



Natural Capital & Food Security

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Food Climate Research Network

7 November 2014

What can we do to achieve
environmentally sustainable food
security?

We already value food...



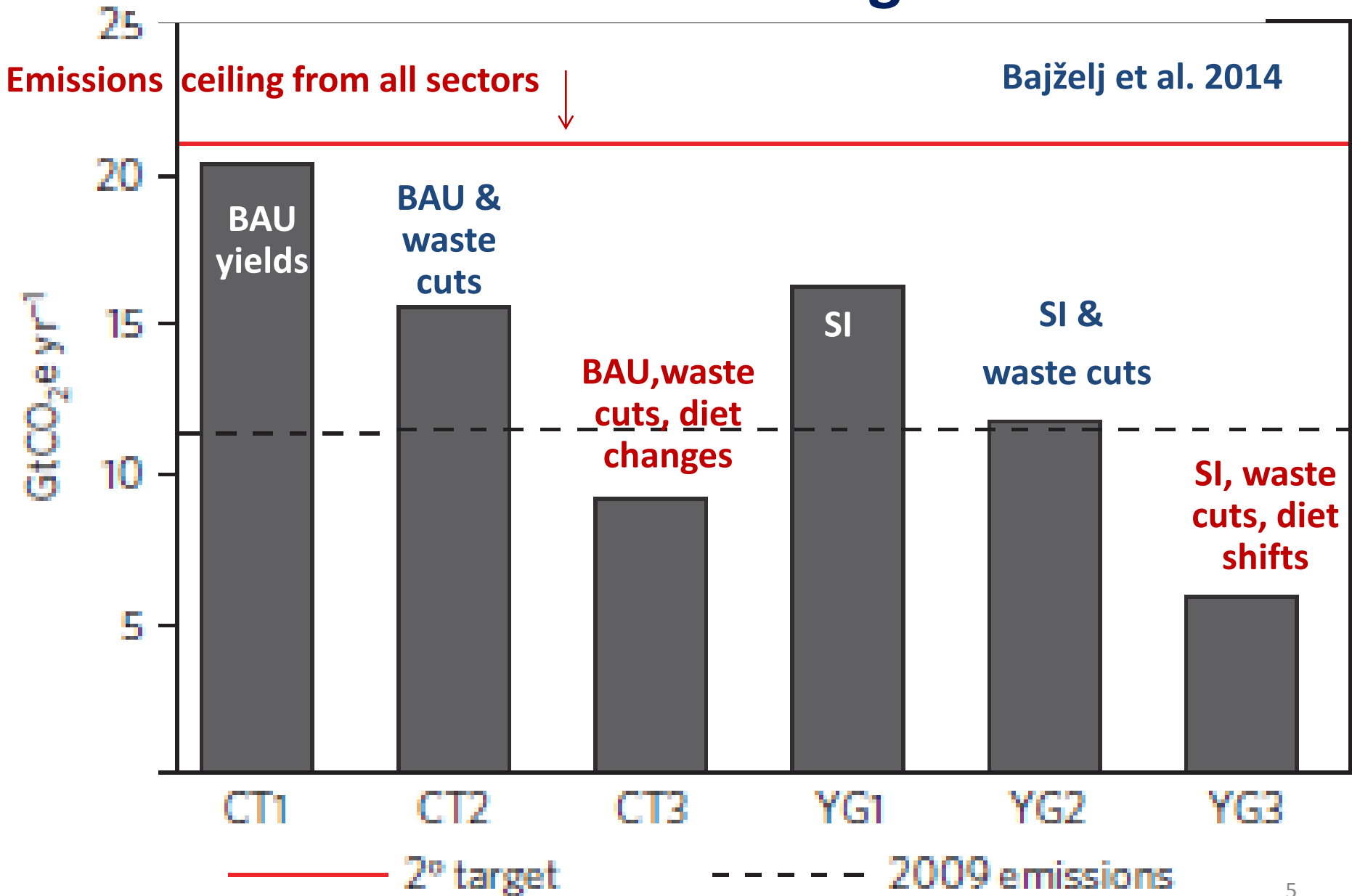
...but incorrectly

What can we do to achieve environmentally sustainable food security?

- 1. Produce differently:** Change how food is grown, reared, transported & distributed
- 2. Rebalance the system:** Improve governance - address equity issues and waste
- 3. Consume differently:** Shift diets away from resource intensive foods

ALL NECESSARY BUT NOT SUFFICIENT

What is the budget?



11%

FRUIT & VEGETABLES



7%

OTHER MISC. FOODS
(E.G. HOT DRINKS,
ALCOHOL, SAUCES)

6%

BREAD, RICE,
POTATO, PASTA &
OTHER STARCHY
FOODS



57%

MEAT, FISH, EGGS,
BEANS AND OTHER
NON-DAIRY SOURCES
OF PROTEIN



14%

MILK & DAIRY

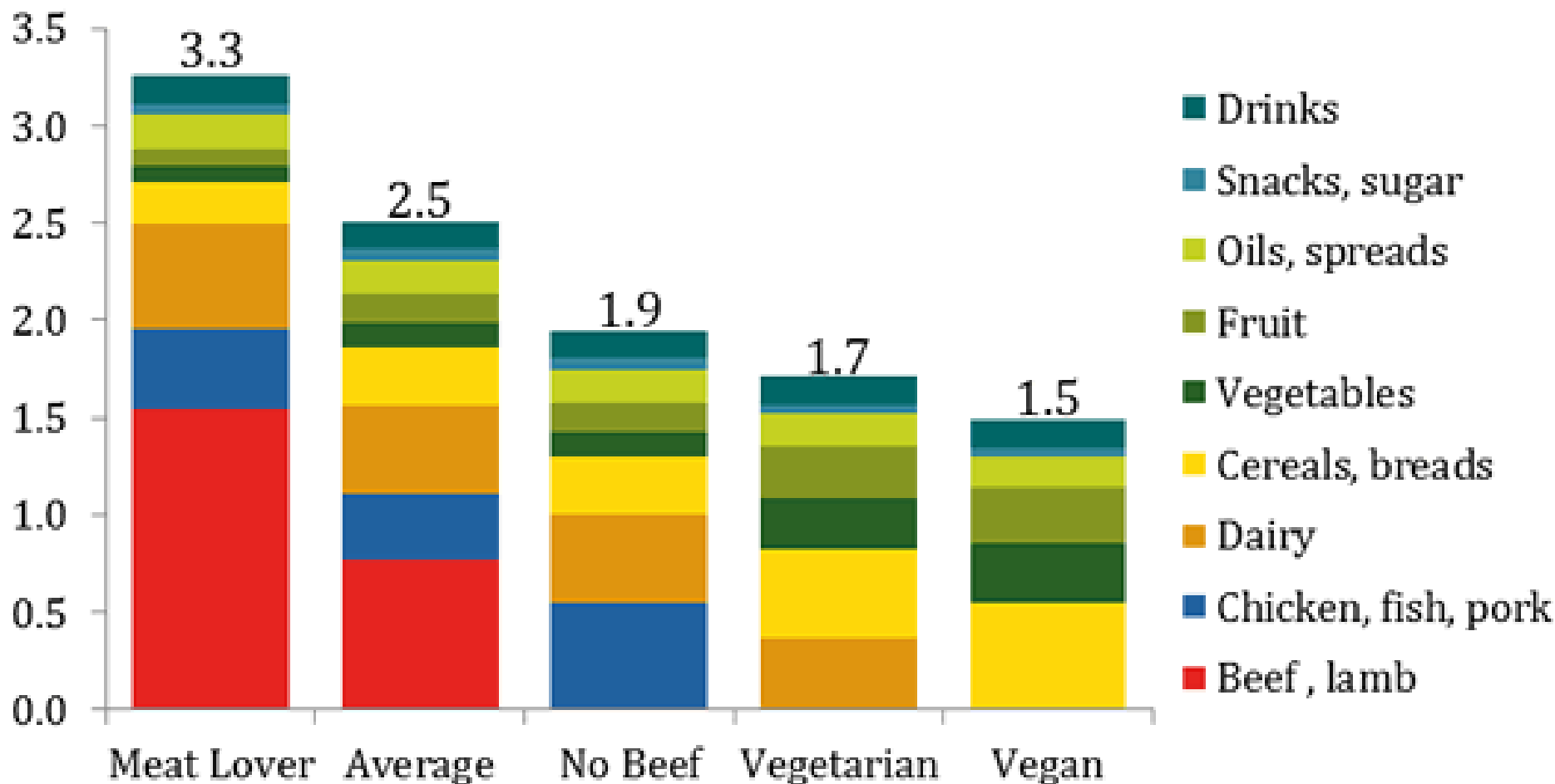


5%

FOOD & DRINKS
HIGH IN FAT
& / OR
SUGAR

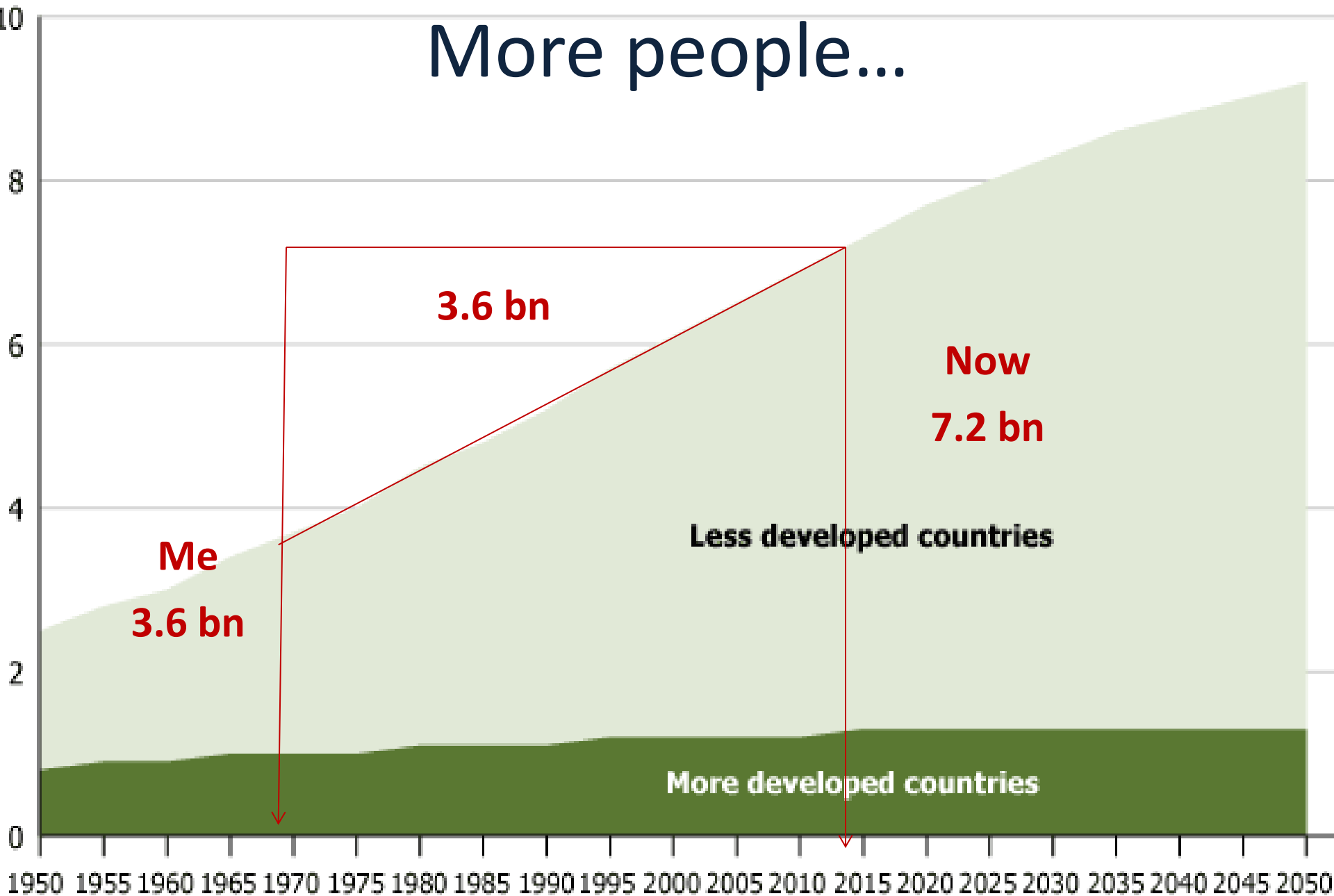


Foodprints by Diet Type: t CO₂e/person



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 2,600 kcal of food consumed per day, which in the US equates to around 3,900 kcal of supplied food.

Population, in billions



More people...

3.6 bn

Now
7.2 bn

Less developed countries

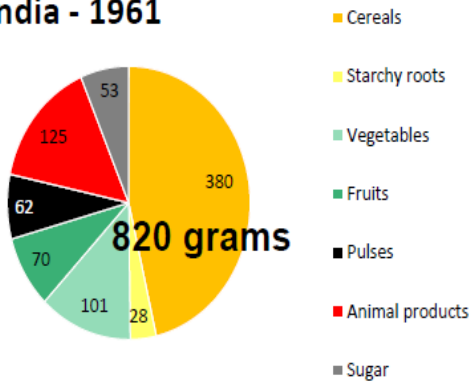
Me
3.6 bn

More developed countries

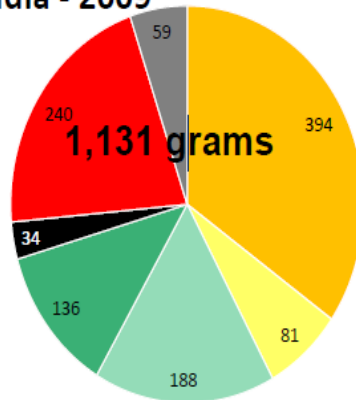
1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050

Eating more – esp. more high impact foods

India - 1961

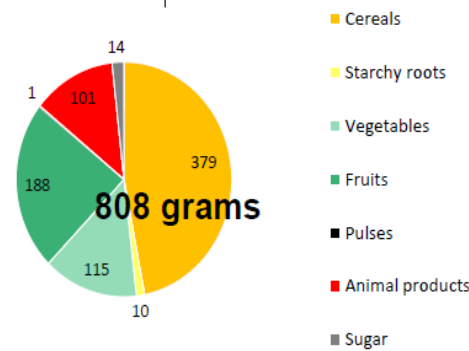


India - 2009

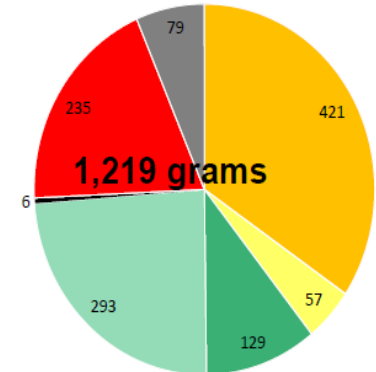


(Red = meat)

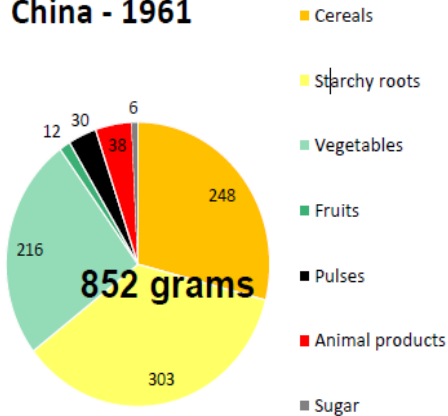
Thailand - 1961



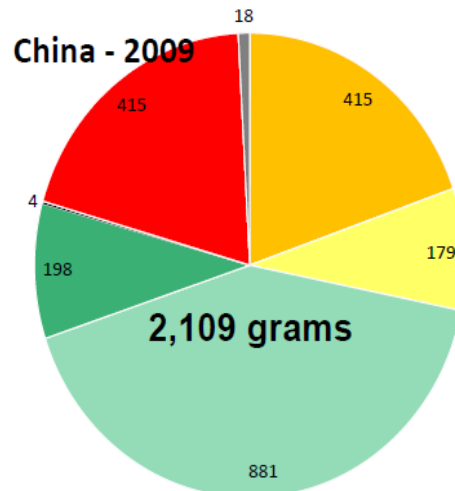
Thailand - 2009



China - 1961



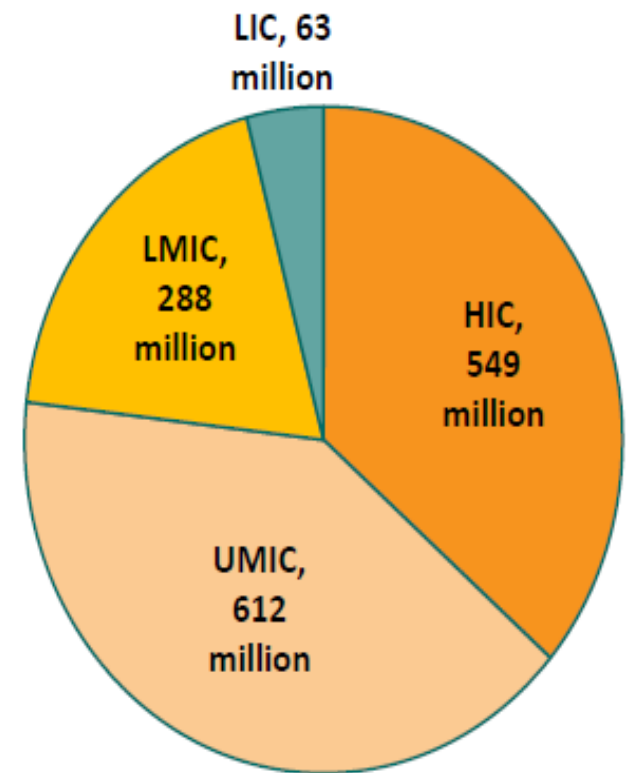
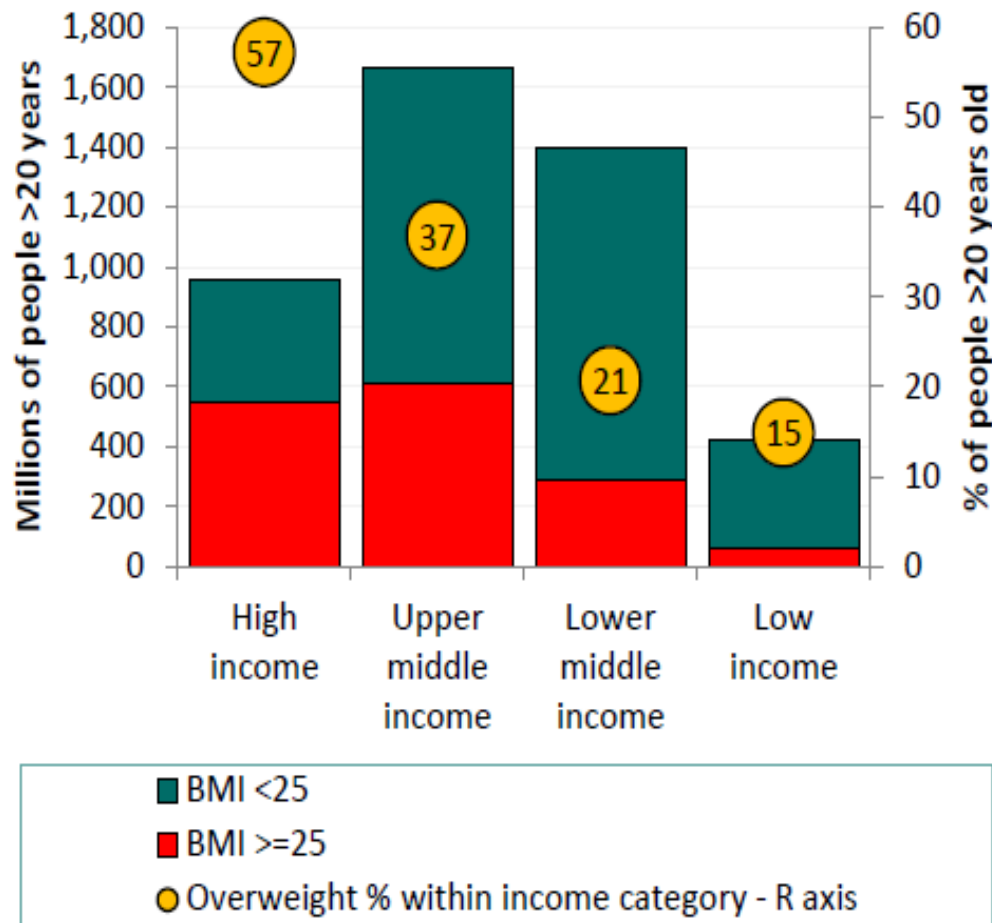
China - 2009



ODI (2014) Future Diets

But also getting fatter...


most fat people live in developing countries



ODI (2014) Future Diets

Fat is expensive

- 2-6% health care costs in developed countries
- And growing in developing countries
 - e.g. 4% total costs in China
- Indirect costs (sickness, loss of productivity etc) much higher



The challenge: “ 60-100% more
food with less impact”

We should redefine the challenge

- Need to set a budget
- Optimal nutrition within this budget?
 - How do you incentivise producers?
 - How do you incentivise people?
- Investment in social sciences* as much as natural & physical sciences needed

*Not just economics!

Thank you

www.fcrn.org.uk