

global food 40 years 8,000 years

food production

is already the biggest threat









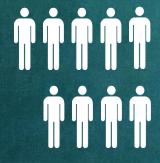




freezze the footprint of food







x2 = 18



The China phenomenon

	Population at start of growth period	Years to double GDP per capita ¹
Britain (1700-1855)	9M	155
US (1820-1873)	10M	53
China (1983-1995)	1,023M	12
India (1989-2006)	822M	17

China doubling of GDP was 12x the speed of Britain during the Industrial Revolution at 100x the scale

400 million lifted out of poverty

Food prices & food riots, 2004-13





the issue isn't what to think

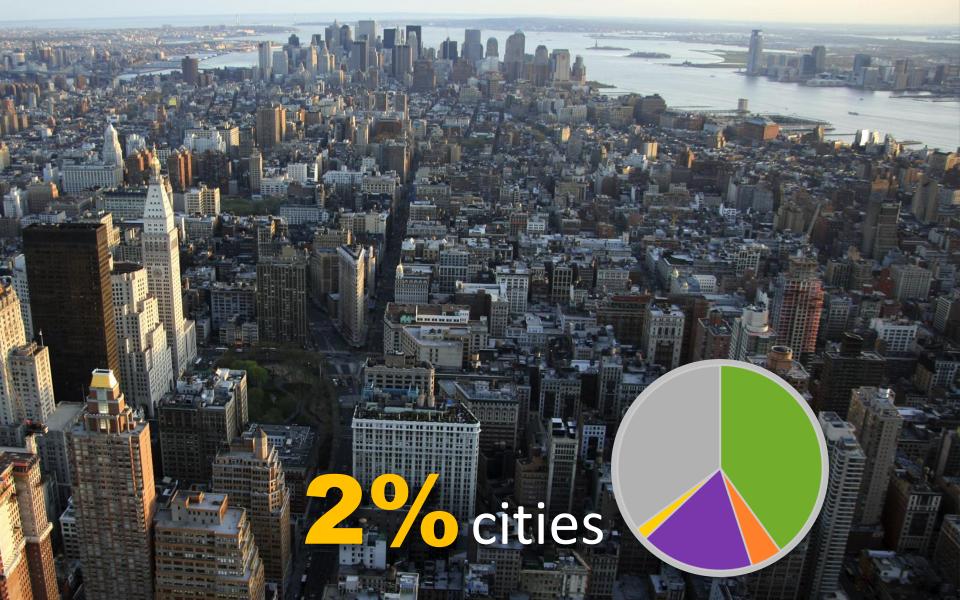
it's how to think

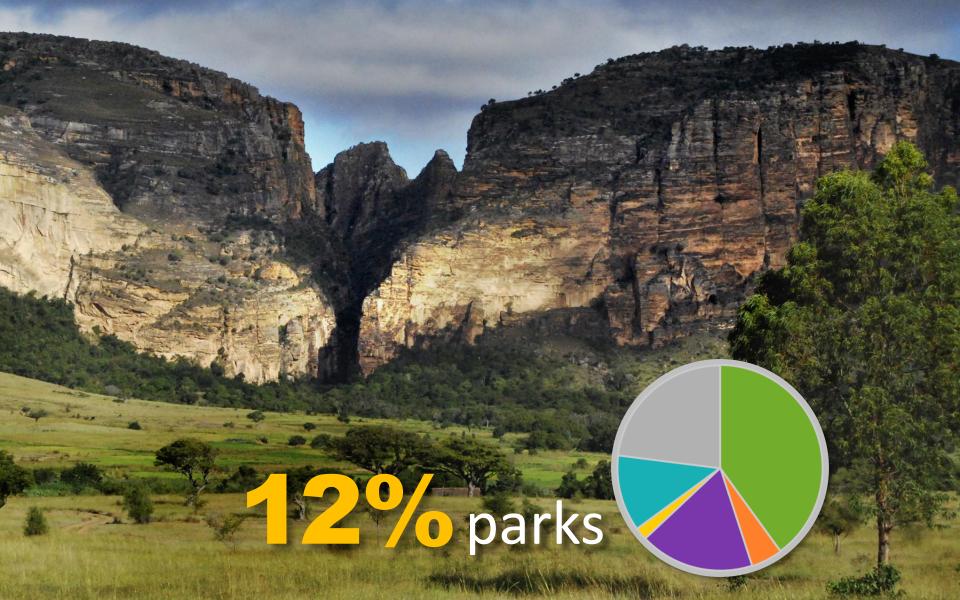
and the key issue is habitat conversion







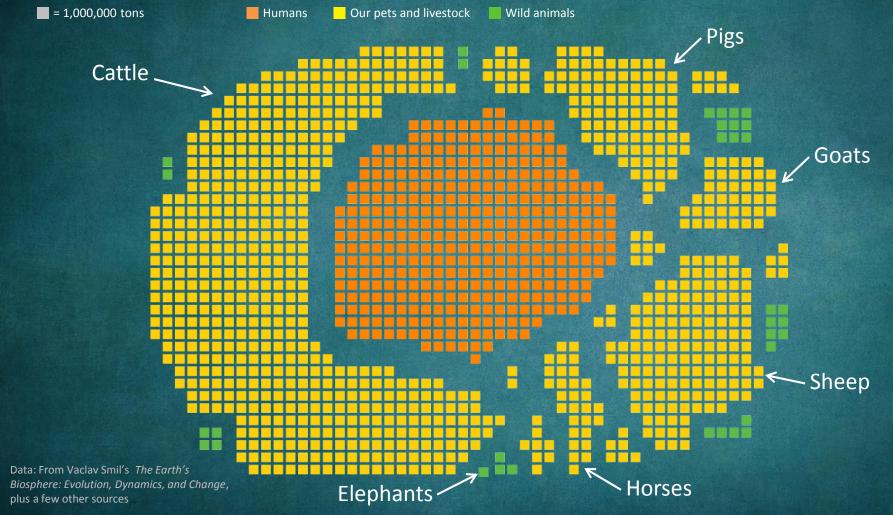




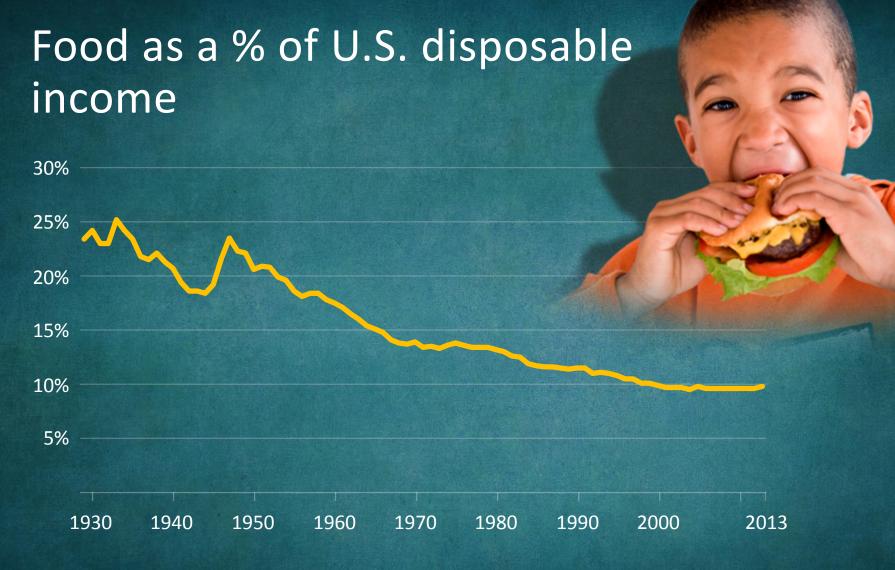




Earth's land mammals by weight











we are not paying the true cost of food

subsidies are the biggest barrier to innovation

who subsidizes food production the most?



by 2050 double food availability

productivity & efficiency and waste & consumption

On a finite planet, should consumers have a choice about sustainable products?

Or should all choices be more sustainable?









liter of water = calorie

genetics

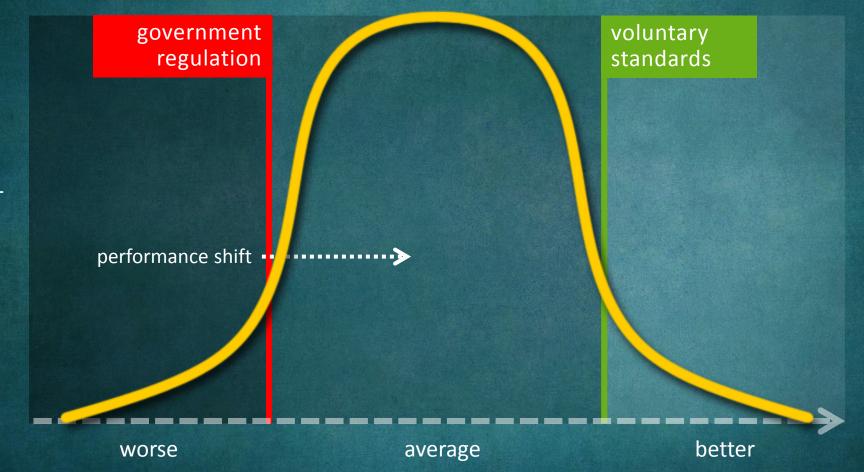
"it's not if genetics, but which genetics"

better practices 100 times better

which gives us more food?

recognizing the best or moving the rest?





Traded commodities – then and now

physical values

weights and measures

quality

color

foreign matter

health and safety



intangible values

organic

non-GMO

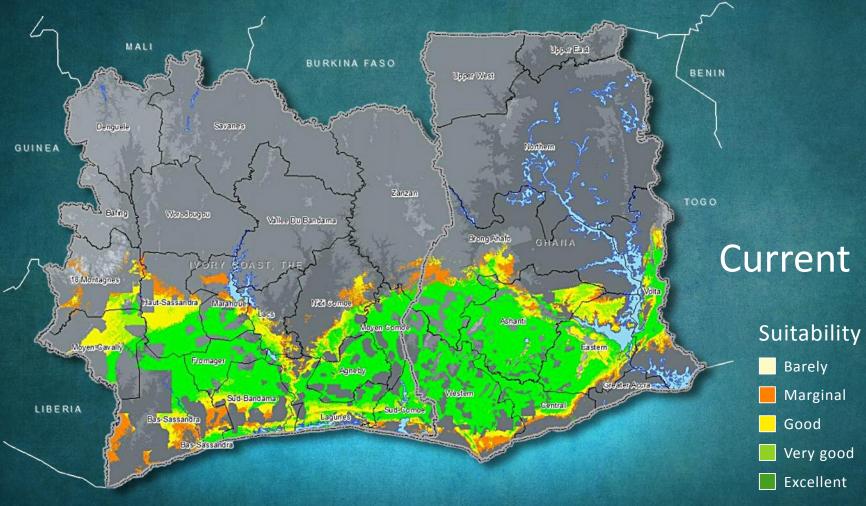
smallholder

no child labor

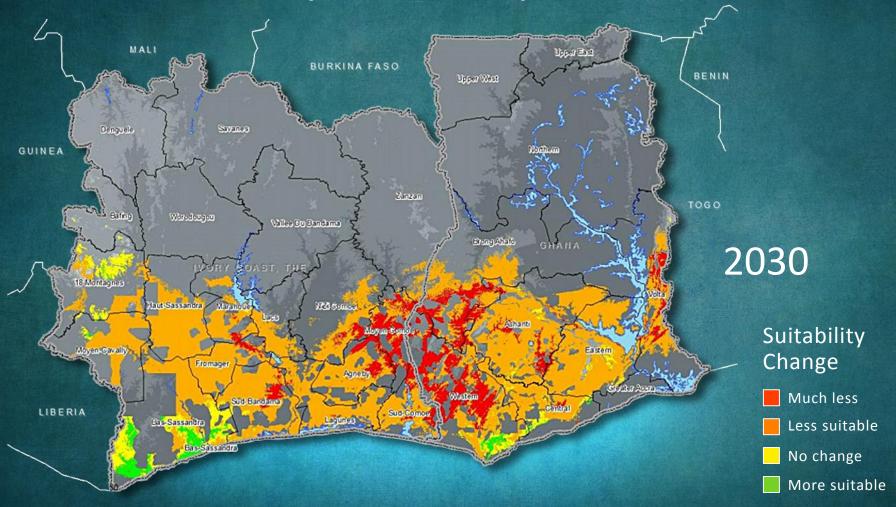
deforestation free



Suitability of cocoa production



Suitability of cocoa production



in the short term climate smart agriculture = efficient production

in the medium term, producers change crops





Replanting cocoa

- Private sector—long-term contracts
- Finance—accept contracts for more sustainable investments
- Producers—Replant existing areas
- Government—enforce the laws
- WWF—create awareness, markets



measure what matters

Poultry – efficiency matters

Chicken – Improvement evolution

	1925	1945	1965	1985	2005	2045*
Conversion – kg feed/kg live	4.7	4.0	2.4	2.0	1.7	1.6
Mortality %	18%	10%	6%	5%	4%	3%
Age (days)	112	84	63	49	42	40
Live commercial weight - kg	1.0	1.4	1.6	1.9	2.4	3.2

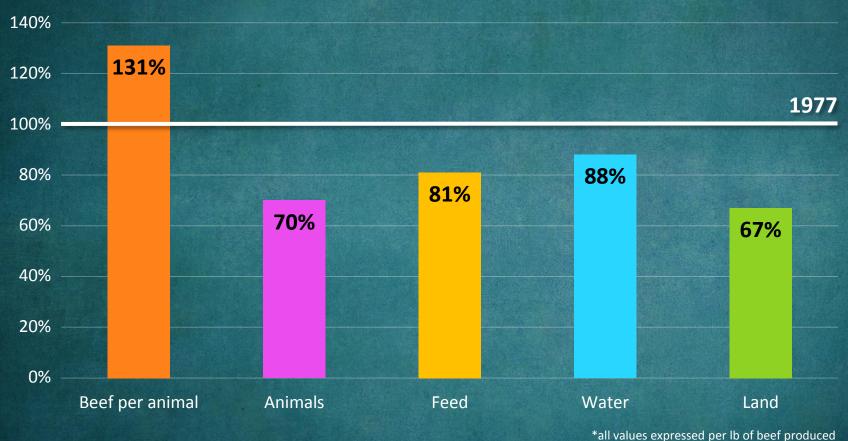
*projected

shift from maximizing one variable...

...to optimizing key ones



Environmental impact of U.S. beef production reduced by improved productivity (1977 & 2010)



In 1977, it took 5 animals to produce the same amount of beef as 4 animals in 2007 (US)







export animal protein not feed

















































Working with nature

BOTCI Bla Irish Food Board

Growing the success of Irish food & horticulture





the issue is

both availability and reputation

Components of S&P 500 market value





Paraguayan Beef

- Intensify production
 - Improve the soil
 - Better genetics: cattle & pasture
- Adopt BMPs
 - Pasture management/rotation
 - Improve calving rates
- Obey the law





Product quality

- Improve genetics & meat quality
- Sort and grade carcasses
- No phytosanitary rejections
- Top markets





Deforestation-free commitments—Beef

- CGF—70 companies
- Leather Working Group
- McDonalds, IKEA
- Walmart, Carrefour
- Cargill, JBS, Mafrig, Minerva
- Pet Food—Mars, Nestle



Paraguayan Soy

- Soil health
- Input efficiency
- Productivity
- Value-added production
- Obey the law



Deforestation-free commitments—Soy

- CGF—70 retailers and Brands
- Cargill, ADM, COFCO
- Unilever, Mars
- NL dairy

Illegally produced









MINERALS







SEAFOOD







FORESTS







PLANTATIONS







