



food production is already the biggest threat

















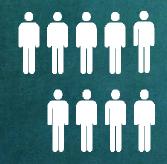
The China phenomenon

	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







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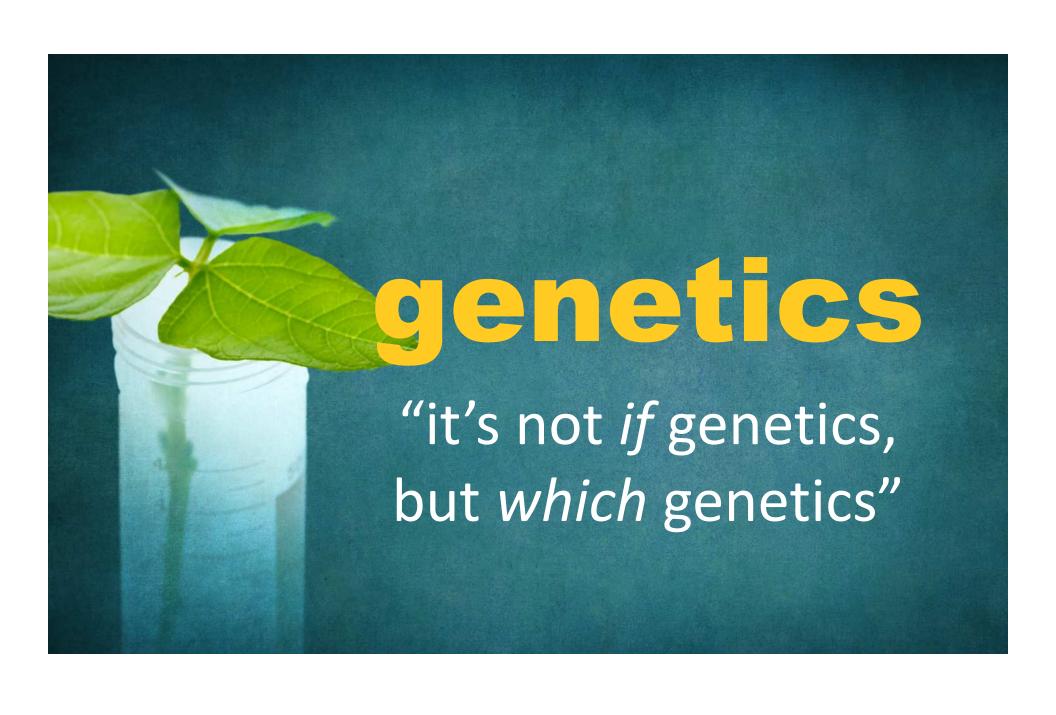


productivity & efficiency and waste & consumption





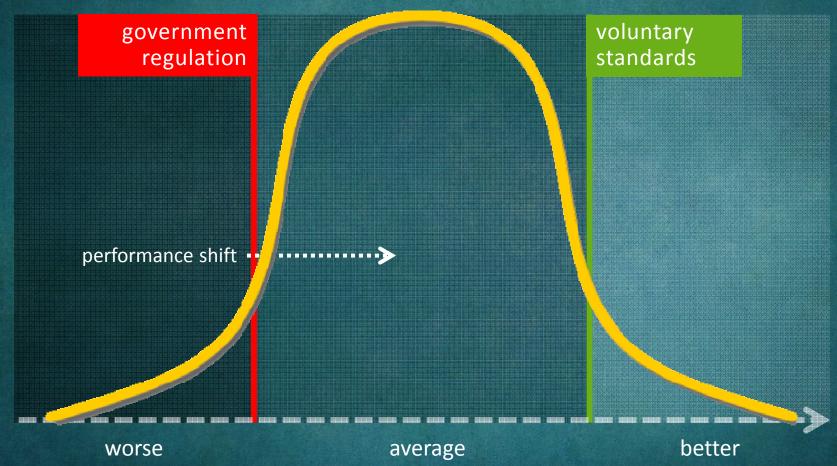




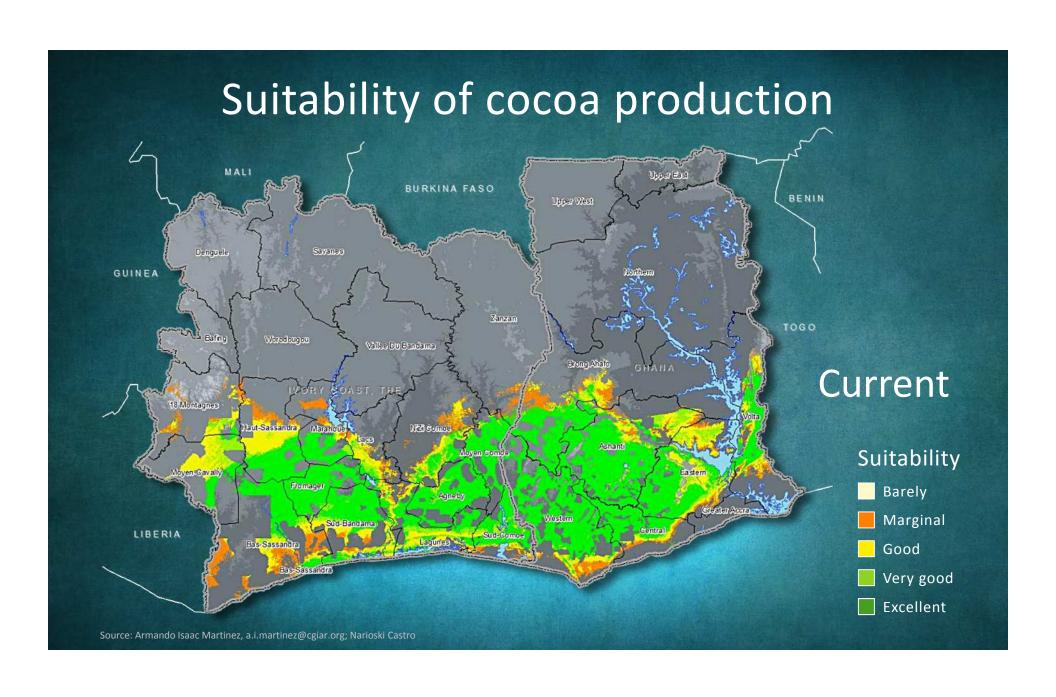
which gives us more food?

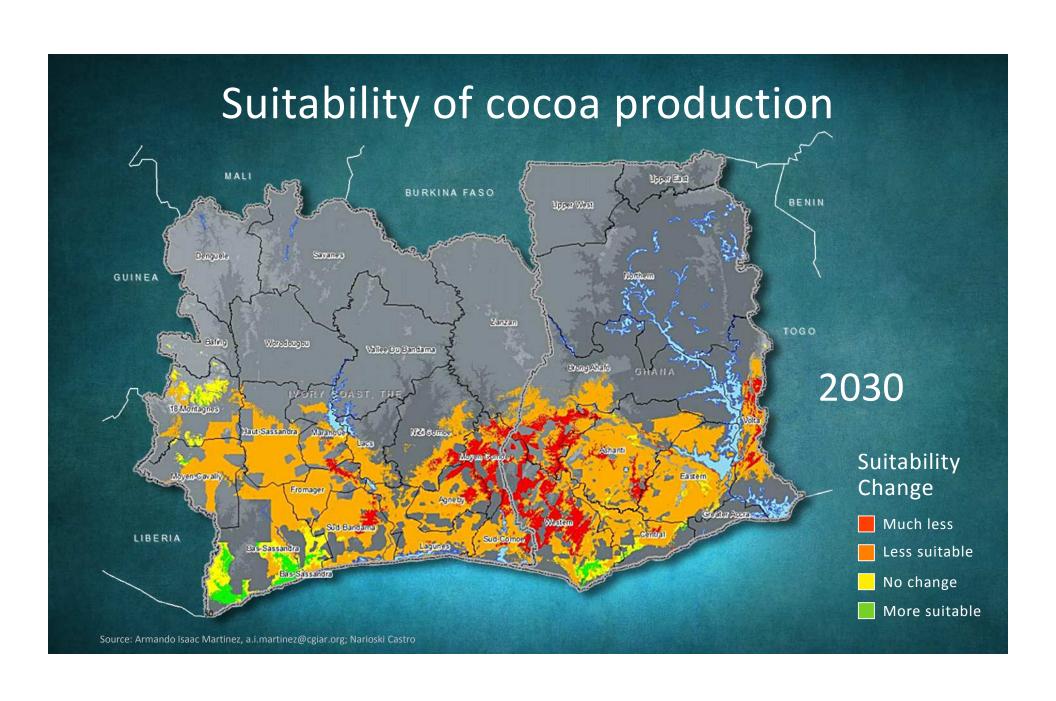
recognizing the best or moving the rest?











in the short term climate smart agriculture = efficient production

in the medium term, producers change crops





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

and, shift from managing a farm...

...to managing the planet

