

## 42. Intensive animal agriculture, land-use and biological conservation: converging demands of justice

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### Abstract

Intensive animal agriculture's high social-ecological footprint is relevant to debates such as on biological conservation and ecological sustainability. However, it does not feature prominently in the (small but growing) conservation sub-literature on 'just' land-use that considers different aims of biological conservation as well as intra-human justice concerns. For instance, the difference in visions of biodiversity conservation, which are often themselves based on diverging value commitments such as having ecocentric or anthropocentric foundations, can be illustrated by the controversy about the so-called Half Earth proposal. In this context, we would like to stress that these differences should not be overstated. For one, different value commitments can – in some cases – still compromise on similar practical implications such as shrinking intensive animal agriculture. Secondly, whilst it is certainly possible to take either a purely anthropocentric perspective, which only finds instrumental value outside of humanity, or, in contrast, a rather misanthropic perspective which reduces humans to the role of 'ecological sinners', we would like to illustrate that less polarising middle ground positions are also available that acknowledge the importance of intra-human *and* interspecies justice. In other words, taking a planetary justice perspective which is the primary focus of this paper. Here again the reduction of intensive animal agriculture is presented as a possible route of addressing some forms of the respective injustices.

**Keywords:** planetary justice, interspecies justice, de-growth, Half Earth

### Introduction

Whilst (intensive) animal agriculture's unassailably high social-ecological footprint is relevant to the debates on biological conservation, ecological sustainability, food security and biosafety; it does not feature prominently in the (small but growing) conservation sub-literature that considers questions of 'just' land-use in the context of different aims of biological conservation as well as intra-human justice concerns (here we use the term 'animals' as a shorthand for nonhuman animals – with both being preferable to the term 'livestock'). Different agricultural methods, for example dairy and meat production, and their land-use and impact on nature conservation have been analysed in quite some detail within different fields such as land system science (e.g. Foley *et al.*, 2011). However, we have noticed that some more specialised debates on 'just' visions of biodiversity conservation do not stress the importance of decreasing or 'de-growing' animal agriculture enough – at least measured by how we regard its potential relevance for considerations about just conservation. That has the effect that dissimilarities between different approaches are highlighted at the cost of emphasising areas of practical convergence.

For instance, within the category of different visions of biological conservation falls the controversy about the so-called Half Earth proposal (HE thereafter). While the proposal's proponents suggest

designating half of the planet's surface as conservation areas of different types in order to address current levels of biodiversity loss (e.g. Cafaro *et al.*, 2017; Dinerstein *et al.*, 2017; Wilson, 2016), critics find fault with the lack of attention – or the overly optimistic and reductive character of some proponents' analysis – that concerns about intra-human justice and economic management receive as part of this proposal (e.g. Büscher *et al.*, 2017a,b, Schleicher *et al.*, 2019). Although questions of just land-use are central to and even incorporated in the name of this proposal, animal agriculture's disproportionate land-use does not feature prominently in the debate about it (despite exceptions such as Mehrabi *et al.*, 2018). Therefore, we consider the HE debate a prime example for illustrating how reducing animal agriculture can help to 'partially' alleviate some disagreements between the proponents and critics of this radical proposal (see also Napoletano and Clark, 2020; Wienhues, 2020, who have already offered more nuanced commentaries).

In light of growing pressures to enact more ambitious conservation agendas, inclusive and practicable compromises are sorely needed. Inclusivity, we find, would entail considering different cultural perspectives, ethical stances and values as well as various disciplinary insights. Different visions of biodiversity conservation, such as the different perspectives employed in the HE controversy, build on diverging value commitments, in addition to different ways of conceptually understanding the human-nature relationship. For instance, some proponents build on ecocentric foundations (Kopnina *et al.*, 2018) and others on anthropocentric ones (Büscher and Fletcher, 2019). Yet, we maintain that these differences should not be overstated. For one, different value commitments can – in some cases – still compromise on similar practical implications as we will suggest in the following for the case of de-growing intensive animal agriculture (which does not rely on the 'convergence thesis' (Norton, 1991) being true). Secondly, putting it very simply, between a purely anthropocentric perspective that only finds instrumental value outside of humanity and a rather misanthropic perspective that reduces humans to the role of 'ecological sinners' (which are the extreme ends of a spectrum and are 'rarely' employed argumentatively, and therefore do not represent common disputes about value commitments), a range of less polarising positions are available that acknowledge, for instance, the importance of intra-human 'and' interspecies justice alike.

Having set the scene more widely to illustrate how we situate the relevance of what follows, we cannot discuss all of these different points in the necessary detail. So, after briefly sketching some empirical points on the matter of intensive animal agriculture, we will rather focus in the remainder on one specific 'normative' aspect that speaks in favour of de-growing animal agriculture – the demands of planetary justice. The aim is to provide an initial but incomplete overview of how different justice perspectives (and associated value commitments) can converge on the goal of de-growing animal agriculture. Accordingly, we will also largely set aside any details about the more specialised HE debate. Committed to doing justice to humans and nonhuman beings (Wienhues, 2020), while also acknowledging the capitalist roots of the environmental crisis (Büscher and Fletcher, 2020), we will illustrate how a strong reduction of animal agriculture presents itself as a practical route towards more planetary justice.

### Animal agriculture's biophysicality

By focusing on 'intensive' agricultural practices, we leave open the question of whether other small-scale forms of animal agriculture should remain on some land. To be clear, conversion losses of nutritional energy apply to all modes of producing animal-sourced foods. Our analysis is first and foremost directed at intensive animal husbandry because a variety of otherwise differing positions have the argumentative tools to support a reduction of such 'factory farming' methods. Addressing animal farming's biophysicality is key to the sorely-needed implementation of more ambitious visions of conservation, and to social and economic land-use practices that are just and sustainable.

Biophysicality refers here to the circumstance that as energy conversion from one being to another inevitably entails its dissipative losses to the environment (Kolasi, 2019), plants naturally occupy more biomass on this planet than herbivores, and the latter more than carnivores. Simply put, eating animal-sourced foods is an energetic detour which involves one or more extra levels of dissipative conversion losses as compared to eating plants directly. Against this background, we will take it as given that animal agriculture's disproportionate land and resource use is biophysically undeniable (e.g. Nijdam *et al.*, 2012, Poore and Nemecek, 2018) from which conclusions for biological conservation can be drawn. We are aware that this remains a very simplified premise which omits a range of debates such as on 'land sparing' vs 'land sharing' (e.g. Phalan *et al.*, 2011), 'sustainable intensification' and food security (e.g. Godfray *et al.*, 2010, Searchinger *et al.*, 2018), and the links between dietary and planetary health (e.g. Willett *et al.*, 2019).

## **The relationship between planetary justice and animal agriculture**

A range of considerations of matters of justice point towards the need to de-grow intensive animal farming. More specifically, this is a concern of 'planetary justice' (Hickey and Robeyns, 2020) which broadly denominates a range of justice considerations in the environmental context, such as intra-human environmental justice between current and towards future human generations as well as interspecies justice. Simplified, the term interspecies justice (also sometimes referred to as ecological justice or animal justice) groups together a range of non-anthropocentric positions that attribute justice claims (of different kinds) to (some or all) nonhuman living beings such as animals (e.g. Baxter, 2005; Cochrane, 2018; Garner, 2013; Wienhues, 2020) and sometimes even to ecological systems (e.g. Schlosberg, 2007). The theoretical investigation into interspecies justice and its relationship with all the relevant considerations of intra-human justice is still ongoing, and a consistent overarching framework of planetary justice is still missing (Dryzek and Pickering, 2019). Yet it constitutes the appropriate normative lens for addressing the different philosophical debates that intersect on the question of intensive animal agriculture and its land-use. Two preliminary observations can already be made in this regard.

Firstly, on the face of it, different normative positions (some of which also invoke justice claims) disagree on many issues, such as whether animal agriculture is intrinsically problematic. For example, accounts of animal rights which seriously question all forms of commercial animal husbandry (e.g. Regan, 2004) or whether only/primarily current forms of intensive farming are morally objectionable. The latter positions often put more emphasis on the lived moral experiences of farmers that keep farmed animals and the cultural and ecological significance of certain ways of farming (e.g. Fairlie, 2010; Smaje, 2020). Important here is that both perspectives have the argumentative tools to critically question intensive animal agricultural practices, despite otherwise diverging commitments (Bossert, 2014).

While there is moral disagreement about the extent to which intensive animal agriculture needs to be reduced, it is also the case that this primarily involves what has been termed 'factory farming' methods involving large-scale 'farms' where everything is geared towards efficiency and increasing outputs by exerting considerable control over animal bodies, which is made possible by large-scale feed crop production and fossil fuels. When developing a theory of justice to 'domesticated' animals in our current 'non-ideal' world we first need to address the most pressing injustices to animals which, in turn, involves the elimination of obvious instances of animal suffering (Garner, 2013). In practice, that implies the rejection of factory farming methods and as a consequence a considerable de-growth of animal agriculture.

Such a claim is, of course, in tension with some perspectives advocating the above-mentioned intensification of food production with ever more efficient feed conversion ratios. However, in the context of claims about de-growing 'animal' agriculture the target of efficiency changes towards efficient

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agriculture 'as a whole'. Putting energy efficiency in the context of avoiding feed conversion losses in the first place ultimately aims at reducing future scarcity of food (with the aim of food security) and of land (with the aim of habitat conservation, biodiversity protection and a more equitable sharing of limited environmental goods).

Secondly, in contrast to the abstract point about energy efficiency, the land in question is very concrete, referring to actual spaces where people and nonhuman beings lead their lives. What is at stake is usually referred to as cultural landscapes, but we find Val Plumwood's 'collaborate' or 'interactive' landscapes (2006: 125) a more apt description. Her terms acknowledge explicitly the human (and, importantly, not only Western) and nonhuman biotic and abiotic influences that shape the land. So, on the one hand, land matters for human and nonhuman life, while, on the other hand, it remains scarce comparatively to the different needs of humans and nonhuman beings. This, in turn, generates a situation where we need to find a 'just compromise' between different demands of justice, if we take our commitment to intra-human and interspecies justice seriously (Wienhues, 2018, 2020). While the needs of humans and nonhuman beings often conflict, it is also the case that intensive animal agriculture intensifies scarcity of land (relative to all needs) and therefore aggravates conflicts between the satisfaction of different needs and interests. Accordingly, reducing intensive animal agriculture and thereby reducing its land-use could alleviate intra-human and interspecies global injustices in several regards, which can be illustrated briefly by the following two non-exhaustive examples.

Firstly, in the context of interspecies justice, the reduction of intensive animal agriculture can alleviate injustices to 'wild' nonhuman beings by reducing the pressure on their habitats created by conversions into agricultural land. This would be a way of doing less (distributive) injustice to nonhuman beings, if these have entitlements to an adequate amount of habitat, and under the assumption that particularly for animals with large territories agricultural developments in their habitats are putting a strain on their ability to survive (for a general point on animal rights and habitat for wild animals see Donaldson and Kymlicka, 2011). That is particularly relevant against the background that human needs can be satisfied adequately by diets of (at least) low meat and dairy intake (e.g. Willett *et al.*, 2019). Animal agriculture's biophysicality implies a comparatively high land-use which indicates that there is little non-anthropocentrically-based reason to maintain intensive forms of animal agriculture (which make the fast-growing global meat consumption possible; Weis, 2013), particularly in the light of the current high rate of species extinctions of 'wild' nonhuman beings as well as the suffering involved in industrial farming methods.

Secondly, feed crops are grown in order to primarily satisfy a demand for meat and dairy of relatively wealthy people whose consumption not only exceeds sustainable ecological footprints (Weis, 2013), but what could also be considered a just share of the Earth's resources when looking at it from an (anthropocentric) intra-human justice perspective alone. This kind of production and consumption can clearly be problematised if it means that it makes it more difficult for other people to live satisfying lives, for example, when considerable pressure is put on ecosystems and land health in their community. The globalised system of intensive animal agriculture allows for a problematic distancing of its beneficiaries from some of its environmental consequences. Accordingly, concepts such as 'ecological debt' (e.g. internationally of a state X to a state Y; Goeminne and Paredis, 2010) due to 'ecologically unequal exchange' (Martinez-Alier, 2002) can further illustrate the international dimension of this intra-human justice problem.

## Conclusion

Both of the points on efficiency and land-use leave open how much reduction is possible and desirable (which depends on empirical factors as well as one's moral positioning on animal farming in general). Yet, a defensible planetary justice perspective will require this reduction to be significant. The aims of biodiversity conservation and interspecies justice, on the one hand, and the aims of human food security and intra-human justice on the other, align on the social-ecological problems raised by (intensively kept) farmed animals. While we recognise that other conflicts between these different aims remain, their convergence in the specific context of animal-sourced foods' abundance is important for building political alliances and highlights the central place this question should receive in visions about just conservation. For instance, different positions involved in the HE controversy briefly introduced in the beginning should be able to agree on this goal, despite different argumentative routes for reaching this practical recommendation (whether seeing the route problem in capitalist economic structures and linked intra-human injustices, or highlighting the need of extensive areas for nonhuman habitat protection) and while retaining other substantial empirical and normative disagreement.

## References

- Baxter, B. (2005). *A Theory of Ecological Justice*. Taylor and Francis e-library.
- Bossert, L. (2014). Tierethik. Die verschiedenen Positionen und ihre Auswirkungen auf die Mensch-nichtmenschliches Tier-Beziehung. *Nachhaltige Lebensstile*. Metropolis-Verlag, Marburg, pp.32-57.
- Büscher, B., Fletcher, R. (2019). Towards Convivial Conservation. *Conservation and Society* 17, 283-296.
- Büscher, B., Fletcher, R. (2020). *The Conservation Revolution: Radical Ideas for Saving Nature Beyond the Anthropocene*. La Vergne: Verso.
- Büscher, B. et al. (2017a). 'Half-Earth or Whole Earth? Radical Ideas for Conservation, and Their Implications'. *Oryx*, 51(3): 407-410.
- Büscher, B. et al. (2017b). Doing Whole Earth justice: a reply to Cafaro et al. *Oryx* 51, 401-401.
- Cafaro, P. et al. (2017). Letter: If we want a whole Earth, Nature Needs Half: a response to Buescher et al. *Oryx* 1-1.
- Cochrane, A. (2018). *Sentientist Politics: A Theory of Global Inter-Species Justice*, Online Edition. ed, Sentientist Politics. Oxford University Press, USA – OSO.
- Dinerstein, E. et al. (2017). An Ecoregion-Based Approach to Protecting Half the Terrestrial Realm. *BioScience* 67, 534-545.
- Donaldson, S., Kymlicka, W. (2011). *Zoopolis: A Political Theory of Animal Rights*. Oxford University Press, Oxford.
- Dryzek, J.S., Pickering, J. (2019). *The Politics of the Anthropocene*. Oxford University Press, Oxford.
- Fairlie, S. (2010): *Meat: A Benign Extravagance*. Permanent Publications: White River Junction.
- Foley, J.A. et al. (2011). Solutions for a cultivated planet. *Nature* 478, 337-342.
- Garner, R. (2013). *A Theory of Justice for Animals: Animal Rights in a Nonideal World*. Oxford University Press, Oxford.
- Godfray, H.C.J. et al. (2010). Food Security: The Challenge of Feeding 9 Billion People. *Science* 327(5967): 812-818.
- Goeminne, G., Paredis, E. (2010). The concept of ecological debt: some steps towards an enriched sustainability paradigm. *Environment, Development and Sustainability* 12, 691-712.
- Hickey, C., Robeyns, I. (2020). Planetary justice: What can we learn from ethics and political philosophy? *Earth System Governance* 100045.
- Kolasi, E. (2019). Energy, Economic Growth, and Ecological Crisis. *Monthly Review* 71(2): 29-46.
- Kopnina, H., et al. (2018). 'The 'future of conservation' debate: Defending ecocentrism and the Nature Needs Half movement.' *Biological Conservation* 217, 140-148.
- Martinez-Alier, J. (2002). *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Edward Elgar Publishing.
- Mehrabi, Z. et al. (2018). The challenge of feeding the world while conserving half the planet. *Nature Sustainability* 1: 409-412.

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- Napoletano, B.M., Clark, B. (2020). An Ecological-Marxist Response to the Half-Earth Project. *Conservation and Society* 18, 37.
- Nijdam, D., *et al.* (2012) The price of protein: Review of land use and carbon footprints from life cycle assessments of animal food products and their substitutes. *Food Policy* 37(6): 760-770.
- Norton, B.G. (1991). *Toward Unity Among Environmentalists*. Oxford University Press, New York.
- Phalan, B., *et al.* (2011). Reconciling Food Production and Biodiversity Conservation: Land Sharing and Land Sparing Compared. *Science* 333, 1289-1291.
- Plumwood, V. (2006). The Concept of a Cultural Landscape: Nature, Culture and Agency in the Land. *Ethics and the Environment* 11, 115-150.
- Poore, J. and Nemecek, T. (2018) Reducing food's environmental impacts through producers and consumers. *Science* 360(6392): 987-992.
- Regan, T. (1984). *The Case for Animal Rights*. Routledge, London.
- Schleicher, J., *et al.* (2019). Protecting half of the planet could directly affect over one billion people. *Nature Sustainability* 2, 1094-1096.
- Schlosberg, D. (2007). *Defining Environmental Justice: Theories, Movements, and Nature*. Oxford University Press, Oxford.
- Searchinger, T.R. *et al.* (2018). *Creating a sustainable food future. A menu of solutions to feed nearly 10 billion people by 2050. Synthesis Report*. Washington, DC: World Resources Institute.
- Smaje, C. (2020). *A Small Farm Future*. Chelsea Green Publishing: White River Junction and London.
- Weis, T. (2013). *The Ecological Hoofprint: The Global Burden of Industrial Livestock*. London and New York: Zed Books.
- Wienhues, A. (2018). Situating the Half-Earth proposal in distributive justice: Conditions for just conservation. *Biological Conservation* 228, 44-51.
- Wienhues, A. (2020). *Ecological Justice and the Extinction Crisis: Giving Living Beings their Due*. Bristol University Press, Bristol.
- Willett, W., *et al.* (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*.
- Wilson, E.O. (2016). *Half-Earth: Our Planet's Fight for Life*. Livelight Publishing Corporation, New York.