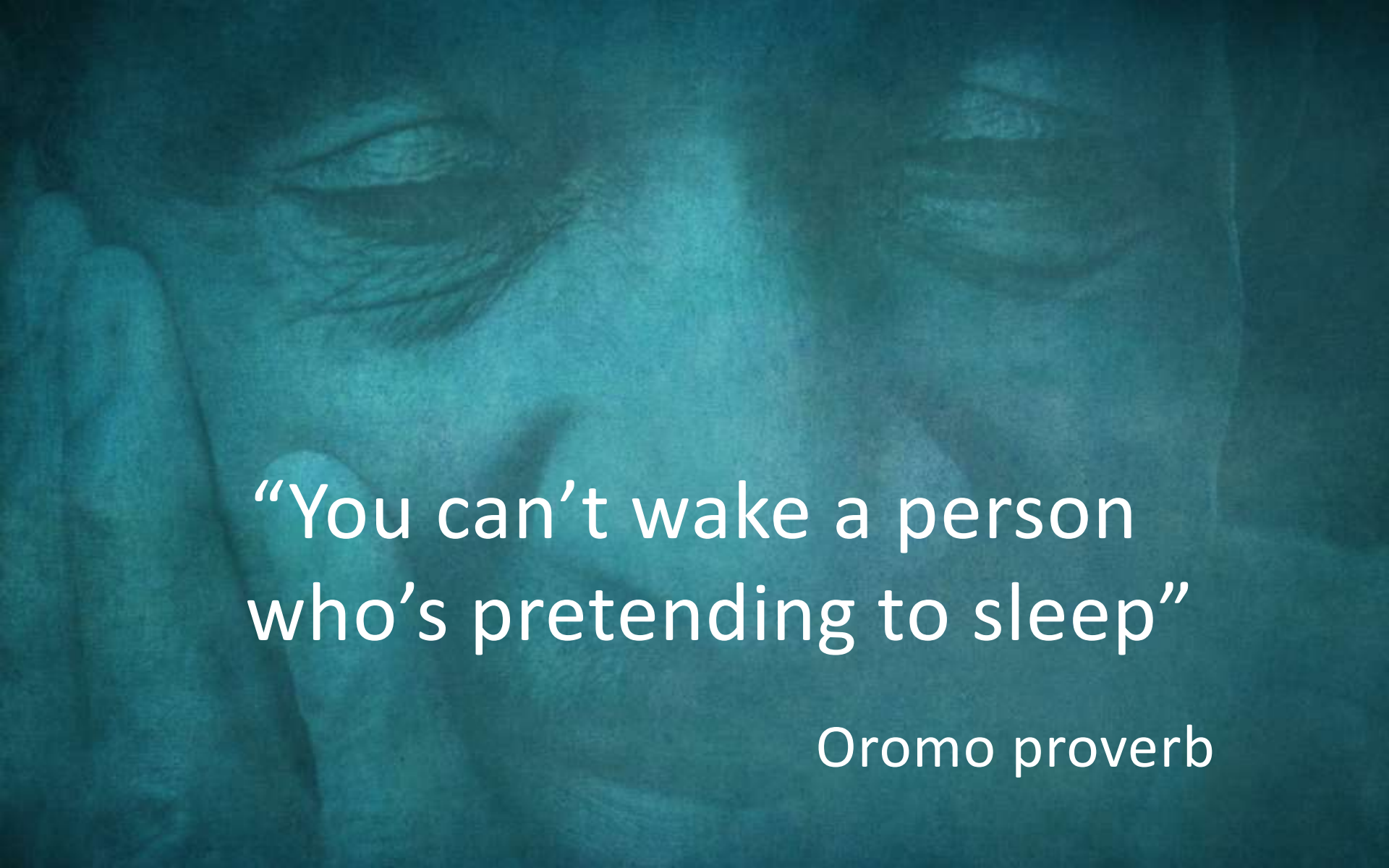
Healthy food for a healthy planet

The global impact of changing diets

Jason Clay
SVP Markets
WWF-US


“You can’t wake a person who’s pretending to sleep”
Oromo proverb

change

at the speed of life

global food

40 years = 8,000 years

food production

is already the biggest threat

x 1 = **7**

x 2 = **18**

The China phenomenon

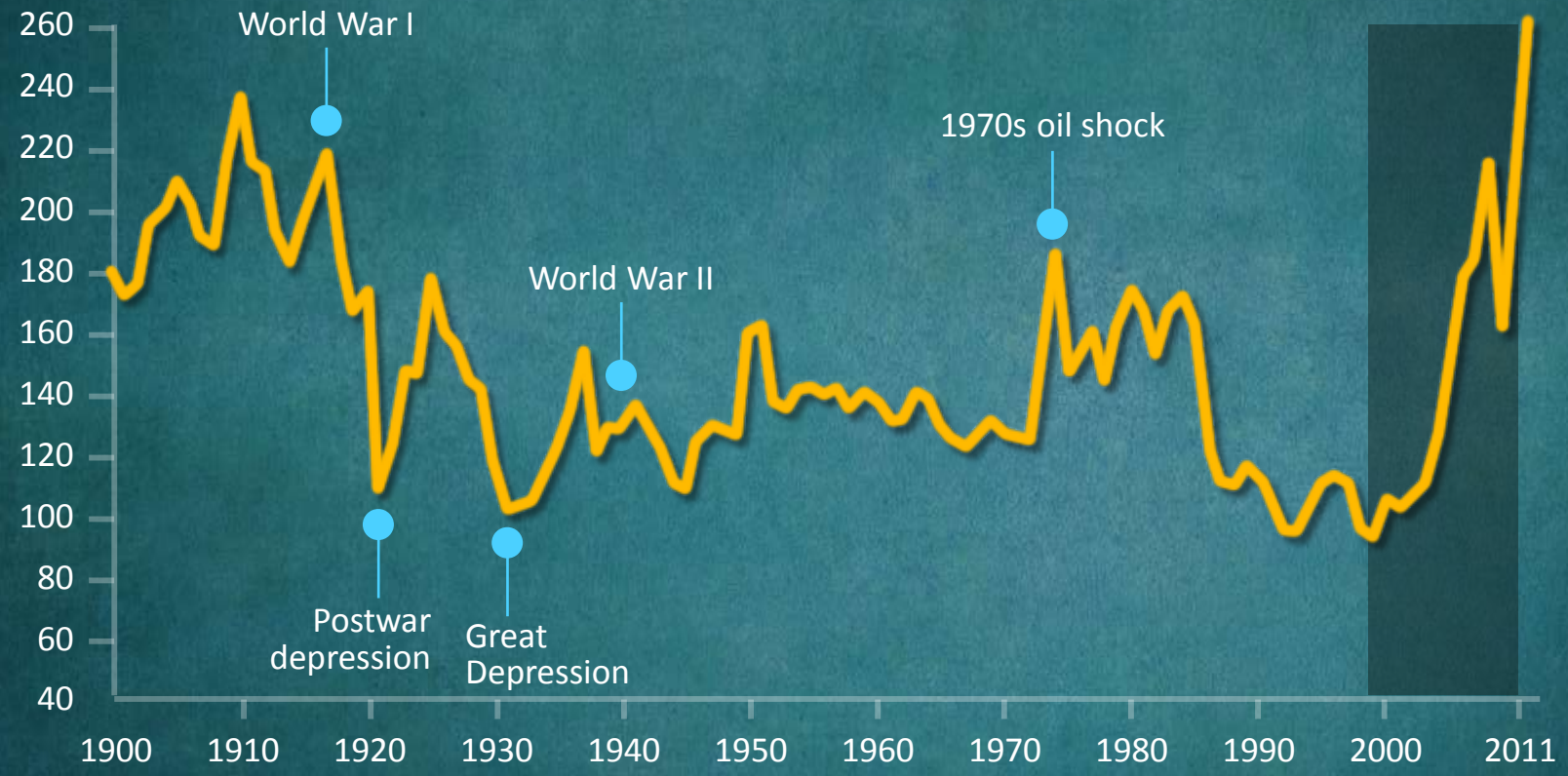
	Population at start of growth period	Years to double GDP per capita[1]
Britain (1700-1855)	9M	155
US (1820-1873)	10M	53
China (1983-1995)	**1,023M**	**12**
India (1989-2006)	822M	17

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

400 million lifted out of poverty

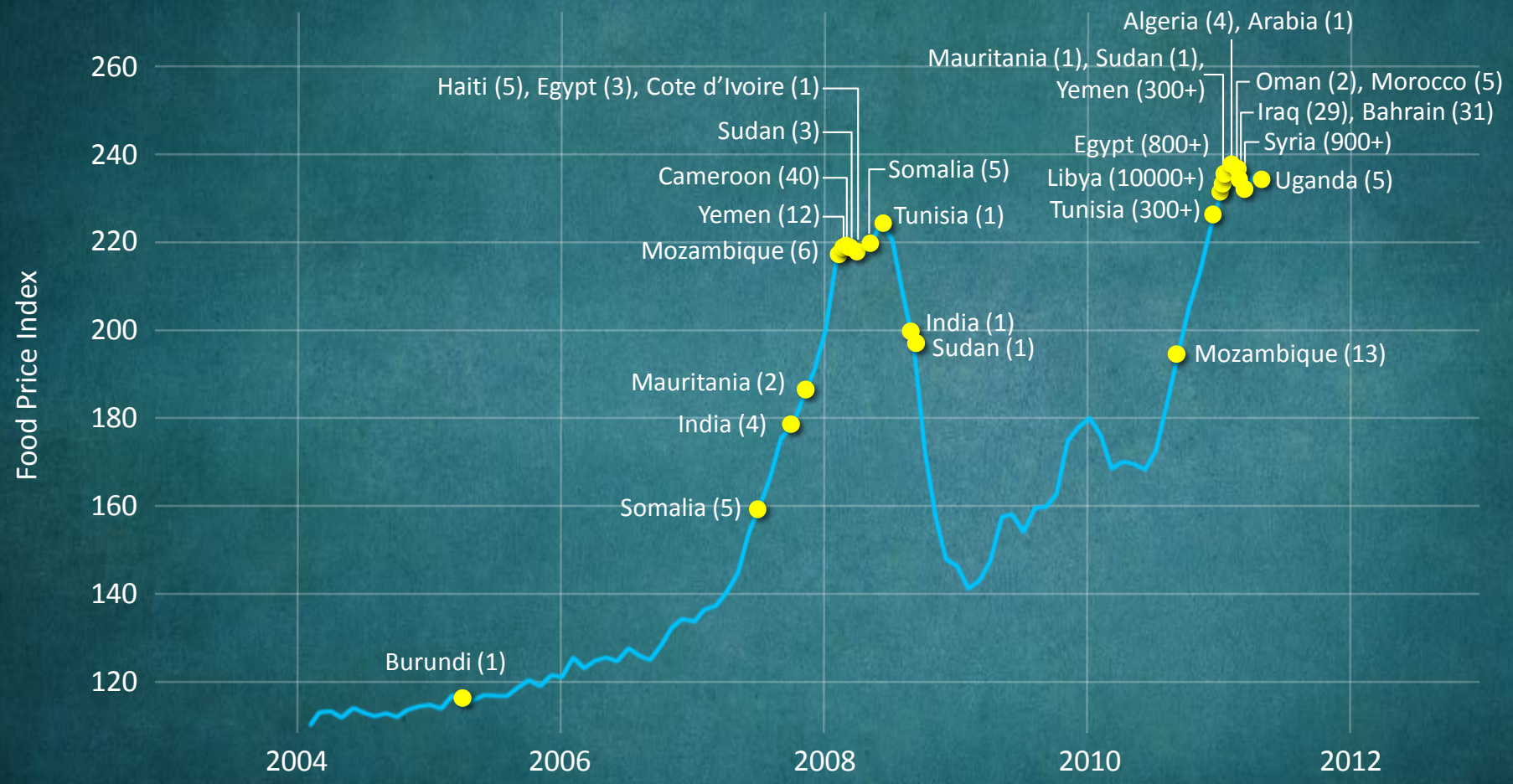
1 Time to increase GDP per capita (in PPP terms) from 1,300 to 2,600 USD **Source:** Angus Maddison, University of Groningen

Commodity prices



Source: Grilli and Yang; Stephan Pfaffenzeller; World Bank; International Monetary Fund (IMF); Organisation for Economic Co-operation and Development (OECD); UN Food and Agriculture Organization (FAO); UN Comtrade; McKinsey analysis

Food prices & food riots, 2004-12



Source: The Chicago Council on Global Affairs, *Advancing Global Food Security in the Face of a Changing Climate*, Gerald C. Nelson, March 2014

the issue isn't
what to think

it's **how** to think

more with less

freeze

the footprint of food

trade is key
for food
security

we are not paying the

true cost of food

subsidies are the biggest barrier to innovation

by 2050

double net food availability

productivity & efficiency

and

waste & consumption

which standards

measure progress

against these goals?

genetics

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

Orphan crops

palm oil

millet

peanut

cowpeas

cassava

sugarcane

plantain

coco yam

sorghum

rebuild soils

250 M hectares
by 2030

we must make
production more
efficient
more with less

BCI Cotton, 2005-13

BCI Certified Cotton

- 1.6M producers
- 13% of global production

Impacts of Metric-based Standards

- 50% pesticide reduction
- 40% water use reduction
- 30% synthetic fertilizer use reduction
- 15-20% increase in income

agriculture takes 70%
of all water used by people

1 liter of water = 1 calorie

better practices

100 times better

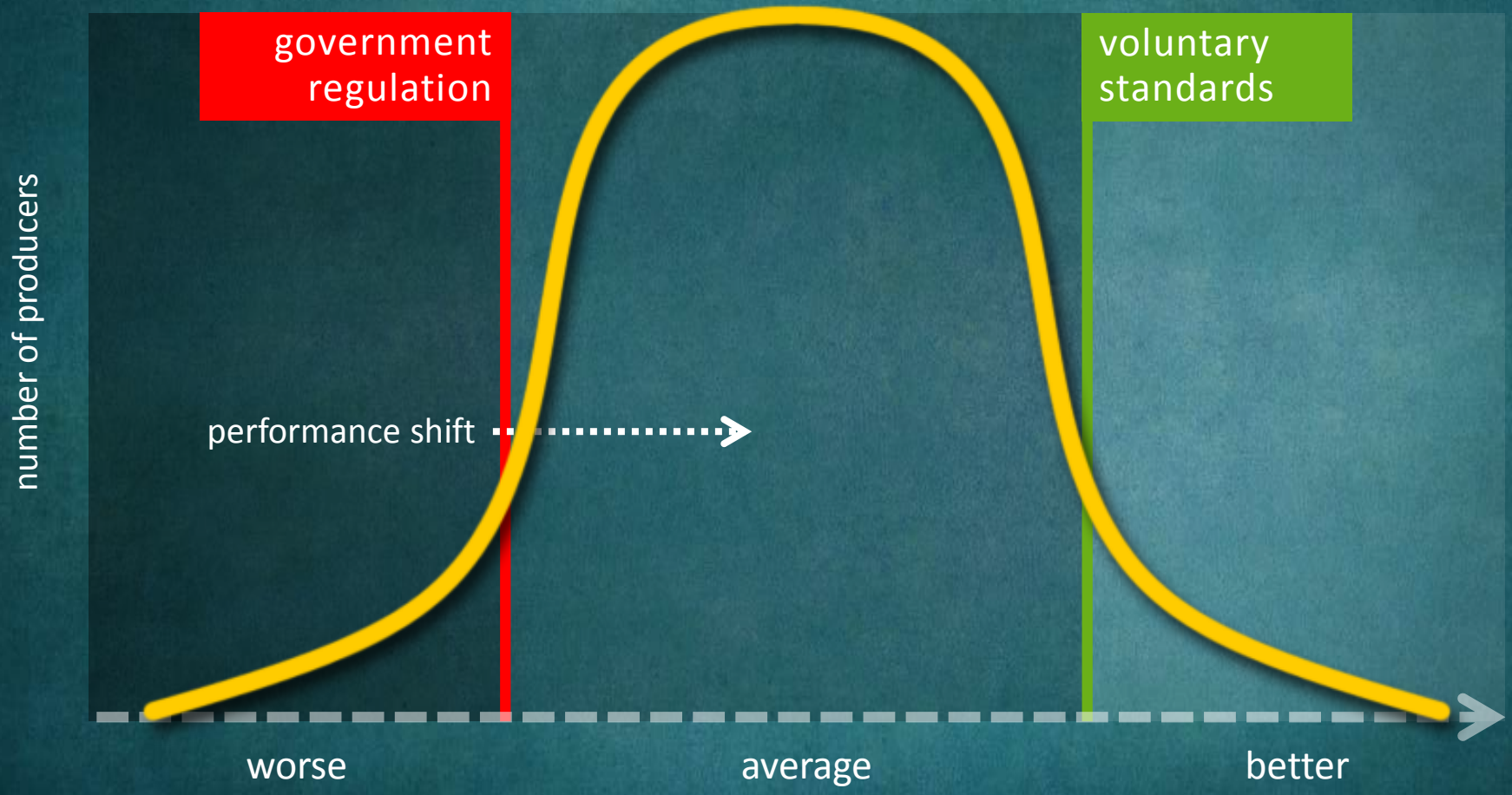
which gives us more food?

recognizing the best

or

moving the rest?

Reward the best, or move the rest?



which standards

measure improvement?

climate change & **agriculture**

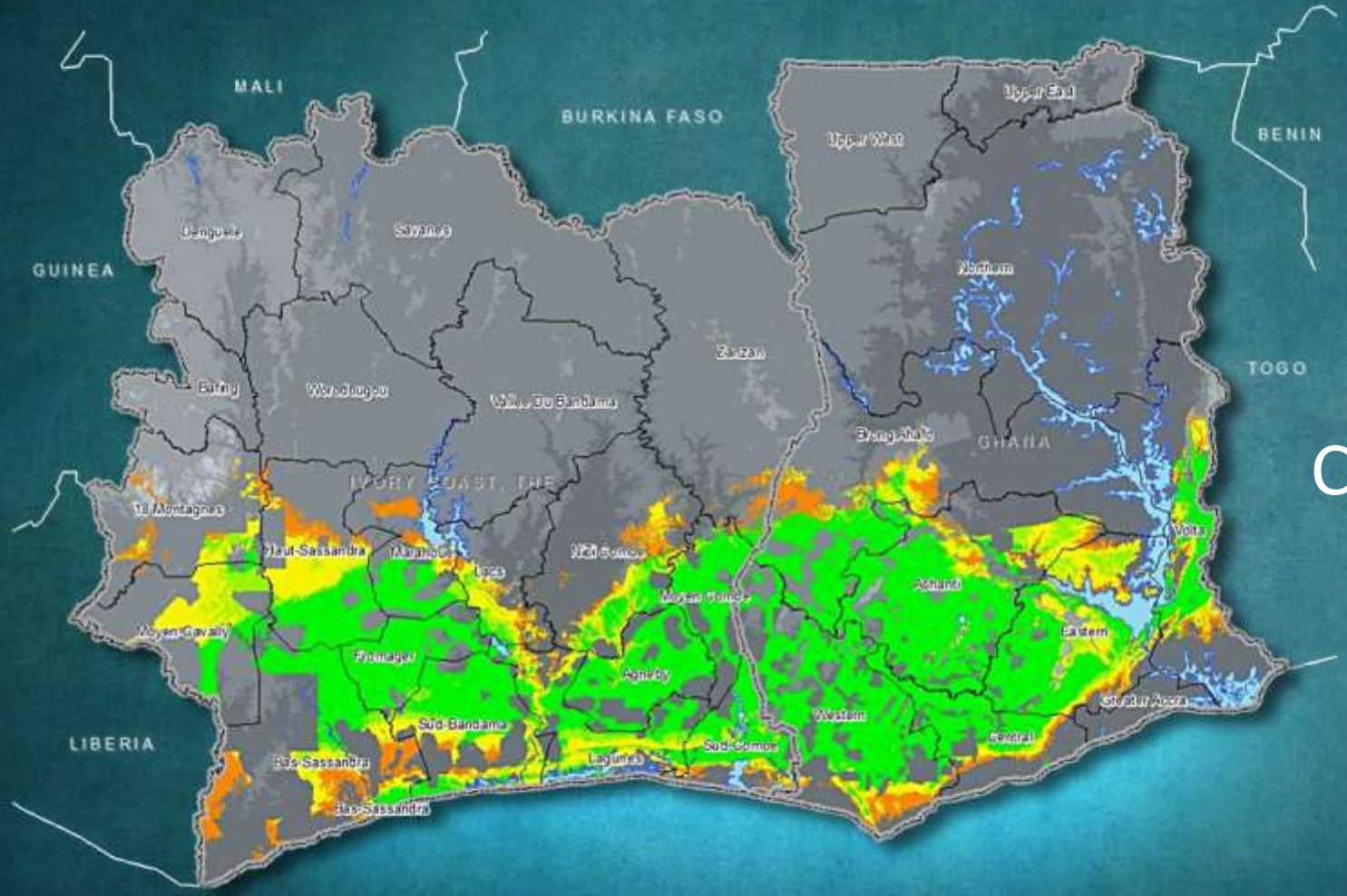
Credit: Associated Press

2012 US drought

- By 2013 soil moisture had not recovered
- Recharge with normal rains takes 2-3 years
- 2 years of drought in a row reduces recovery for 5-10 years
- Soil organic matter “burns”

Source: University of Missouri School of Natural Resources, 2013

Suitability of cocoa production



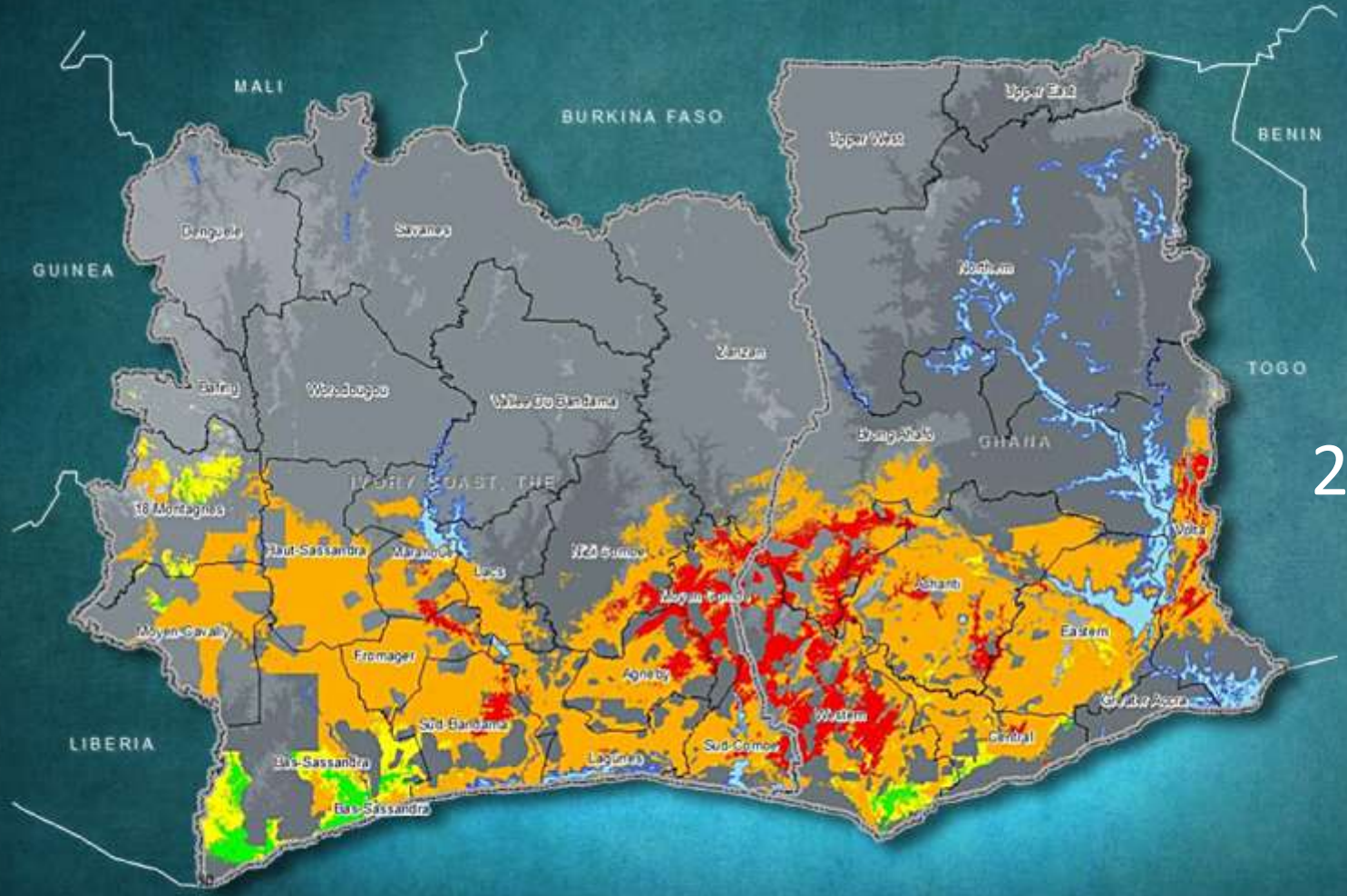
Current

Suitability

- Barely
- Marginal
- Good
- Very good
- Excellent

Source: Armando Isaac Martinez, a.i.martinez@cgiar.org; Narioski Castro

Suitability of cocoa production



2030

Suitability Change

- Much less
- Less suitable
- No change
- More suitable

Source: Armando Isaac Martinez, a.i.martinez@cgiar.org; Narioski Castro

in the short term
climate smart agriculture =
efficient production

in the medium term,
producers **change crops**

challenges
for animal protein

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

Source: Dr. Paul Aho, Novus Poultry Roundtable: Feeding the World and the Role of Poultry, January 2010

maximizing

vs

optimizing

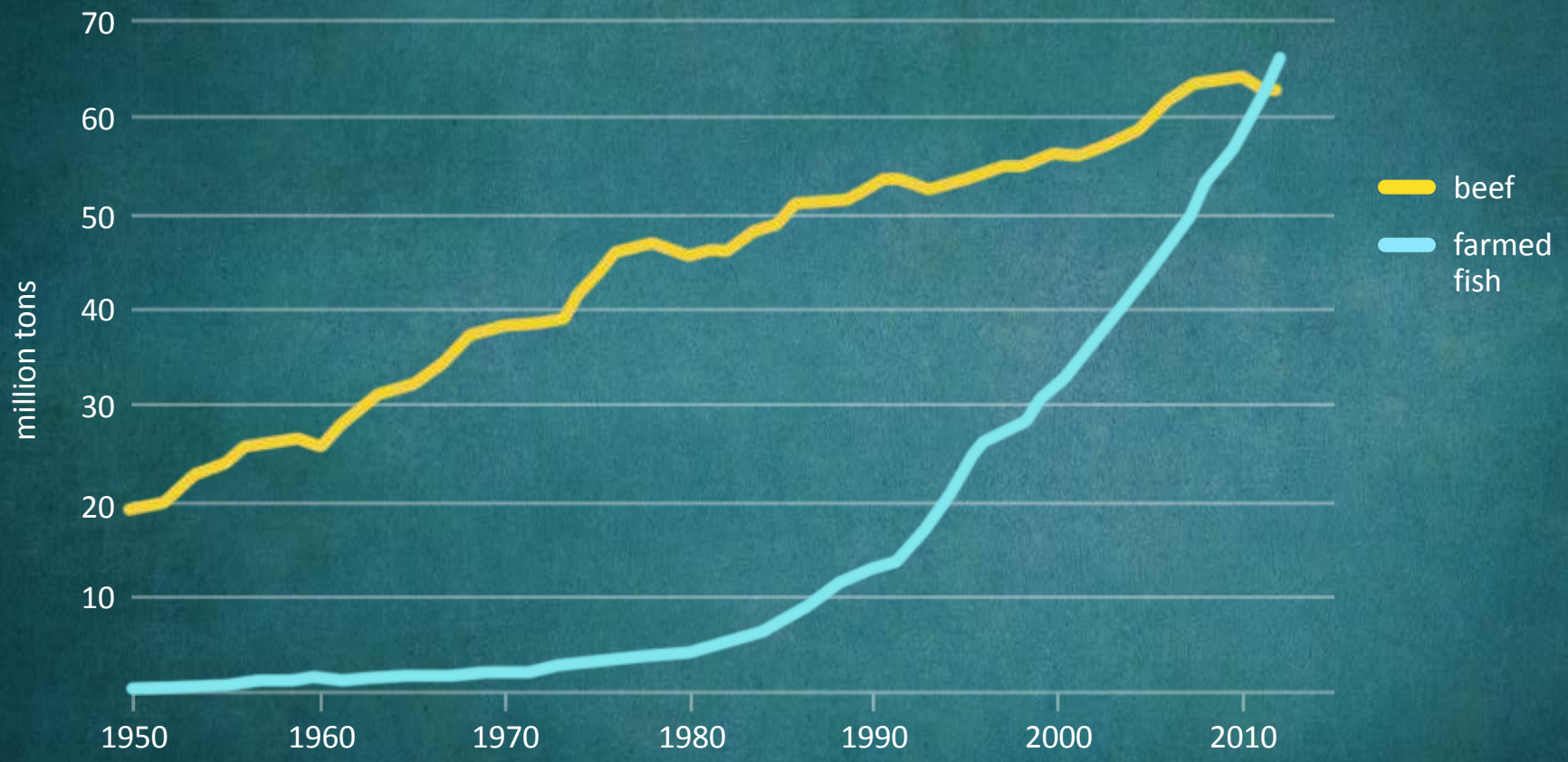
will today’s sustainability standards get us to 2050?

waste

1 out of 3 calories

on a finite planet,
should consumers
have a choice
about sustainable
products?
or should
all choices
be more sustainable?

World farmed fish and beef production, 1950-2012



Source: EPI based on FAO, USDA

Earth Policy Institute – www.earth-policy.org

moving sustainability from

niche to **norm**

$200 billion

gap

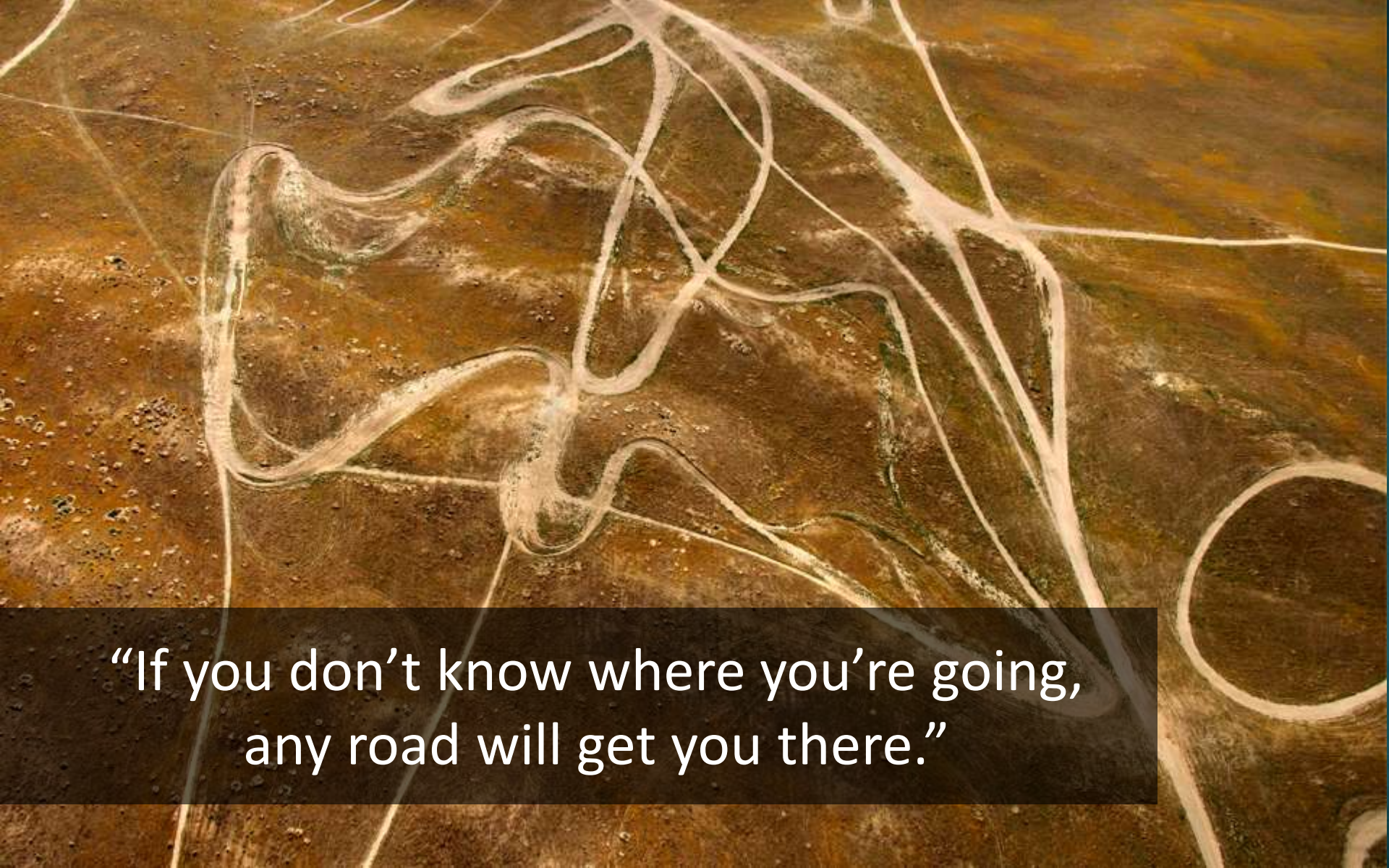
from commitment to impacts on the ground

which programs

encourage continuous improvement?

which **measure** it?

salmon aquaculture


“If you don’t know where you’re going,
any road will get you there.”

WWF
think about it