

Agricultural trade, biodiversity and deforestation

James Vause, UNEP-WCMC

Agricultural trade in the context of the wider relationship between the economy and biodiversity



TRADE, DEVELOPMENT &
THE ENVIRONMENT HUB

Exploring the relationship between
trade and biodiversity through the
lens of the Dasgupta Review of the
Economics of Biodiversity

A contribution to the Dasgupta Review on behalf of the
UKRI GCRF TRADE Hub project

Supply: $G(S)$

G Rate at which the
biosphere regenerates

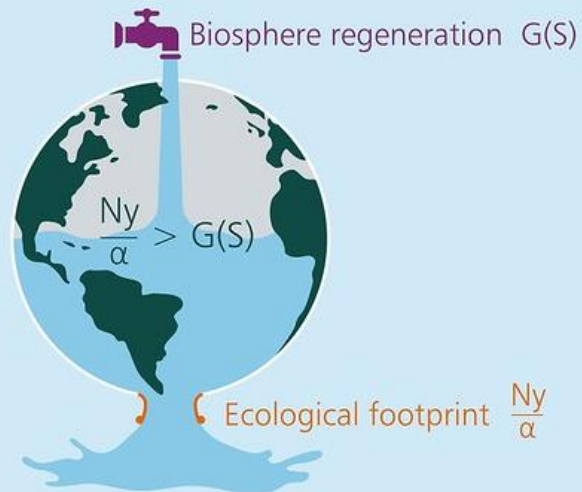
S Stock of the biosphere

Demand: $\frac{Ny}{\alpha}$

N Human population

y Human economic activity
per capita

α Efficiency with which the
biosphere's goods and
services are converted
into GDP and the extent
to which the biosphere
is transformed by our
waste products



How does trade influence the balance between the economy and nature?

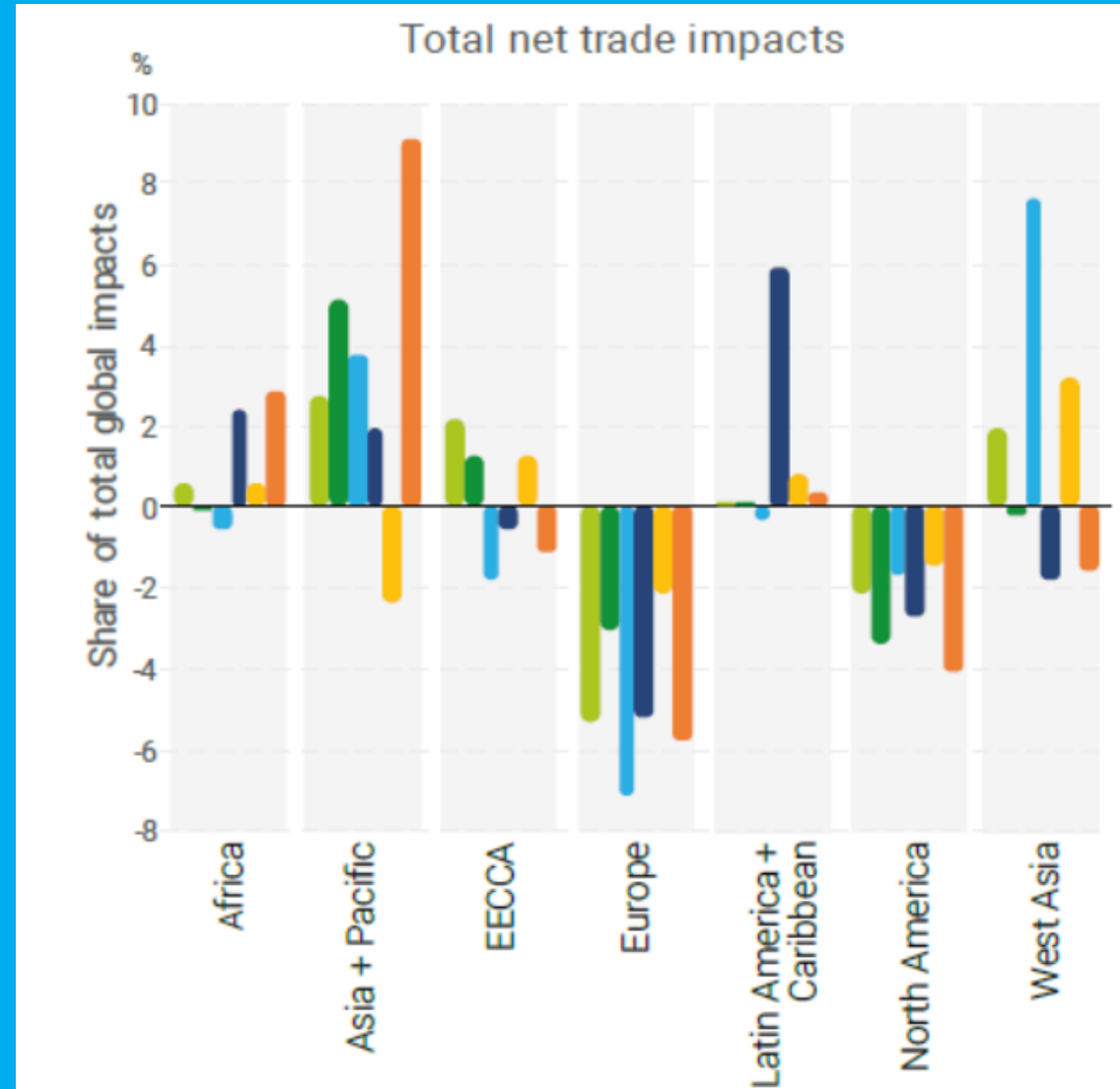
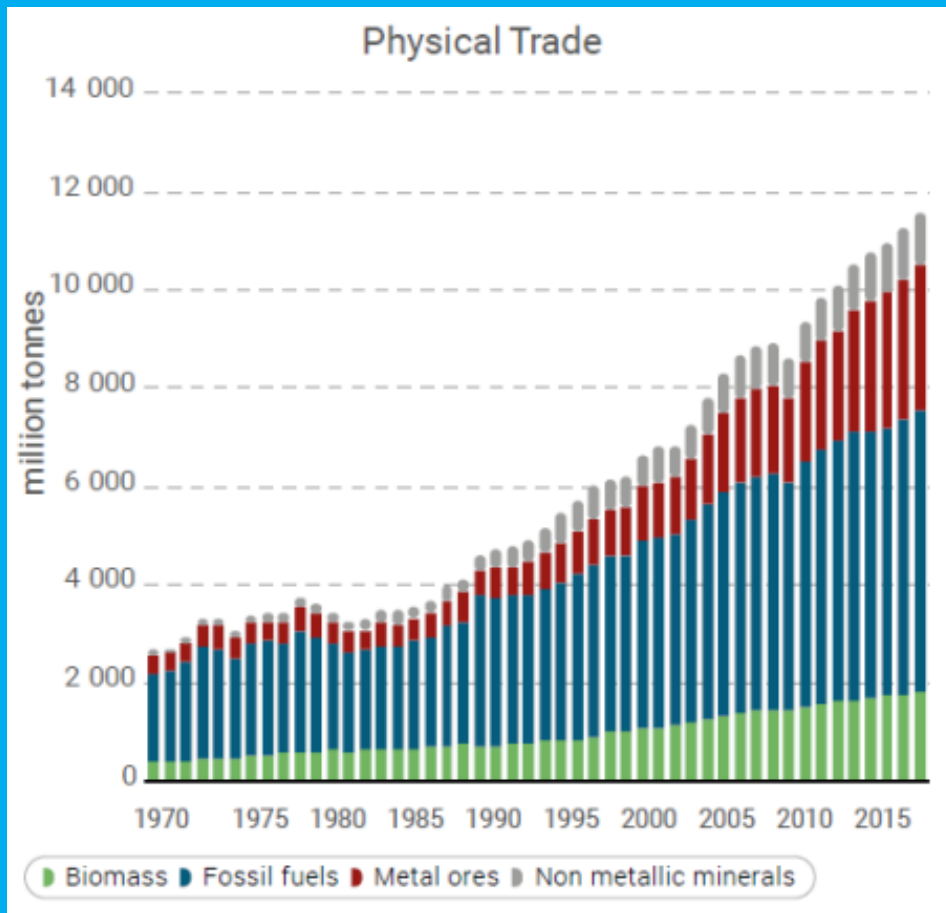
- **Scale Effect** – y up, S down?
- **Structure/Composition Effect** – S up in some areas and down in others? Improvement in α if trade allows production to move to places with better environmental conditions for growing a specific crop.
- **Technique Effect** – productivity up, so α up? Chasing low costs, my mean α down. Technique may also impact both S and the G function depending on how the techniques of production promulgated through trade 'work with' natural assets.

Trade may be good or bad...

Great review article that
covers this in more detail
Kastner et al (2021)
<https://doi.org/10.1016/j.oneear.2021.09.006>

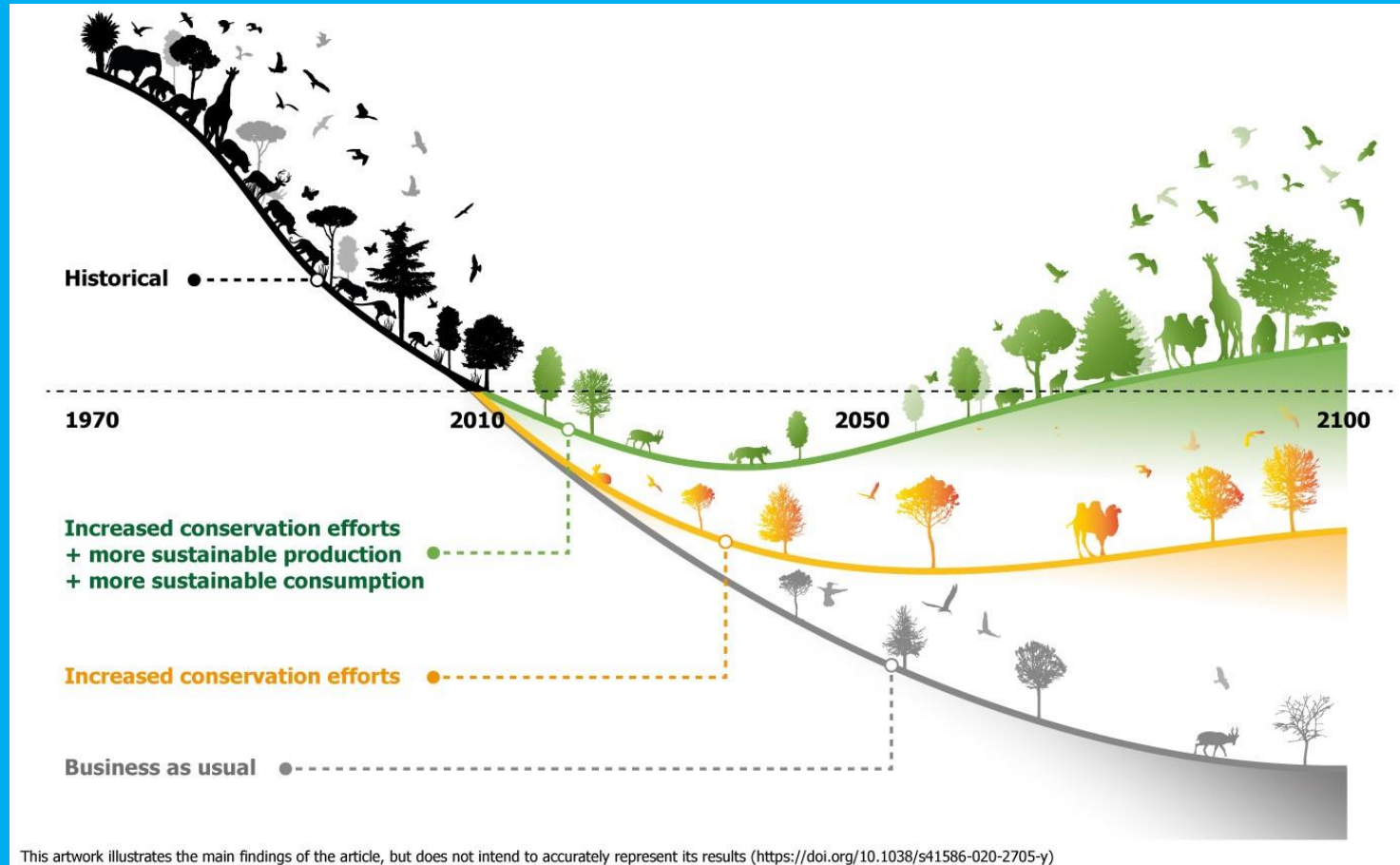
Agricultural trade and global resource use

Global Resource Outlook 2019



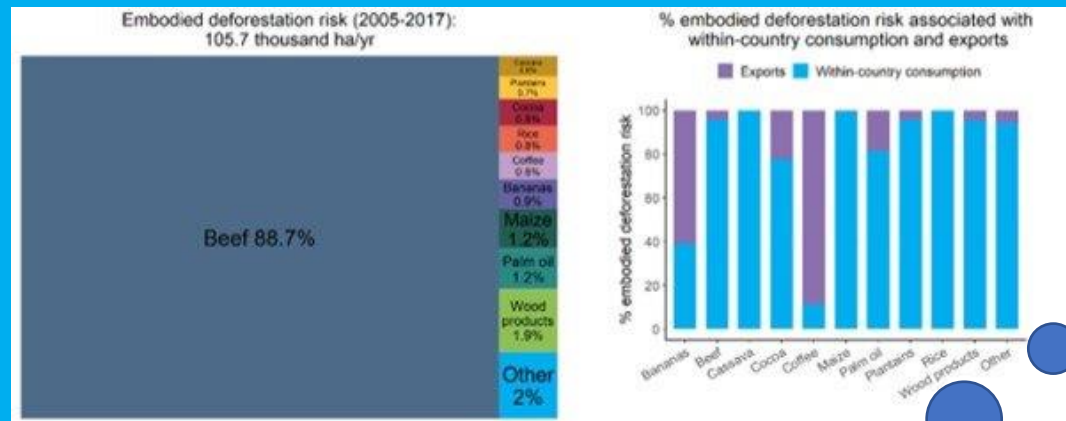
■ Climate change impacts ■ PM health impacts ■ Water stress ■ Land-use related biodiversity loss ■ Value added ■ Employment

Trade as a policy to reduce pressure on areas of high biodiversity



Two reminders

1. Biodiversity loss and deforestation isn't all about trade



As these are externalities (not considered by markets) where they arise, it means poorer countries and people absorbing these costs are effectively subsidising the consumption of the end user

2. Biodiversity loss and deforestation have ramifications for people

- At the local level, rural people who aren't part of the trade system may lose access to resources and other ecosystem benefits
- More broadly ecological instability is an increasingly dominant economic risk, the impact of which is expected to fall most heavily in poorer countries



Contact:

James.Vause@unep-wcmc.org

Twitter: [@unepwcmc](https://twitter.com/unepwcmc)
LinkedIn: [UNEP-WCMC](https://www.linkedin.com/company/unep-wcmc)
Web: unep-wcmc.org