

## Trade emerging as a key driver of Brazilian deforestation

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A new study published online April 4th in the journal *Environmental Research Letters* finds that trade and global consumption of Brazilian beef and soybeans is increasingly driving Brazilian deforestation. Consequently, current international efforts to protect rainforests (e.g., REDD) may be undermined by the increased trade and consumption.

By estimating <u>CO2</u> emissions from <u>deforestation</u> in the <u>Brazilian</u> <u>Amazon</u> from 1990 to 2010, and connecting the emissions to the most important direct drivers of Brazilian deforestation, i.e. cultivation of soybeans and grazing of cattle, the study allocates the emissions to countries based on domestic consumption and international trade of Brazilian soybeans and beef.

"With a consumption perspective, the share of responsibility for deforestation is divided among the global consumers. What, in one perspective is Brazil's problem, is now a global problem" said lead author Jonas Karstensen of the Center for International Climate and Environmental Research – Oslo (CICERO), a <u>climate research</u> institute in Norway.

According to the study, 2.7 billion tonnes of CO2, or 30% of the <u>carbon</u> <u>emissions</u> associated with deforestation in the last decade, was exported from Brazil. Of this, 29% were due to <u>soybean production</u> and 71% were due to cattle ranching.

Brazilian consumption is responsible for the largest share of emissions



from its own deforestation: on average over the two decades, 85% of the emissions embodied in Brazilian beef products and 50% of those in Brazilian soybean products have been driven by Brazilian consumption.

"Particularly in the last decade, greater imports by <u>emerging markets</u> and <u>industrialized countries</u> have led to an increasing share of exported emissions from Brazil" said Karstensen. "Consequently, in recent years more of Brazil's deforestation is allocated to foreign regions".

Russia has recently increased its share from very low levels to becoming the world's largest importer of emissions embodied in Brazilian beef in 2010, with 15% of total exported beef. China's share of emissions linked to soybeans has increased from 7% of total production emissions in 2000 to 22% in 2010, equivalent to about 41% of the emissions embodied in exported soybeans in 2010.

"According to our estimates, Asia, mainly due to China and Russia, now consumes more Brazilian soybeans and beef than the European market" said co-author Glen Peters of CICERO.

Consumption of Brazilian soybeans and beef by countries who are already seeking to protect Brazilian forests (e.g., via REDD), is driving demand and therefore indirectly increasing the deforestation they are seeking to prevent.

"Countries are putting more and more pressure on the Brazilian Amazon by consuming agricultural products, and by doing this they are undermining their efforts to protect the same forest" said Karstensen.

Both total Brazilian agriculture production and export shares have generally been increasing while deforestation rates have seen a dramatic decrease over recent years.



"With increasing global pressure on Brazilian agriculture to increase production and changes to the Brazilian Forest Code, it seems unlikely that Brazilian deforestation rates will continue to decrease at the current rate without strengthening measures to protect the forests" said co-author Robbie Andrew.

More information: <a href="mailto:iopscience.iop.org/1748-9326/8/2/024005/article">iopscience.iop.org/1748-9326/8/2/024005/article</a>

Provided by Centre for International Climate and Environmental Research (CICERO)

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