PLANET | LAND USE

"Land already in use could feed the world in a changing climate and provide biomass for renewable energy, but early, far-reaching action across several areas is required"

Hans-Otto Pörtner, Co-Chair of IPCC Working Group II 2019 (1)

Introduction to the problem and scale

- Half of the Earth's habitable land is now used for agriculture. (2)
- Agriculture is the main driver of deforestation and land use change globally (3). As populations and subsequent demand for food increases so does the expansion into savannahs and forests as more land is converted.
- Between 1990 and 2020, around 420 million hectares of forests have been lost through land conversion (4). Whilst the rates of deforestation are slowing, it is estimated an average 10 million hectares of forest have been cleared every year since 2015. (5)
- Deforestation and land-use change impacts on wild habitats, biodiversity and the release of carbon stores into the atmosphere.
- Since the 1950s, half of the Cerrado's native forests and grasslands have been cleared.
- Between 2000-2015, an estimated 20% of the Earth's land area was degraded as a result of human activities such as desertification, cropland expansion, and urbanization (6). With the global population expected to increase to 9.7 billion people, current pressure on land will intensify.
- Estimates of the number of people that could be fed from current food production vary from 11.5 billion to nearly 16 billion. (7)
- Approximately one third of food production is estimated to be lost or wasted each year. (8)

Link to intensive animal farming

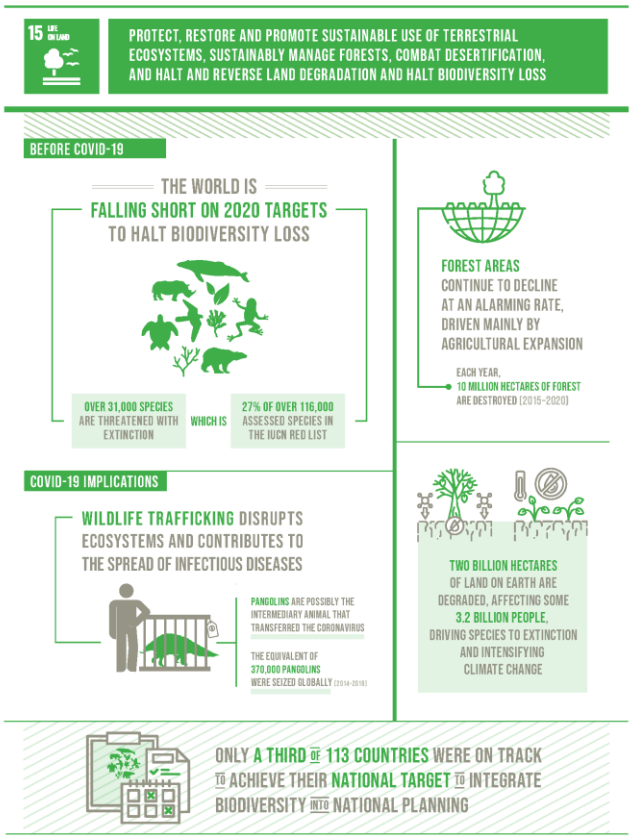
"The use of highly productive croplands to produce animal feedstuffs... represents a net drain on the world's potential food supply" European Commission Joint Research Centre 2018 (9)

- Intensive animal farming is dependent on feeding human-edible crops and soy to animals that convert them inefficiently into meat and milk. (10)(11)(12)
- Further use of cereals as animal feed could threaten food security by reducing the grain available for human consumption. (13.
- If cereals were used for direct human consumption instead of animal feed, an extra 3.5 billion people could be fed. (14)
- Globally, 40% of crop calories are used as animal feed (15) with 97% of the world's soy destined for farmed animals. (16)
- Between 2000 and 2010, approximately 40% of tropical deforestation occurred as a result of large-scale commercial agriculture – predominately cattle ranching, soya bean and oil palm cultivation. (17)

- Livestock takes up 77% of global agricultural land (including land for grazing and cropland to produce animal feed), yet for every 100 calories fed to animals as crops, just 17-30 calories enter the human food chain as meat. (18) (19)
- Intensive beef production is the largest cause of deforestation, followed by soy production.
- The intensification of crop production for animal feed has led to land and soil degradation, water shortages, and pollution. (20)
- Degraded soils are vulnerable to erosion, which leads to nutrient loss and eutrophication. Intensive agriculture with its use of chemical pesticides and herbicides has undermined soil biodiversity causing long term damage to soil health. Poor soil health constrains productivity. (21)
- The world has lost a third of its arable land due to erosion and pollution in the past 40 years. The UN Food and Agriculture Organisation has calculated that soils are now so degraded that we only have about 60 years of harvests left (22) as the rate soil is being eroded is far greater than it can be formed.
- Integrated crop and livestock systems enables animals to be fed on pasture and crop residues, thus converting materials we cannot consume into food we can. This provides a more sustainable and viable use of land.

Link to the relevant SDG's

- SDG 15: Life on Land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (23)



https://unstats.un.org/sdgs/report/2020/

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