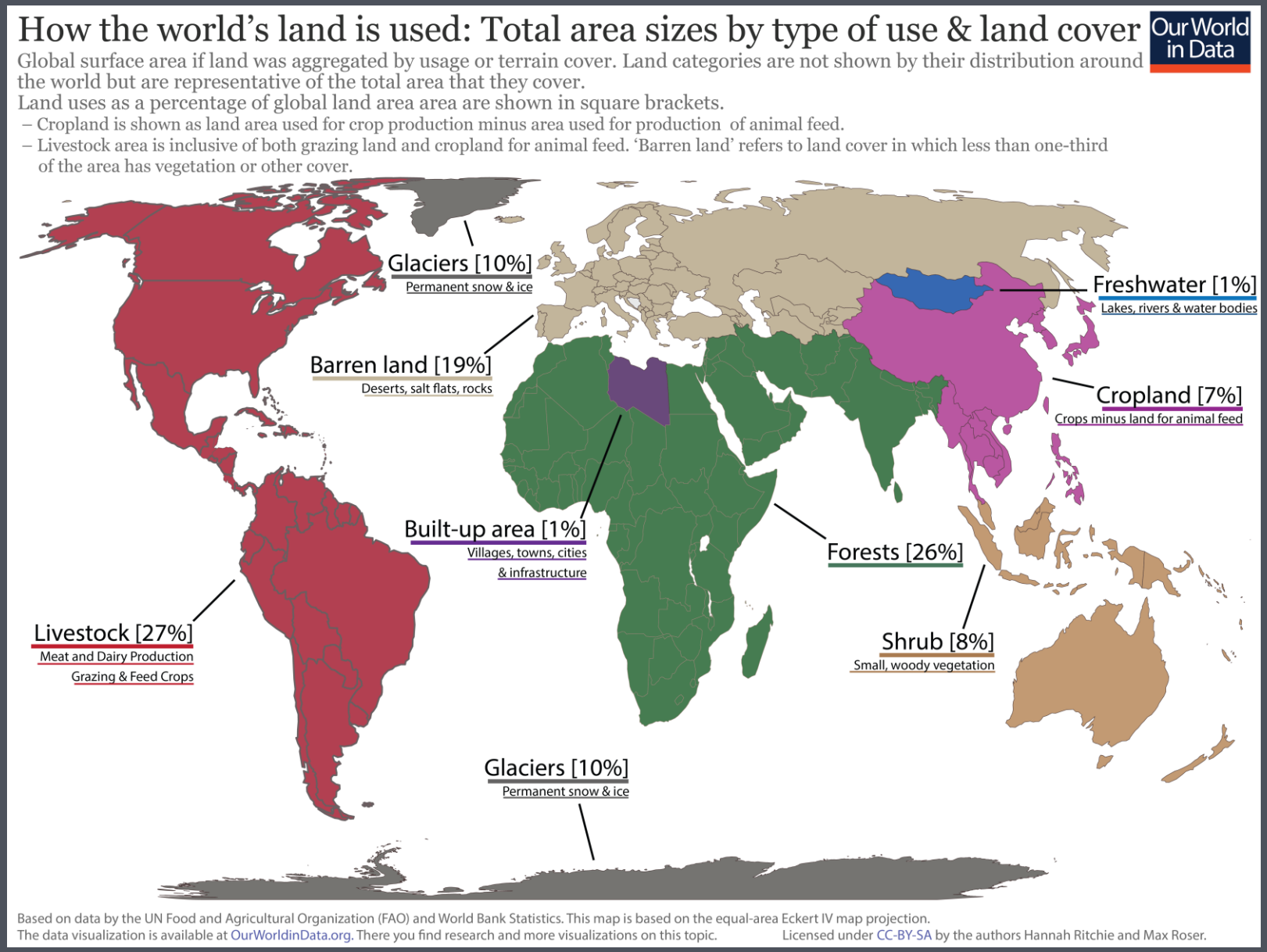
What are the environmental impacts of food and agriculture?

Our World in Data



Data sources: Poore & Nemecek (2018); UN FAO; UN AQUASTAT; Bar-On et al. (2018).
OurWorldinData.org – Research and data to make progress against the world's largest problems.

Our Pattern of Consumption is Reflected in our Land Use



The goal of every city should be to increase its Livability

Agrihoods: Master-planned Communities with food as their focus -- Urban Land Institute

Urban Agriculture in Sao Paulo

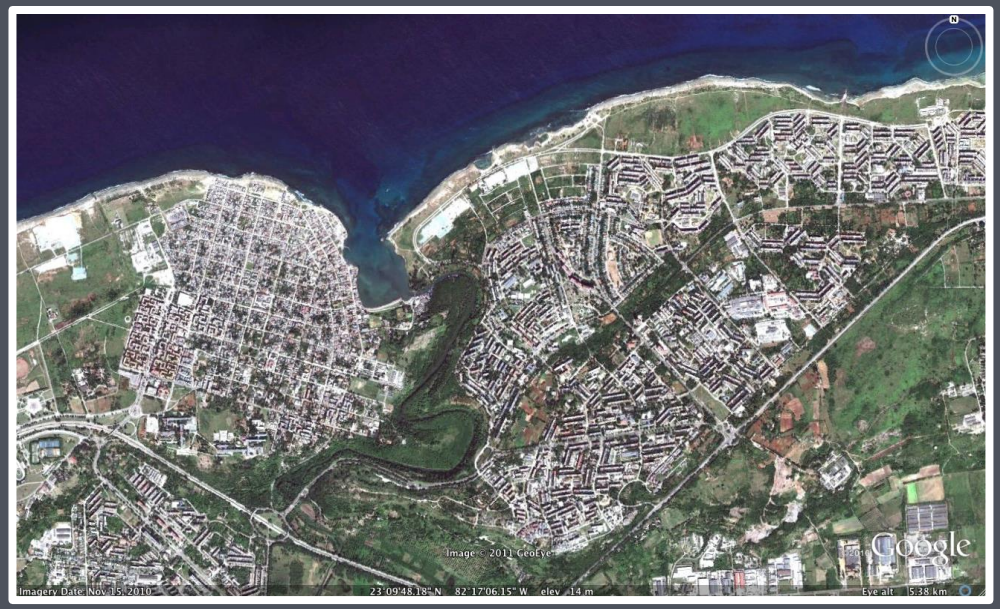
Job Generation, Health and Community Solidarity Through Urban Farming

- Cities without Hunger movement initiated the use of vacant urban land for community organic gardens
- Livelihood and food for marginalized communities
- Created green islands for the city, promoting biodiversity
- In 2004, Sao Paulo passed a Law on Urban Agriculture to officially make urban farming possible

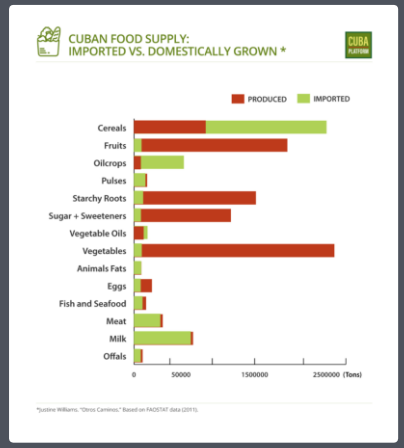
Organoponicos in Havana

Job Generation, Food Security and Self-Sufficiency

- Initiated by necessity with the collapse of the Soviet Union
- Over 36,000 hectares in Havana are being used for urban agriculture
- Attained self-reliance in fruits and vegetables
- Average wage of the garden worker in Havana is 3 times the average Cuban wage



Alamar, Havana, where 90% of vegetables are grown locally in nearly every available space.



Urban Farming During Pandemic

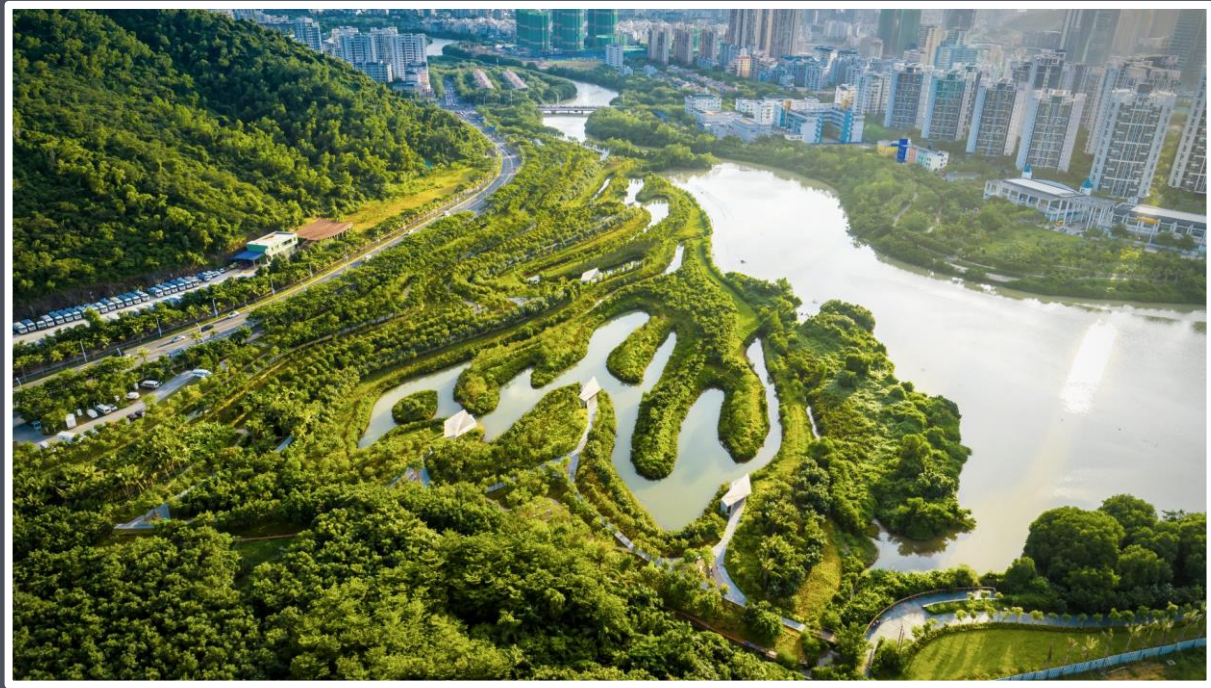
Communities Empowering Themselves During the Crisis

Communal gardens in Payatas, Quezon City

Free seeds and aquaponics training in Negros

Urban Storm Water Management through Sponge Cities

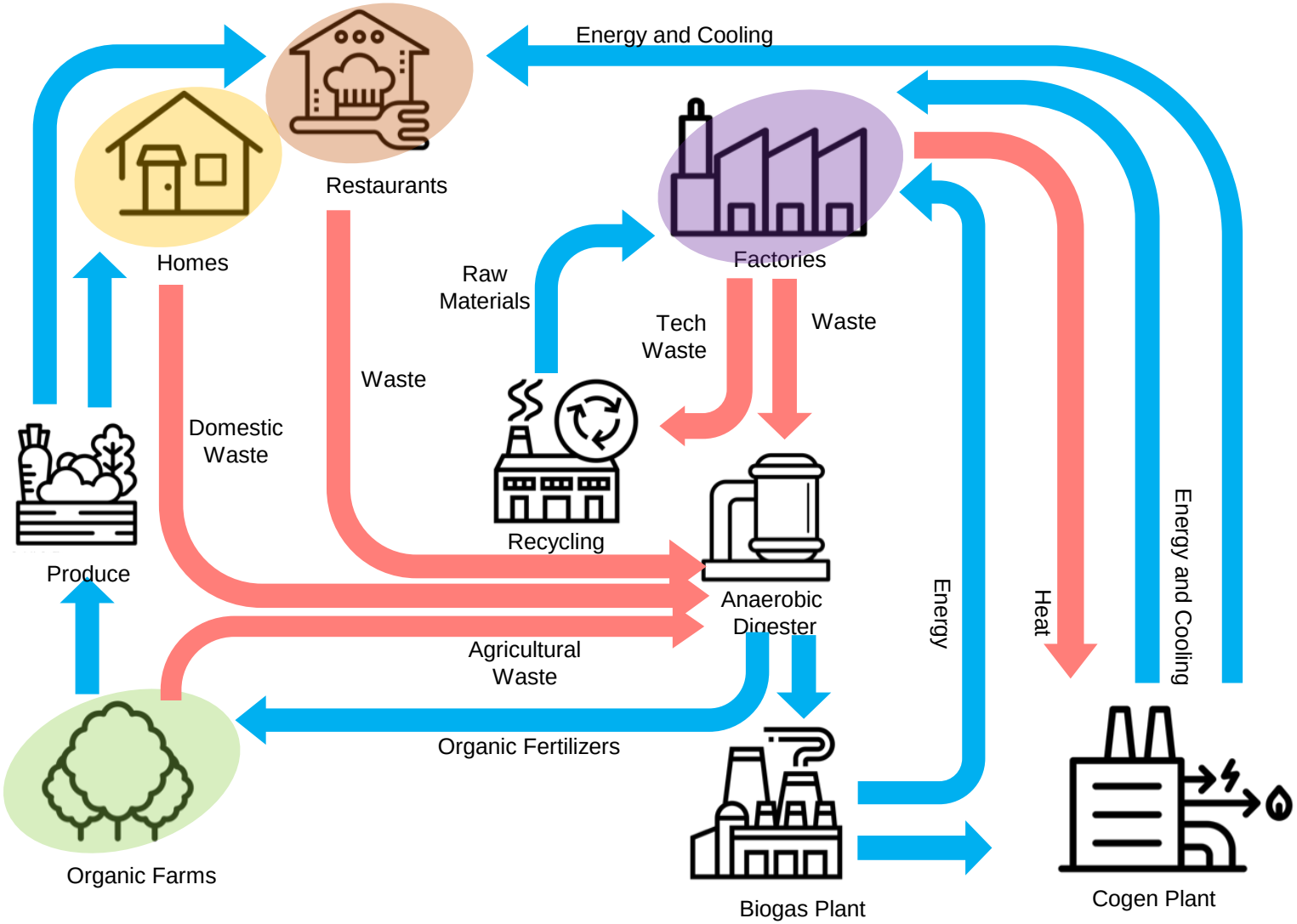
- Acquifer recharge
- Flood mitigation
- Water pollution mitigation
- Soil preservation



Regenerative Cities

Smart Forest City Cancun by Stefano Boeri

A 557-hectare sustainable city that intends to generate more energy than it consumes, cleans the water and sequesters CO2 with its 7,500,000 plants



Cities like Forests: A concept diagram for a mixed use township using circular flow of resources and waste. Concept by JLPD

Solar Panels and wind turbines on Rooftops for Renewable Energy (fed to micro grid)

Vertical Greenery for Carbon Sequestration

Urban Farming and Food Production at Roof and Sky Gardens or within buildings (hydroponics/aeroponics)

Ledges for Shading and Rain water collection

On-site Waste Treatment

District Cooling

Rain gardens at streets for Storm water detention

Greenways for Micro Mobility and green infrastructure

Buildings Like Trees: Biomimetic buildings that emulate the productive cycles of nature. Concept by JLPD

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Planning and Design