



The Role of Agriculture Subsidies in Deforestation

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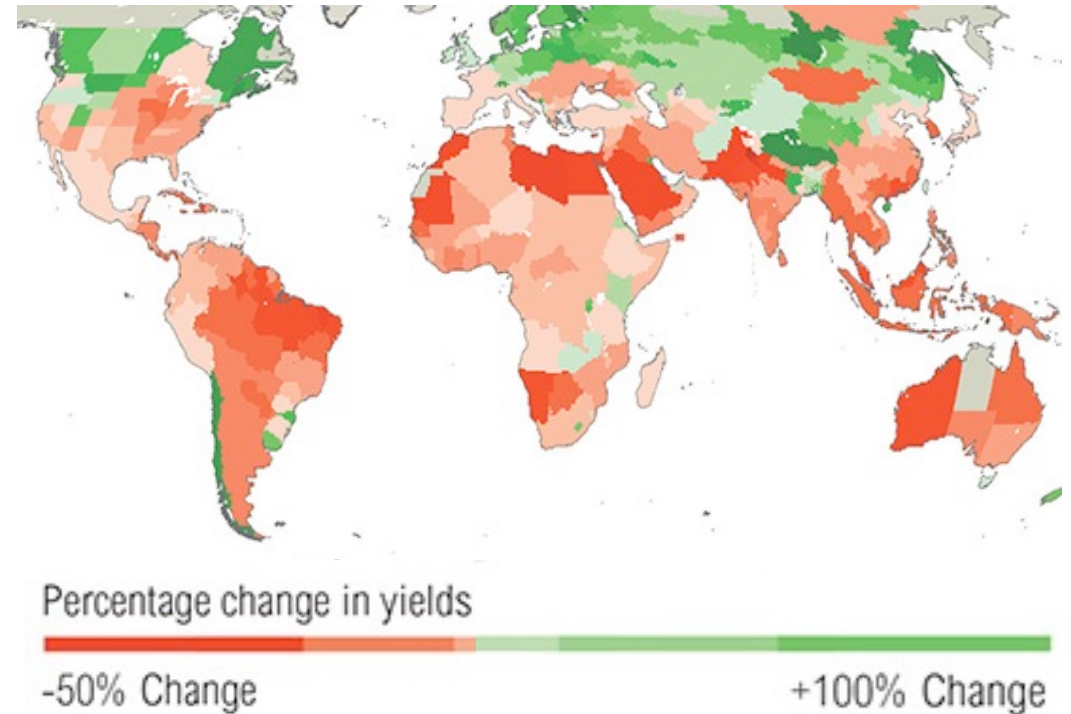
Agriculture GP | World Bank

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Challenge: Feed a growing and more affluent population as climate changes while safeguarding the life-supporting functions of ecosystems

- 10 billion people by 2050:
 - 56% more calories AND diverse foods
- Still:
 - 821 million still undernourished
 - 10% still in extreme poverty
- While helping to meet climate goals, reduce pressures on the environment
 - Make agriculture more climate smart

Estimated crop yield changes by 2050 due to climate change



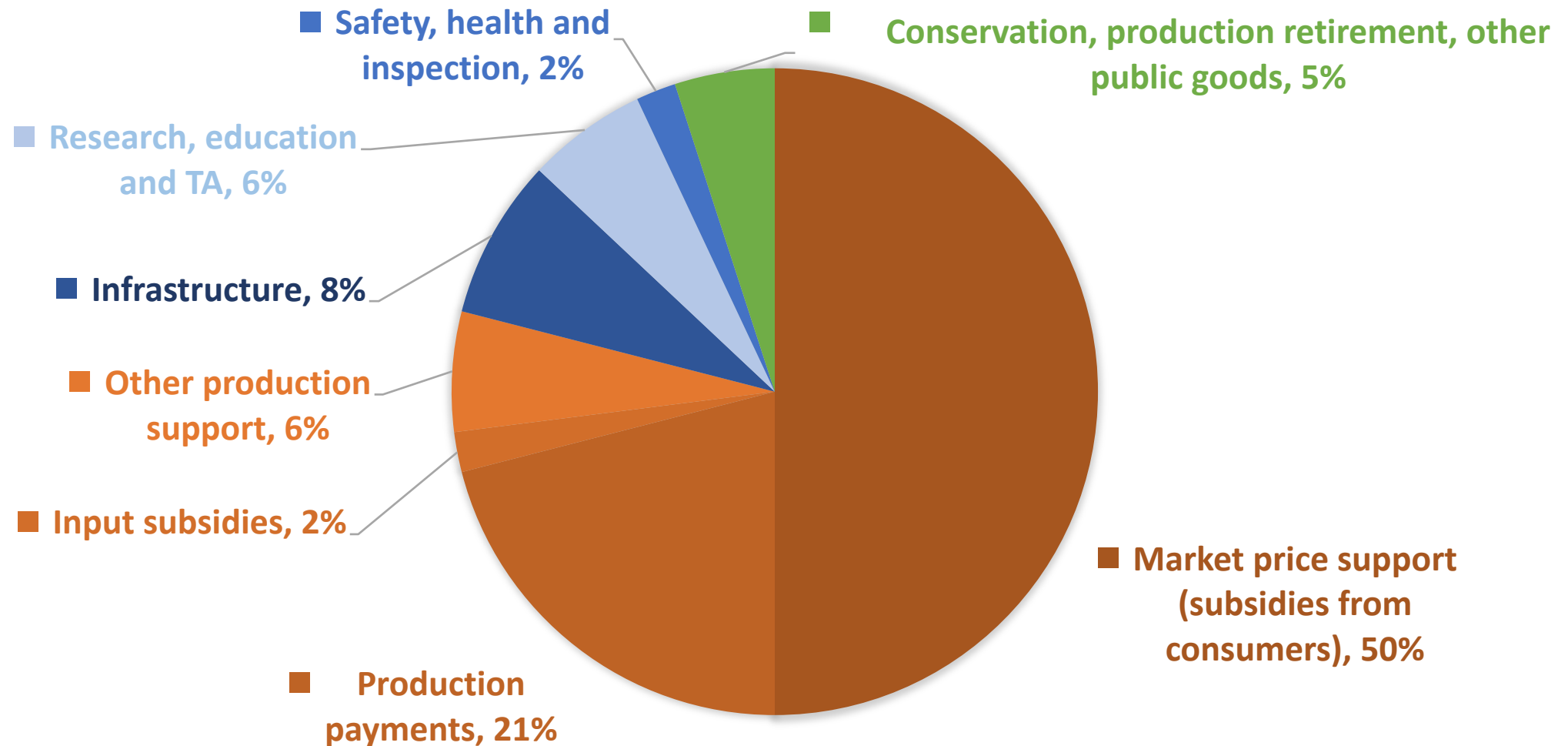
Agriculture-Environment nexus

- Current agriculture has a large footprint
 - Converted 70% grassland, 50% savanna, 45% temp. forest, and 27% tropical forests
 - Land use and change, such as deforestation, have large environmental impacts
 - Biodiversity loss
 - Uses 80 to 90 percent of fresh water consumed by human activities
- Focus on nexus of agriculture and forest ecosystems
- Incentives to farmers impact the food system
 - The scale of production (**How much** is produced)
 - The pattern of agricultural goods produced (**What** is produced)
 - The geographical pattern of production (**Where** goods are produced)
 - The technology involved in producing such goods (**How** goods are produced)

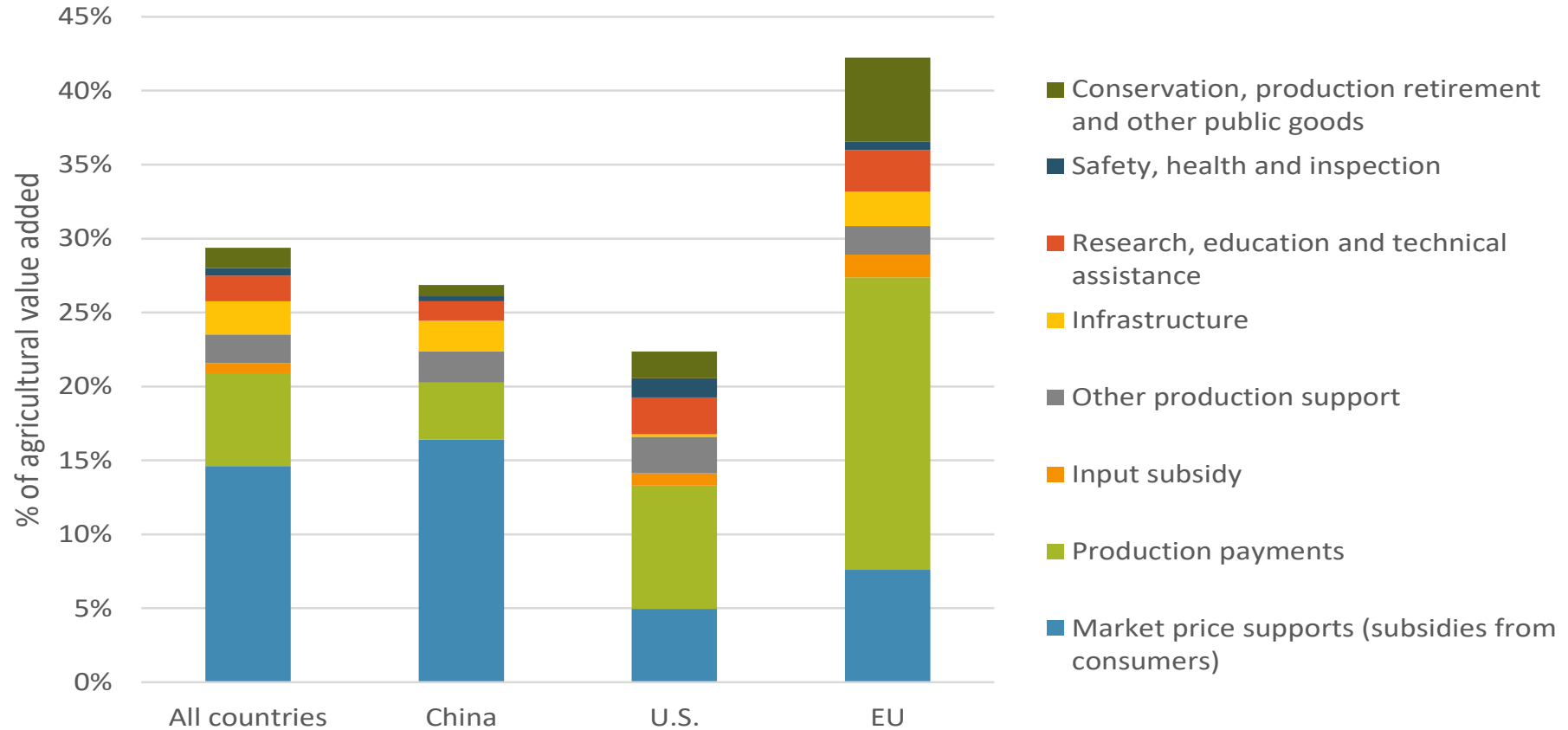
Distribution of Agriculture Subsidies Globally

Agriculture support/subsidies doubled over 15 years - \$500 b

Public goods investments - \$ 100 b



Agricultural spending can yield high returns (as % agricultural added value, 2014-2016), but...



Not all public spending is equal: subsidies yield lower economic returns

Significant negative externalities

OECD PSE breakdown

50 OECD countries

9 Other big ag economies

[India added; not incl. here]

Definitions:

MPS: Market price support

PI: Input use

PC: A/P based, Q required

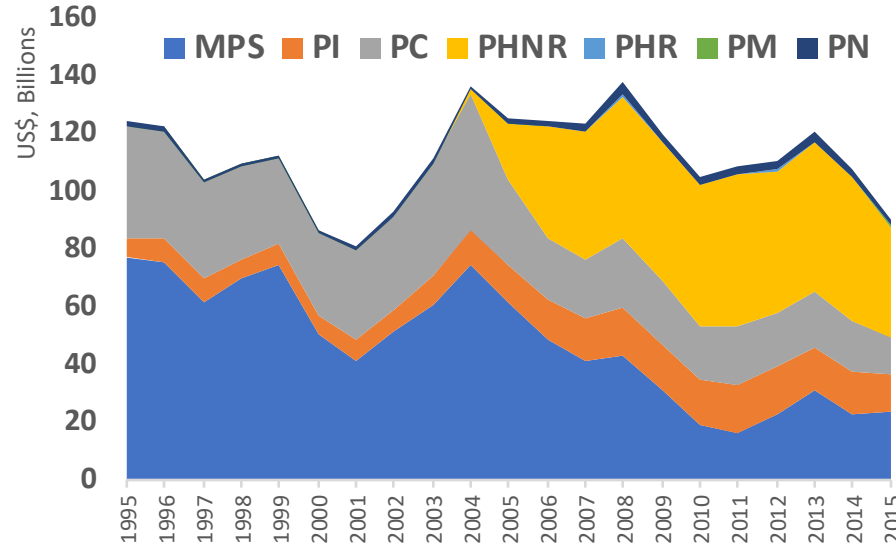
PHNR: P not required

PHR: P required

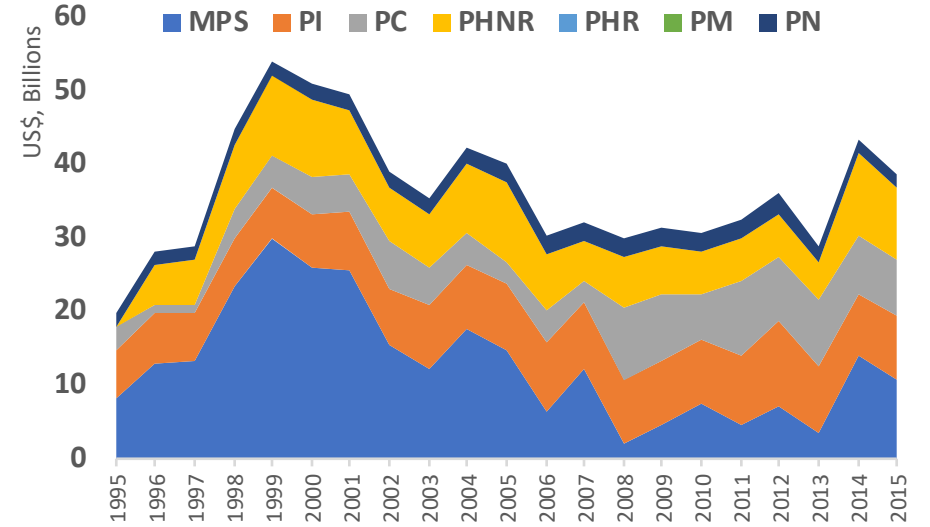
PM: Miscellaneous

PN: Non-comm. criteria

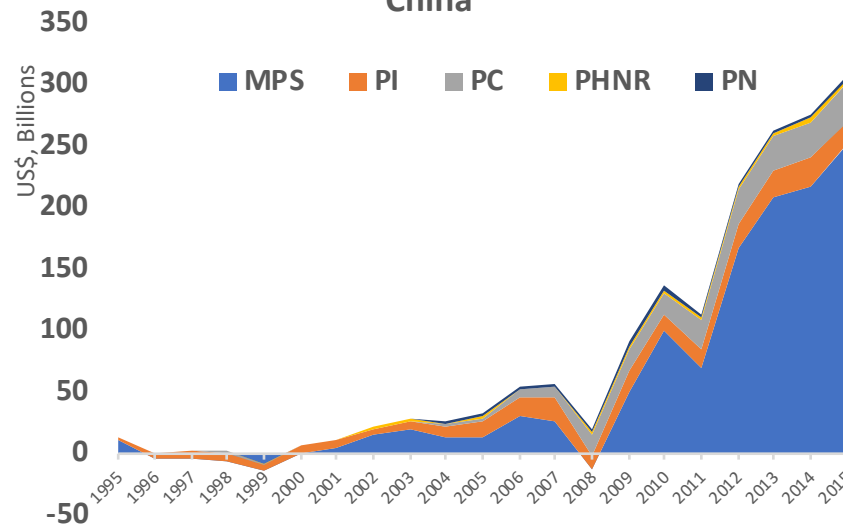
EU 28



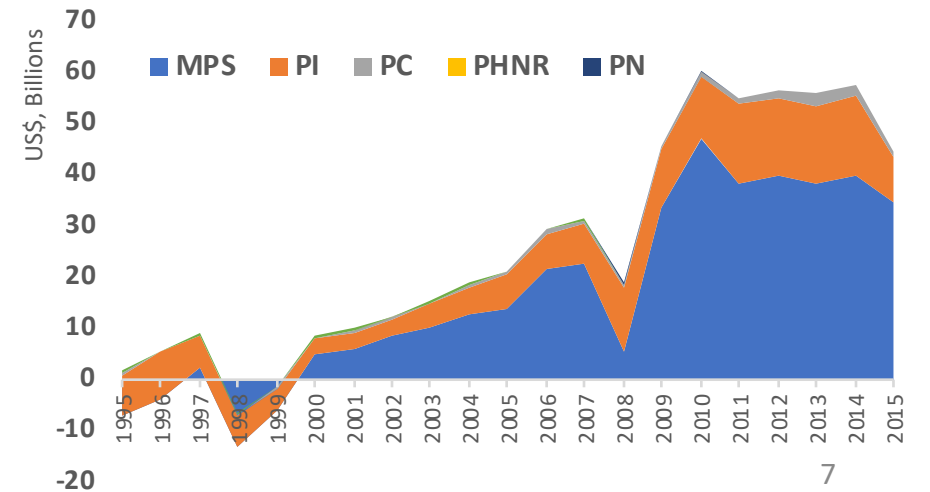
US



China

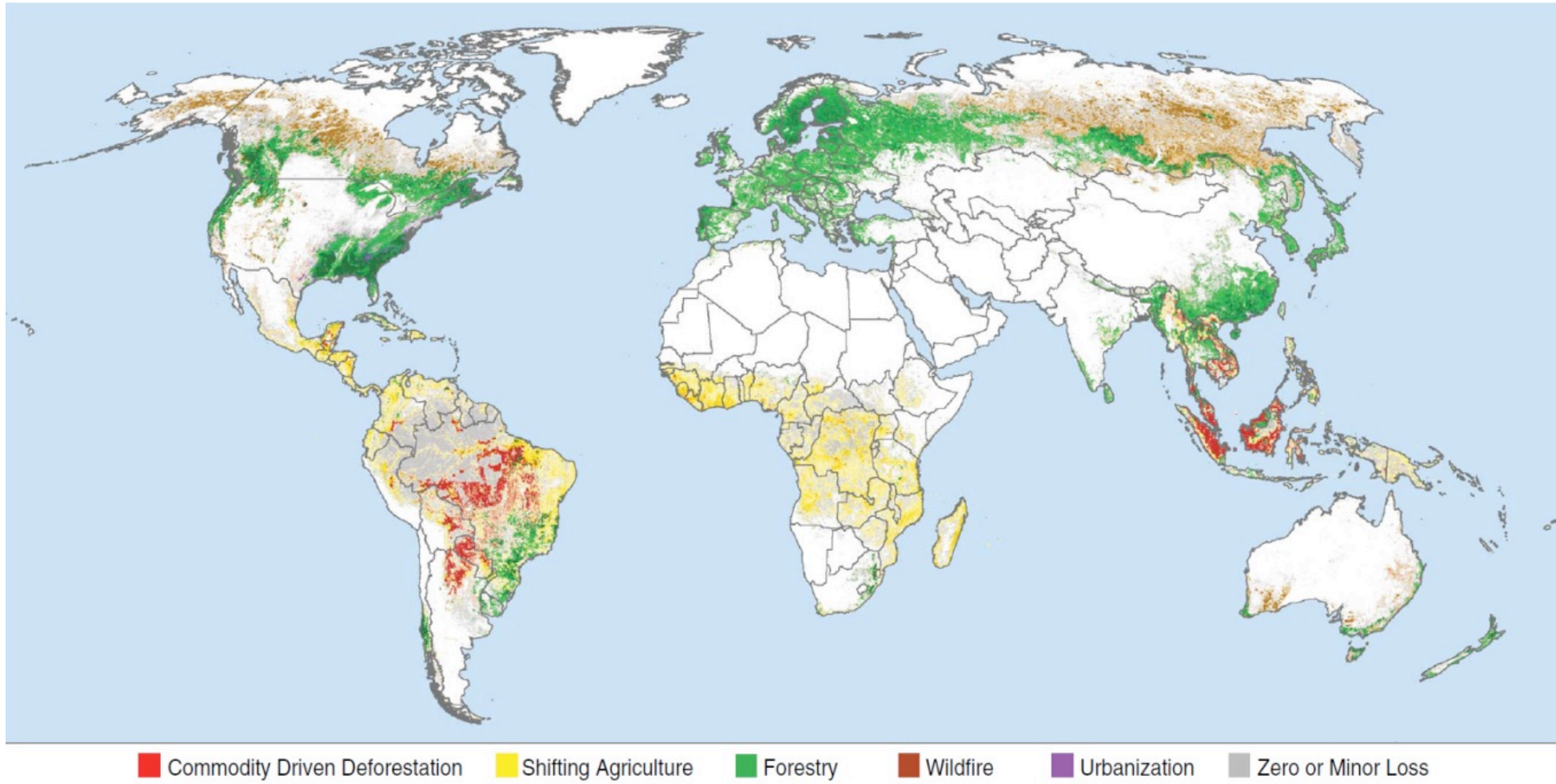


Other non-OECD Countries



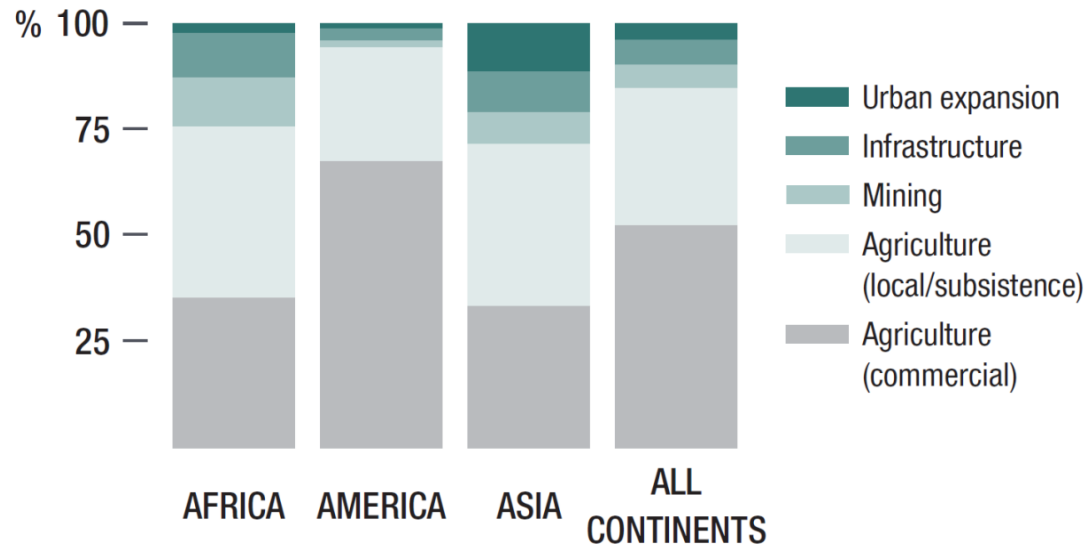
Understanding Role of Agriculture Subsidies in Deforestation

Multiple drivers of forest cover loss for the period 2001 to 2015

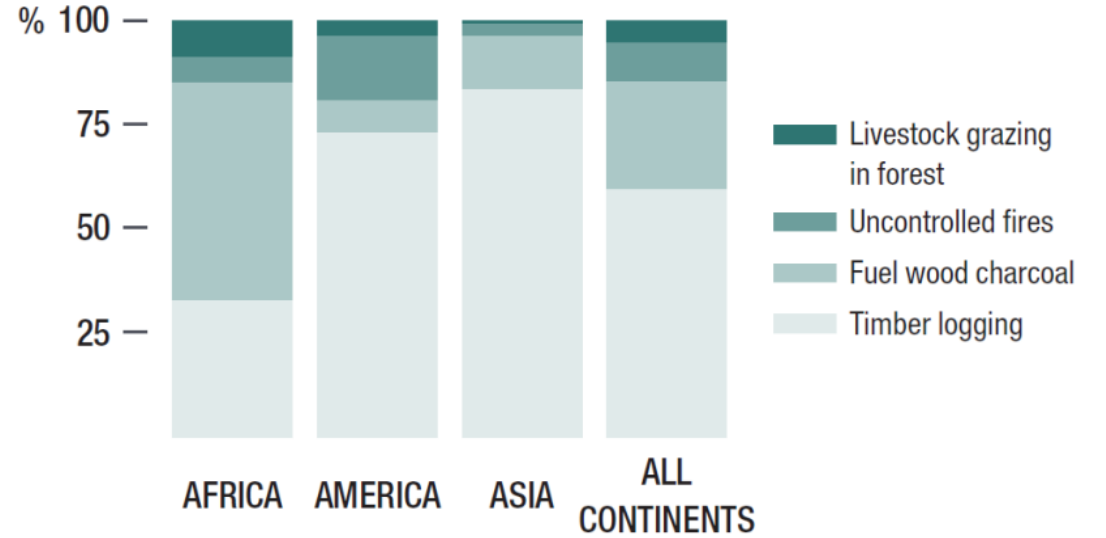


Agriculture as driver of...

DEFORESTATION



FOREST DEGREDDATION



Source: ODI 2015

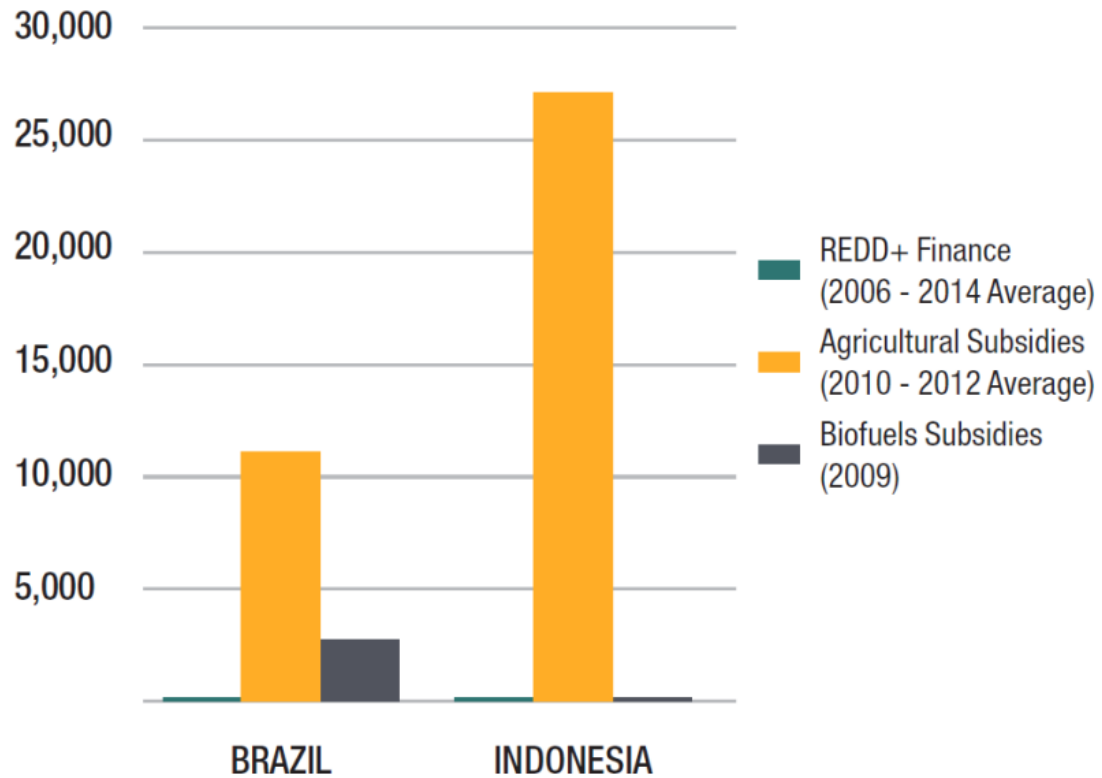
Indonesia: Forest loss 2001-16; post 2011 moratorium 10k sq.km lost Profitability a strong motive; Political imperative to drive growth



Source: Global Forest Watch

REDD+ : Recognize problem, but financing a fraction of subsidies

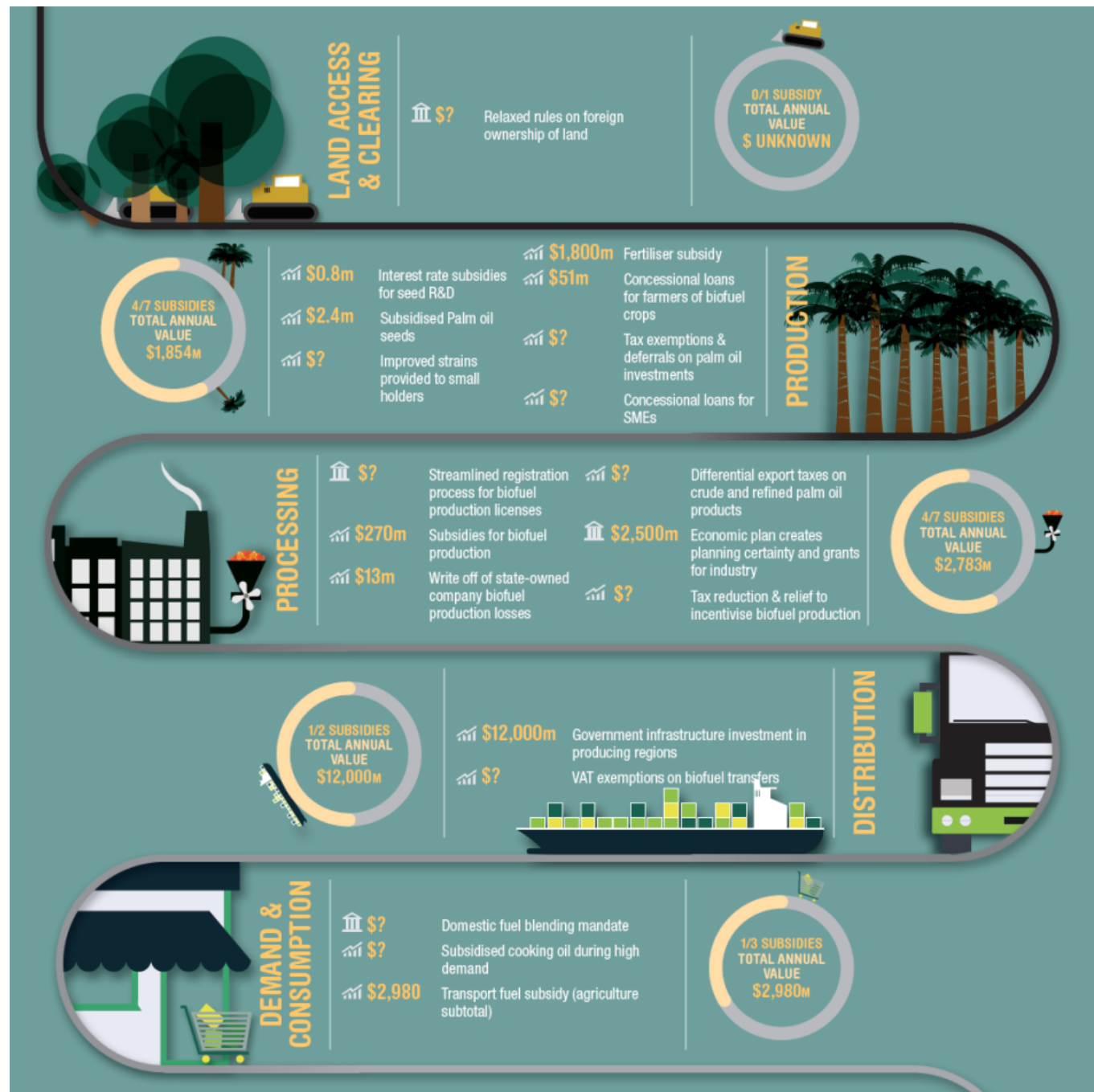
Can conservation measures alone solve the problem?



Domestic agriculture and biofuel subsidies as compared with REDD+ finance commitments (average annual \$ million)

INDONESIA: Subsidies along the Palm Oil value chain

Estimated value:
USD 16,657 million
per year (2015)



Complex maze: multiple forms

Direct/indirect farm subsidies do not capture the universe.

All along value chain:

- **Farm level** – multiple
- **Processing** – SOE losses; grants; export tax concessions; biofuel subsidies
- **Distribution:** Infrastructure targeted at oil palm areas; agric. transport fuel subsidy
- **Consumption:** fuel subsidies; blending mandates

Some early lessons emerging

- Subsidies are hard to identify and harder to estimate
- Subsidies are often not commodity specific, but focused on wider objectives and beneficiaries at the sector, regional or national level
- Subsidies are often provided through a wide range of government tools (e.g. regulatory and information instruments) alongside economic instruments (e.g. concessional loans, tax exemptions)
- Subsidies should be focused at increasing productivity and achieving climate and wider environmental conservation goals
- There is no one-size-fits-all to amend agricultural fiscal incentives

Next steps: some issues to be grappled with

Would appreciate any inputs and guidance

- What type of agriculture drives deforestation?
 - Subsistence/low productivity or profitability/high productivity as drivers?
 - Contextual or spatial nuances?
- Big question mark: political economy
 - Interesting examples of good subsidy reform – Brazil (interest tied to env. compliance) and India (forest cover in fiscal transfer allocation formula)
 - Yet both have many other distortions/subsidies in place
- Possible to reorient bad subsidies towards better PE support options?
 - Decoupling: e.g., EU. How effective a strategy has it been or can it be?
 - How to treat forestry – especially planted forests? Carbon neutral?
 - Would income support perpetuating inefficient production and/or expansion?

Thank you.

