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FOOD LOSS AND WASTE FACTS

every year around the globe

1.3 BILLION TONNES OF

FOOD

is lost or wasted that is

1/3 OF ALL FOOD PRODUCED FOR HUMAN CONSUMPTION

Food loss and waste also amount to a major squandering of resources, including:

water

land

energy

labour and capital

and needlessly produce GREENHOUSE GAS EMISSIONS, contributing to GLOBAL WARMING and CLIMATE CHANGE.

www.fao.org/save-food

SAVE FOOD: Global Initiative on Food Loss and Waste Reduction

2015 International Year of Soils

SOILS HELP TO COMBAT AND ADAPT TO CLIMATE CHANGE

Healthy soils provide the largest store of terrestrial carbon.

Poorly managed soils

If soils are managed poorly or cultivated through unsustainable agricultural practices, soil carbon can be released into the atmosphere in the form of carbon dioxide (CO<sub>2</sub>), which can contribute to climate change.

Climate change represents a serious threat to global food security.

The steady conversion of grassland and forestland to cropland and grazing lands has resulted in historic losses of soil carbon worldwide.

Land-use conversions and drainage of organic soils for cultivation are responsible for about 10% of all greenhouse gas emissions.

Greenhouse gases

1965 2015

Greenhouse gas emissions from agriculture, forestry and fisheries have nearly doubled over the past 50 years.

2015 2050

Without greater efforts to reduce them, they could increase an additional 30% by 2050.

Soils and the Carbon Cycle

The carbon cycle is the exchange of carbon (in various forms, e.g. carbon dioxide) between the atmosphere, ocean, terrestrial biosphere and geological deposits.

1 Plants use CO<sub>2</sub> from the atmosphere, water from the soil and sunlight to make their own food and grow in a process called photosynthesis. The carbon they absorb from the air becomes part of the plant.

2 Animals that feed on the plants pass the carbon compounds along the food chain.

3 Most of the carbon the animals consume is converted into CO<sub>2</sub> as they breathe (respiration), and is released back into the atmosphere.

4 When the animals and plants die, the dead organisms are eaten by decomposers in the soil (bacteria and fungi) and the carbon in their bodies is again returned to the atmosphere as CO<sub>2</sub>.

5 In some cases, the dead plants and animals are buried and turn into fossil fuels, such as coal and oil, over millions of years. Humans burn fossil fuels to create energy, which sends most of the carbon back into the atmosphere in the form of CO<sub>2</sub>.

Sustainably managed soils

When managed sustainably soils can play an important role in climate change mitigation through carbon sequestration (C) and by decreasing greenhouse gas emissions in the atmosphere.

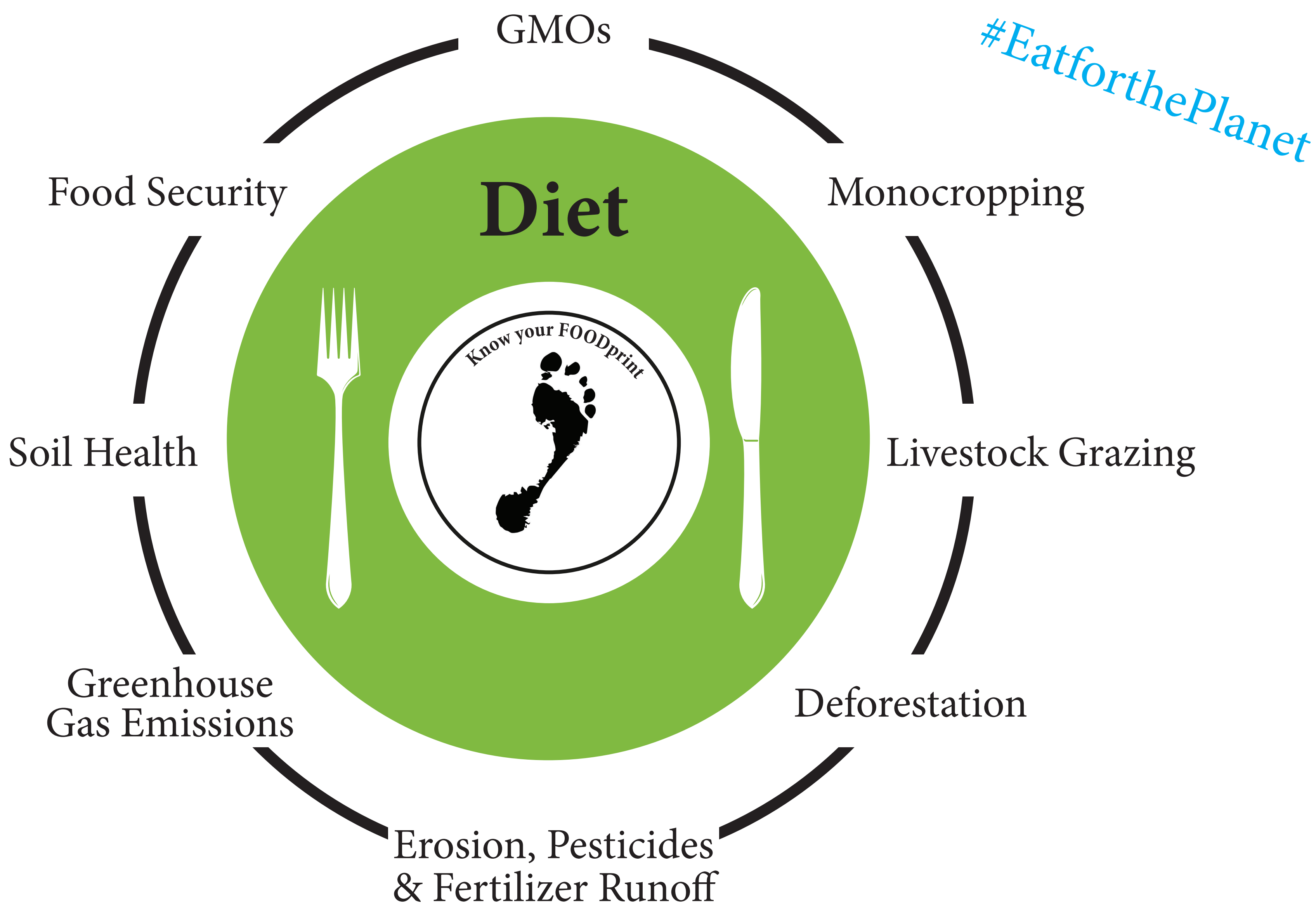
By restoring degraded soils and adopting soil conservation practices...

...there is major potential to decrease the emission of greenhouse gases from agriculture, enhance carbon sequestration and build resilience to climate change.

fao.org/soils-2015

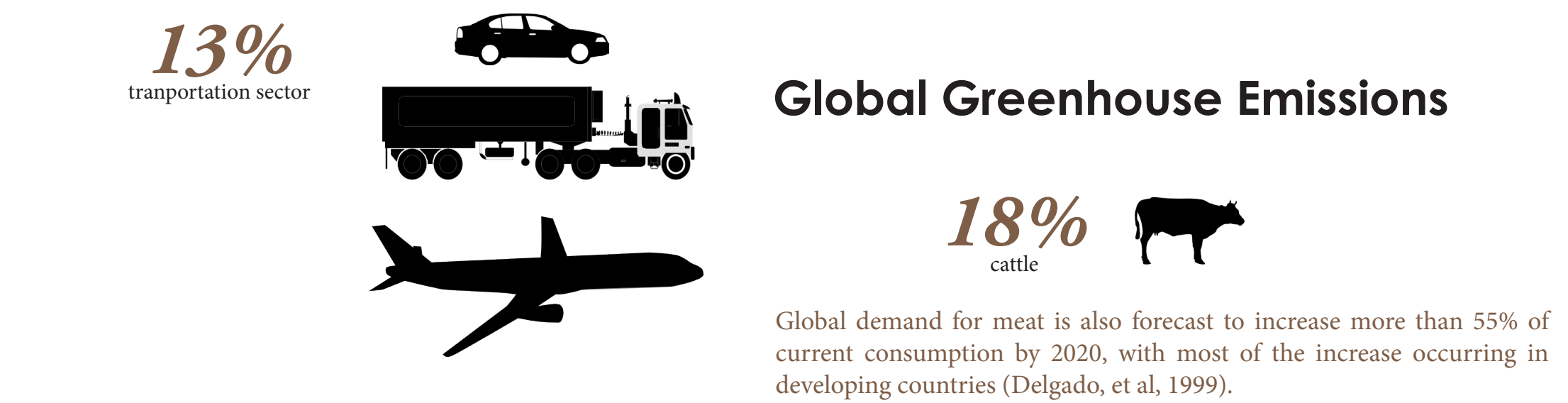
# Is Our Food System Sustainable?

## How Our Eating Habits Effect Our Environment



*Animal agriculture is responsible for 18 percent of greenhouse gas emissions, more than the combined exhaust from all transportation.*

Fao.org. Spotlight: Livestock impacts on the environment.



HISTORICAL EVENT: "USDA orders recall of 143 million pounds of beef"

*"If humanity's overarching need for food security and nutrition, climate change mitigation and sustainable development is to be met, soil resources have to be given the global attention they deserve."*

Monjabed Achouri, Director of FAO's Land and Water Division

Almost 150 million hectares of world crop acreage planted with GM crops, 70% is grown to feed livestock

GM FOODS You Might Already Be Eating (And Other Facts Worth Knowing)

The number of GM Crops is growing every year. These are a list of the most commonly GM crops and their sources relative to non-GM Crops from areas.

GM Crops Non-GM Crops

95% 5% Sugar Beets

94% 6% Soybeans

90% 10% Canola

90% 10% Cotton

88% 12% Field Corn

77% 23% Papaya

Adapted from: The Greenpeace report, GM Crops: A Guide to the Risks and Benefits of Genetically Modified Organisms (GMOs) and the Role of the United Nations Food and Agriculture Organization (FAO) in the Fight Against Hunger and Malnutrition.

Adoption of genetically engineered crops in the United States, 1996-2015

Percent of planted acres

100

80

60

40

20

0

1996 1998 2000 2002 2004 2006 2008 2010 2012 2014

HT soybeans

HT cotton

Bt cotton

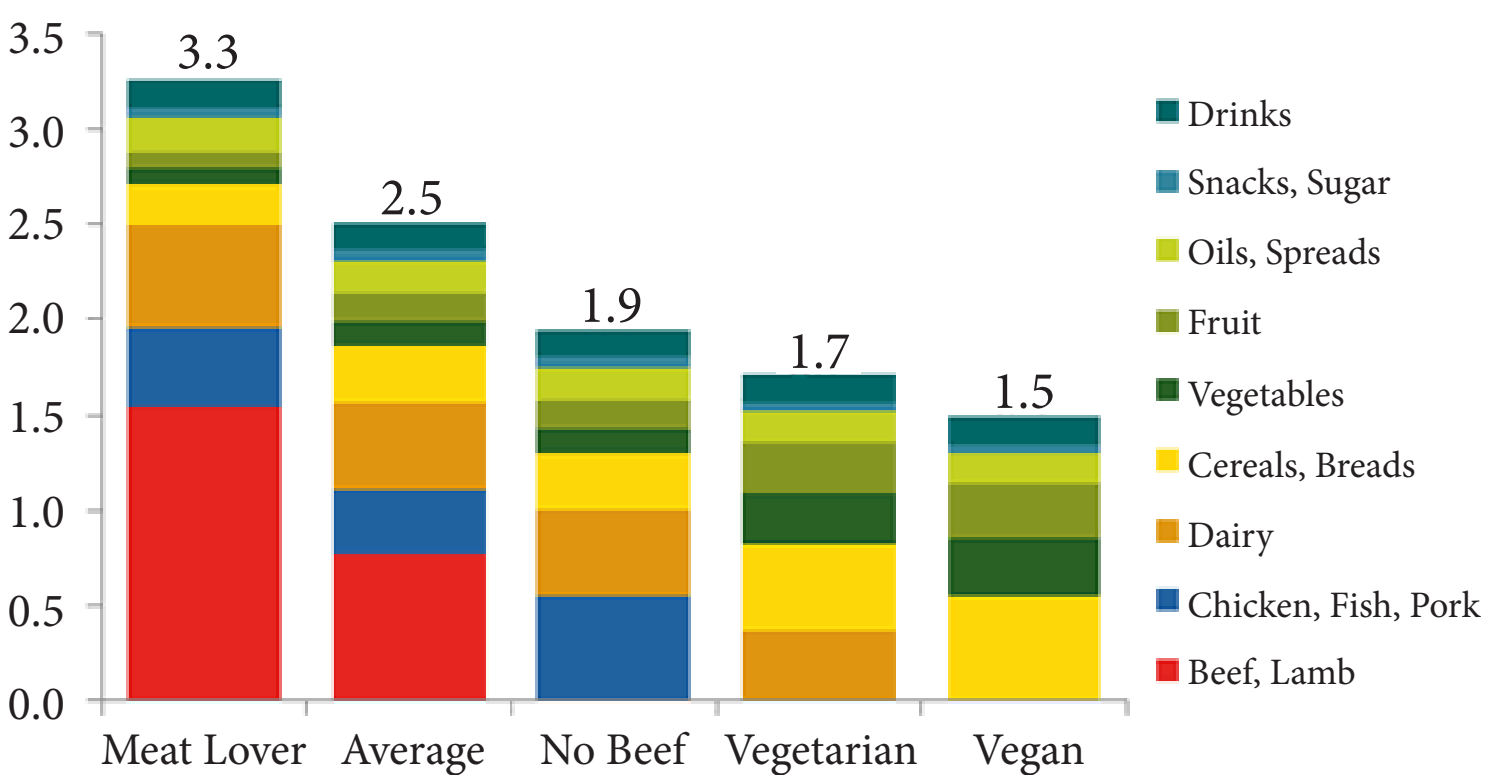
HT corn

Bt corn

Data for each crop category include varieties with both HT and Bt (stacked) traits.

Sources: USDA, Economic Research Service using data from Fernandez-Cornejo and McBride (2002) for the years 1996-99 and USDA, National Agricultural Statistics Service, June Agricultural Survey for the years 2000-15.

Foodprints by Diet Type: t CO<sub>2</sub>e/person



Note: All estimates based on average food production emissions for the US. Footprints include emissions from supply chain losses, consumer waste and consumption. Each of the four example diets is based on a 2,600 kcal of food consumed per day, which in the US equates to around 3,900 kcal of supplied food.

Sources: ERS/USDA, various LCA and EIO-LCA data

Sustainability

The principle of taking from the earth only what it can provide indefinitely, thus leaving future generations with no less than what we have access to now.

A THIRSTY INDUSTRY

Nearly half of all water used in the United States goes to raising animals for food.

50%

It takes more than 2,400 gallons of water to produce 1 pound of meat.

2,400 gallons = 1lb. of meat

VS.

1 pound of wheat takes 25 gallons.

25 gallons = 1lb. of wheat

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