Mainstreaming animal welfare in sustainable development

A policy agenda

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Abstract

Developments in science and ethics show that safeguarding animal welfare is an important goal in its own right. Nevertheless, animal welfare remains a marginal issue in sustainable development governance. In 2015, the world's governments adopted a universal development agenda, the 2030 Agenda for Sustainable Development, which expresses a desire for a world in which humanity lives in harmony with nature and in which wildlife and other living species are protected. Yet, none of the 2030 Agenda's 169 targets references the welfare of individual animals. Fifty years after the adoption of the Stockholm Declaration, we argue that the lack of consideration of animal welfare in sustainable development policymaking has been an important oversight. Our current treatment of animals affects our ability to achieve the Sustainable Development Goals, and both human-induced environmental challenges and our interventions to mitigate or adapt to them often affect animals. We identify three key pathways for mainstreaming animal welfare into sustainable development policymaking: (a) considering animal welfare in international policy and legal instruments; (b) improving national and local policies to promote animal welfare while ensuring other social, health and development goals are met; and (c) paving the way for additional action through research, awareness raising, capacity building, representation and international cooperation. Mainstreaming animal welfare concerns into sustainable development policy will require transformative changes to key industries, practices and values, and it may encounter resistance from interest groups. It will require innovative thinking to maximize synergies and minimize trade-offs between different areas of sustainable development policy, including through just transition planning and support. Nevertheless, giving more consideration to animal welfare in sustainable development is an opportunity to implement a wide range of policies that benefit humans and non-human animals alike.

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Key messages

- 50 years after the first UN Conference on the Human Environment, the time has come to consider animal welfare in sustainable development governance.

- Animals matter for sustainable development. Our current treatment of other animals contributes to global threats like disease outbreaks and climate change.

- Sustainable development matters for animals. Global environmental and health threats impact other animals too, as do our efforts to mitigate and adapt to these threats.

- When governments consider animal welfare, they can identify a wide range of informational, financial, regulatory, and just transition policies that benefit humans, animals, and the environment alike.

1. Introduction

There is growing consensus in the scientific and philosophical communities that non-human animals can have a variety of positive and negative experiences (Dawkins, 2008; Webb et al., 2019), and that their welfare and interests matter morally (Peggs, 2018; Regan, 1987; Singer, 1995). In many – but not all – countries, this understanding has received some policy and legislative recognition, for instance through anti-cruelty laws and animal welfare acts (Shaffner, 2010).

However, with the exception of efforts by the World Organisation for Animal Health (OIE)[1], the topic of animal welfare has historically been largely absent from international sustainable development governance. The 1972 Stockholm Declaration makes several references to animals. While some of these references pertain to conservation of animals at the species level, none of them refers to the health or welfare of animals at the individual level (United Nations, 1972). Over 40 years later, in 2015, the world's governments adopted a universal development agenda, the 2030 Agenda for Sustainable Development, which expresses a desire for a world 'in which humanity lives in harmony with nature and in which wildlife and other living species are protected' (United Nations, 2015, paragraph 9). Although the 2030 Agenda contains several important goals that are relevant to biodiversity, species and habitat conservation, none of the 17 Sustainable Development Goals (SDGs) or the 169 targets under the Agenda references the welfare of individual animals (United Nations, 2015; Visseren-Hamakers, 2020; see also Keeling et al., 2019).

The lack of focus on animal welfare in environmental and development governance illustrates a broader tendency of sustainable development policy to emphasize short-term human interests and needs, without fully taking into account the broader natural environment in which we operate (Adelman, 2018; Kotzé & French, 2018). However, as this paper shows, even from the perspective of improving human health and well-being, there are compelling reasons to be concerned with animal welfare. In addition, there are important ethical reasons to be concerned with the welfare of animals, as discussed in Box 1.

As such, the time has come to recognize that sustainable development matters for animals, and animals matter for sustainable development. A promising development in this regard occurred in March 2022, when ministers at the fifth session of the United Nations Environment Assembly adopted a resolution on the animal welfare, environment and sustainable development nexus, thereby formally recognizing the significant linkages between these issues (United Nations Environment Programme, 2022). At the Stockholm+50 Conference and beyond, governments have the opportunity to build on this progress by more fully mainstreaming animal welfare into international, national and local policy.

In this paper, we illustrate some of the main ways in which animal welfare and sustainable development are interlinked, and identify concrete ways in which policymakers can mainstream animal welfare into sustainable development policymaking. Promising avenues include strengthening and broadening the 'One Health' framework to more fully take into account the welfare of animals, and recognizing and integrating animal welfare concerns into political declarations and international legal instruments. Governments can also make better use of

1. The Office International des Epizooties (OIE) was established in 1924 to fight animal diseases at a global level, becoming the World Organisation for Animal Health in May 2003, but keeping its historical abbreviation. The OIE began developing standards on animal welfare in 2002, and, in 2017, its 182 Member Countries adopted the OIE Global Animal Welfare Strategy with the objective of achieving '[a] world where the welfare of animals is respected, promoted and advanced, in ways that complement the pursuit of animal health, human well-being, socio-economic development and environmental sustainability' (World Organisation for Animal Health, 2017, p. 2).
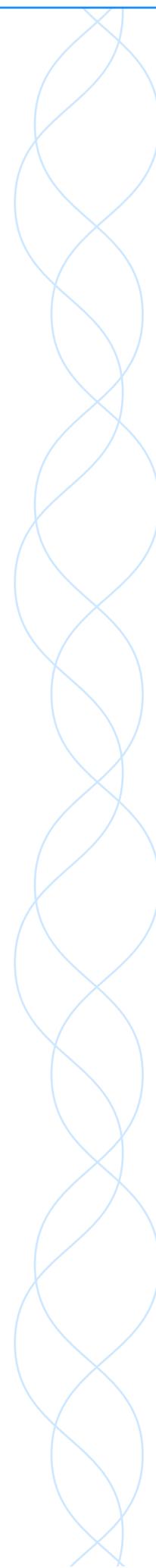
informational, economic, regulatory and just transition policies to support animal welfare and disincentivize activities that conflict with animals; and increase investment in knowledge, capacity building and international cooperation to improve animal welfare, as well as in the institutional representation of animals in policymaking.

The paper proceeds as follows: In Section 2, we discuss the relevance of animal welfare for sustainable development policy, and the importance of sustainable development policy for animal welfare. In Section 3, we identify key policy opportunities for policymakers to mainstream animal welfare into international, national and local sustainable development policy. In Section 4 we summarize and conclude.

Box 1. Animal welfare: an important goal in its own right

The past decades have seen important developments in ethics and science that make it increasingly clear that animals are important in their own right. In particular, ethicists increasingly hold that (at least) all sentient beings – that is, beings with the capacity to consciously experience positive and negative states like pleasure and pain – matter for their own sakes (Coghlan et al., 2021). And scientists increasingly hold that many or all vertebrates, including mammals, birds and fish, as well as certain invertebrates like crabs, lobsters and octopuses, are conscious (Broom, 2014; Cambridge Declaration on Consciousness, 2012; Sneddon & Brown, 2020; UK Department for Environment, Food & Rural Affairs, 2021). Consequently, many ethicists and scientists agree that these animals morally matter, and that their welfare should be safeguarded.

The importance of respectful treatment of sentient beings is also recognized across many countries, cultures and religions (United Nations General Assembly, 2020). For instance, both the Treaty on the Functioning of the European Union and the African Union's Animal Welfare Strategy for Africa recognize animals' sentience (African Union Interafrican Bureau for Animal Resources, 2017; Treaty on the Functioning of the European Union, 2012). According to the 1987 Brundtland Report: the protection of nature is 'part of our moral obligation to other living beings' (World Commission on Environment and Development, 1987, paragraph 55). Similarly, the UN Secretary-General's 2020 report, *Harmony with Nature*, emphasizes: 'non-human animals are sentient beings, not mere property, and must be afforded respect and legal recognition' (United Nations General Assembly, 2020, paragraph 42).
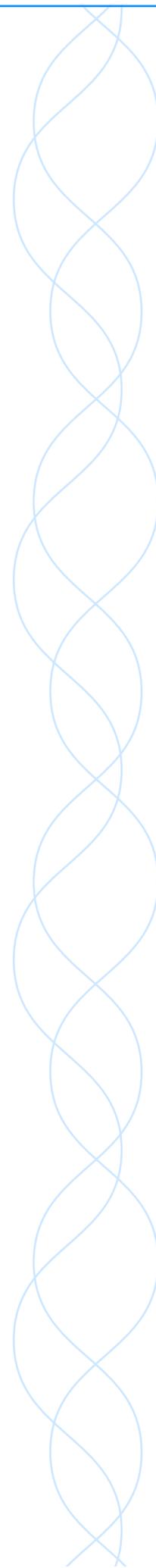
Box 1. *continued...*

Experts have interpreted and implemented the term 'animal welfare' in different ways, with some definitions providing a stronger vision of what animals want and need than others (Dawkins, 1990; Weary & Robbins, 2019). Here, we rely on the World Organisation for Animal Health (OIE)'s Terrestrial Animal Health Code, which defines 'animal welfare' as 'the physical and mental state of [the animal] in relation to the conditions in which [the animal] lives or dies' (World Organisation for Animal Health, 2021, Article 7.1.1). This definition is noteworthy because it reminds us that animal welfare depends on physical and mental health and well-being, which, in turn, depend on access to a supportive living environment. While stronger definitions of 'animal welfare' are worthy of consideration too, this widely accepted definition – currently endorsed by 182 countries, along with many other public and private actors – forms a sufficient starting point to support the recommendations contained in this brief.[2]

Recognizing that animals matter morally and that their welfare merits attention does not undermine commitments to improve human health and well-being or to alleviate poverty. Similar to efforts to protect the environment, these goals may in many cases be compatible, or even mutually supportive. And while trade-offs between human, animal and environmental values might sometimes be unavoidable, we argue that considering animal welfare will allow policymakers to recognize and minimize conflicts between these values.

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2. Animal rights proponents sometimes argue that promoting animal welfare does not go far enough in the protections it offers to animals; and, on the contrary, that it may undermine animal well-being by reinforcing and legitimizing human use of animals. Others may see animal welfare gains as paving the way for, and thus compatible with, animal rights approaches. Here, we focus mainly on animal welfare approaches, without prejudice to the additional, complementary role that animal-rights based approaches may play. The different authors of this paper represent different positions on the animal rights-welfare spectrum, and see increasing attention to animal welfare in global sustainable development governance as an important step towards changing the relationships between humans and non-human animals.
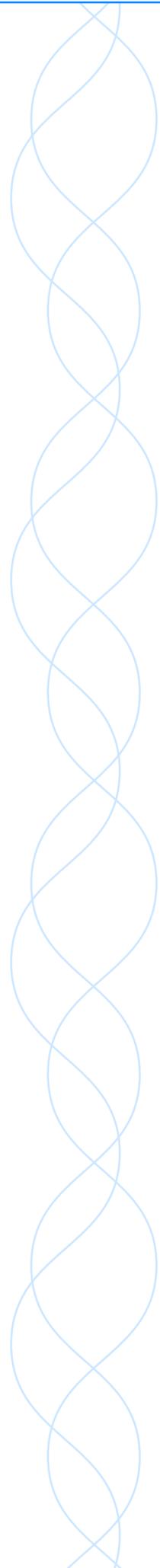
2. Animal welfare and sustainable development: inescapably interlinked

Many of the ways in which we currently interact with animals limit our ability to achieve our sustainable development goals.

Take public health. While the origins of the Covid-19 pandemic remain uncertain, the virus spotlights the potential roles that habitat destruction, industrial livestock farming[3] and the wildlife trade play in infectious disease emergence (Roe et al., 2020; Wiebers & Feigin, 2020), as well as the suffering that these practices cause to billions of individual animals – wild and domesticated. Indiscriminate use of antibiotics for livestock, especially medically important antibiotics, also raises serious risks from antimicrobial resistance that could set us back to a 'pre-antibiotic world' in which infections from simple surgery or minor injuries are potentially fatal (Wiebers & Feigin, 2020; World Health Organization, 2017)[4]. Recent estimates suggest that antimicrobial resistance directly caused 1.27 million human deaths in 2019, and was indirectly associated with a further 4.95 million human deaths (Murray et al., 2022). In many high- and middle-income countries, overconsumption of red and processed meat, often enabled by industrial livestock farming, is associated with a range of adverse health outcomes including increased risk of colorectal cancer, cardiovascular disease and type 2 diabetes (Afshin et al., 2019; González et al., 2020; Willett et al., 2019).

The way we interact with animals also has an impact on the environment. For example, in addition to harming animals, industrial animal agriculture consumes much more land and water than plant-based alternatives, making it a leading driver of deforestation in some regions (Pendrill et al., 2019). It also produces much more waste, pollution and greenhouse gas emissions than plant-based alternatives (Poore & Nemecek, 2018). Indeed, according to one standard estimate, this industry is responsible for approximately 14.5% of global greenhouse gas emissions (Gerber et al., 2013). Similarly, aquaculture is associated with serious animal welfare concerns, as well as many environmental problems, including destruction of natural ecosystems such as mangroves, water pollution and eutrophication, and modification of hydrological patterns (Ahmed et al., 2019; Saraiva et al., 2019). Meanwhile, industrial fishing has major impacts on marine biodiversity (Roberson et al., 2020), among other environmental issues. Box 2 offers more detail on which animals are most affected by human intervention.

Sustainable development also matters for animals. Some of the biggest environmental problems of our time have profound consequences not only for humans, but also for other animals. The climate crisis is already exposing animals to a host of new threats, including extreme weather events, changes in food and water availability, and heightened disease risks (Lacetera, 2019). Ocean acidification, ozone depletion, and air, land and water pollution from sources such as fossil fuels, chemicals and plastics can similarly harm animals. And while some species will be able to adapt, many will not, since human-caused environmental changes will occur much faster than evolution typically does (Radchuk et al., 2019).

3. While it is not possible to generalize across all geographies and all cases, we focus on industrialized livestock production as the system that is most associated with greater disease burdens. The overconsumption of meat is associated with human non-communicable diseases, and the use of antibiotics and more closely housed animals can drive disease among livestock, as well as the emergence of zoonoses and antimicrobial resistance. To date, the volume of animal products generated by industrialized systems is also geographically biased towards consumption in wealthier geographies, contributing to greater per capita environmental pressures, and further exacerbating inequalities.

4. As of January 2022, the European Union has banned the routine use of antibiotics in farmed animals.
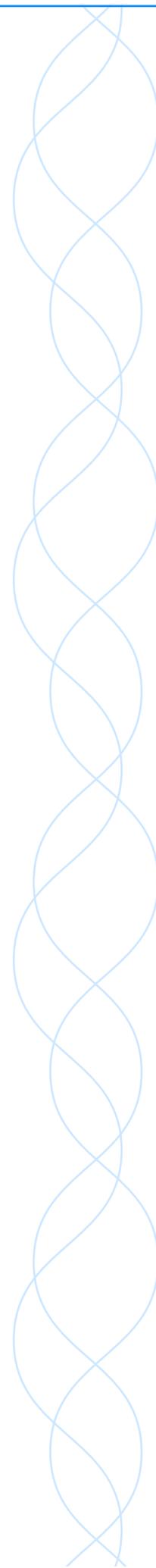
Some interventions to promote sustainable development affect animals as well. For example, if we shift from beef to chicken production for climate reasons, this shift might adversely affect animal welfare, due to the number of birds involved and the particularly intensive conditions in which they are raised (Ritchie, 2021). Intensification of production systems – sometimes put forward as a climate mitigation strategy – also carries risks for animals (Shields & Orme-Evans, 2015). And if we expand conservation practices such as culling or captive breeding, then we might harm many individual animals unnecessarily through increased violence or control (Wallach et al., 2018).

Moreover, while farmed and wild animal populations are particularly important in this context, many other populations are important, too. For instance, humans use millions of nonhumans per year for research, medicine, companionship, entertainment, and more. And as with farmed and wild animals, our interactions with these animals can contribute to global threats, and global threats can contribute to suffering and death for these animals. During COVID-19, for instance, humans killed many laboratory animals in the search for treatments and vaccines, and humans also culled many captive animals in general to minimize the spread of disease and respond to supply chain breakdowns (Sebo, 2022).

In sum, increased awareness and recognition of the relationships between animal welfare and sustainable development can help improve outcomes for humans, animals and the environment. It can help us to maximize synergies and recognize, minimize and resolve trade-offs where possible. As increasingly recognized in discussions on sustainability transitions and transformations (Visseren-Hamakers et al., 2021; Visseren-Hamakers & Kok, 2022), transformative solutions can move beyond trade-offs and allow us to find shared solutions to shared problems. In short, considering the impacts of sustainable development more holistically will allow us to make more informed policy decisions.

Against this backdrop, we offer three concrete proposals to improve the mainstreaming of animal welfare in sustainable development policy in the next section.
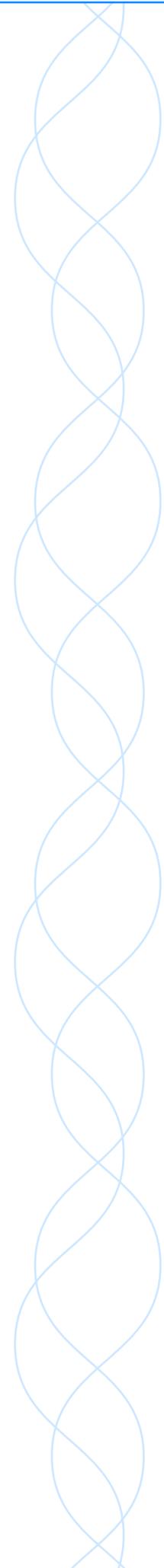
Box 2.
Which animals are most affected by human intervention?

Humans interact with non-human animals in a wide range of contexts. For instance, we use animals for food, clothing, research, medicine, companionship, entertainment and many other purposes. Each of these industries impact a large number of animals; for example, we use more than 100 million vertebrates each year for research and more than 2 billion each year for companionship (Šimčikas, 2020). Each of these industries also raises important welfare concerns, including questions about the impacts of breeding and captivity (Gruen, 2021). But the industries that impact the largest number of animals are industrial animal agriculture, industrial fishing, and other industries that interact with wild animals.

At present, humans breed, raise and kill more than 80 billion land animals – the vast majority chickens – and hundreds of billions of fish and other aquatic animals annually for meat (Ritchie & Roser, 2017; Šimčikas, 2020). Moreover, we keep an estimated 75% of farmed land animals and virtually all farmed aquatic animals in intensive industrial systems that raise significant welfare concerns (Anthis & Reese Anthis, 2019). These systems also raise significant public health and environmental concerns. According to one study, a global shift towards plant-based diets could avoid 8.1 million human deaths, reduce food-related emissions by 70% and save USD 1.6 trillion in health and climate change costs alone by 2050 (Springmann, 2020).

Human activities also affect trillions of wild vertebrates and a much higher number of wild invertebrates each year. We kill many of these animals directly, for example through poaching, hunting, and fishing. We kill many others indirectly, for example through habitat destruction for agricultural, urban and industrial expansion, global environmental changes like air and water pollution, and human-caused climate change, which can degrade ecosystems and lead to further, cascading impacts on species (see e.g. Staal et al., 2020). Indeed, human activities have already modified an estimated 77% of land (excluding Antarctica) and 87% of ocean area, producing an estimated 83% loss of wild mammal biomass and 50% loss of plant biomass (Pörtner et al., 2021).

An emerging area of interest and concern is human treatment of insects. We have evidence that at least some insects have the ability to experience pleasure, pain and other such states (Favre, 2012). This evidence raises concerns about the use of agricultural insecticides, which kill more than a quadrillion (1000 trillion) insects per year, as well as about the development of insect farming for food (for humans, companion animals, and other farmed animals), which kills about 1 trillion insects per year at present – often through freezing, heating, shredding, and other potentially painful methods – and could expand to kill as many as 50 trillion insects per year by 2030 (Byrne, 2021; Howe, 2019; Rowe, 2020).
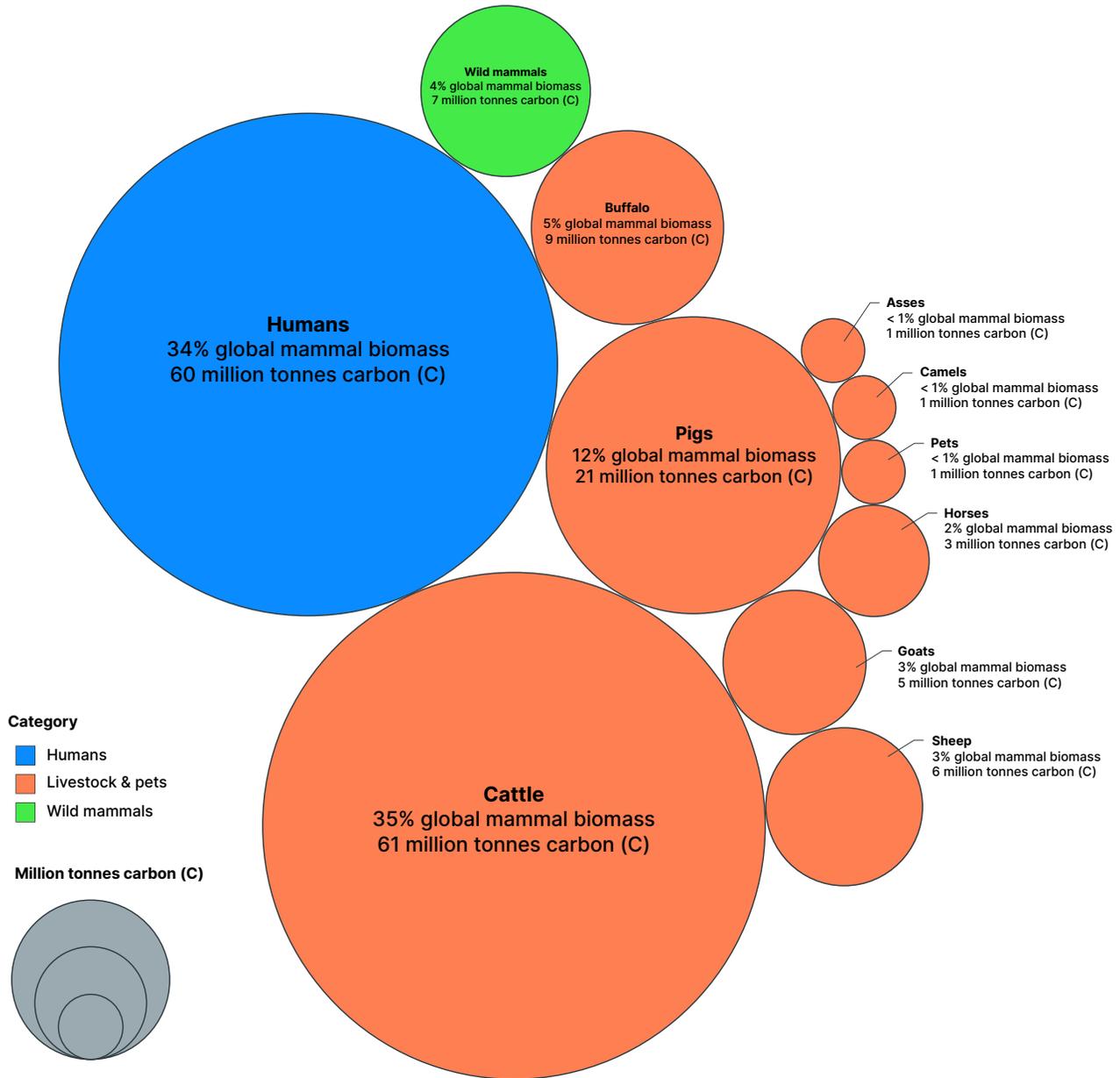
Figure 1. *The distribution of mammals on Earth shows how humans and farm animals' biomass significantly outweighs that of wild mammals: the combined biomass of all wild mammals is similar to that of domesticated sheep. The trend is similar for birds, with poultry biomass more than twice that of wild birds*

Source: Adapted from Ritchie & Roser (2021), based on findings from Bar-On et al. (2018).

3. Key policy pathways

In this section, we identify three key pathways through which policymakers can help to mainstream animal welfare into sustainable development policy. The first pathway focuses on avenues to better incorporate animal welfare considerations into international sustainable development policy and activities. The second pathway focuses on actions that policymakers can take at the national and local level. The third pathway identifies measures that can be taken to improve knowledge, capacity, representation of animals and international cooperation towards practices and policy outcomes that safeguard animal welfare. All pathways are mutually supportive, and can be pursued in parallel.

3.1 Mainstream animal welfare into international sustainable development instruments

Currently, there is very limited attention to animal welfare in sustainable development policymaking. However, given the key norm-setting role of the UN, incorporating consideration of animal welfare into global policymaking is an important step in increasing attention to this topic in international, national and local policymaking, as well as among private sector and civil society organizations. Below, we discuss a number of mutually compatible pathways to more fully integrate concern for animals into international sustainable development policy and law.

Strengthen and broaden the 'One Health' framework

The 'One Health' framework is a promising way to take animals into account in sustainable development policymaking, which has received increasing recognition over the past two decades. At the core of the One Health framework is the recognition that human, animal and environmental health are interconnected, and that care must therefore be given to all three (Figure 2) – a lesson that the current Covid-19 pandemic makes all too apparent. In May 2020, several UN bodies established the One Health High-Level Expert Council to provide guidance on 'complex and multidisciplinary issues raised by the interface of human, animal and ecosystem health' (FAO et al., 2020, p. 1).

While an important step forward for health policy, the One Health framework could benefit humans, animals and the environment more effectively with more expansive interpretations and applications (Coghlan et al., 2021; Sellars et al., 2021). In particular, some interpretations of One Health emphasize animal health mostly insofar as it affects human health, having less regard for animal health as a worthwhile end in itself (see e.g. Kamenshchikova et al., 2021). Moreover, while good health is a vitally important aim, it is not enough to ensure welfare: humans and non-human animals alike can be physically and mentally healthy while still enduring harms or deprivation unnecessarily. For this reason, some academics and practitioners have stressed the need for a more holistic approach to human and non-human animal welfare, for instance though a 'One Welfare' framework that extends One Health to incorporate broader measures of welfare (Colonius & Earley, 2013; Pinillos et al., 2016).

Furthermore, the solutions put forward through the One Health framework could in some cases be more impactful with bolder interpretations and applications. For instance, conventional applications of the One Health framework generally accept the practices of the intensive livestock industry and seek to refine these practices through improvements in biosecurity and pathogen monitoring. Yet while we can surely reduce harm by making such changes, there is a limit to how much we can do. If we instead pursued a global transition away from industrial animal agriculture and toward compassionate, healthful and sustainable alternatives to this food system (while also pursuing a just transition for individuals and communities who currently depend on this food system for food or income, as we discuss below), then we can reduce much more harm to humans, animals and the environment overall, thereby realizing the promise of the One Health framework more effectively (Coghlan et al., 2021; Sebo, 2022).
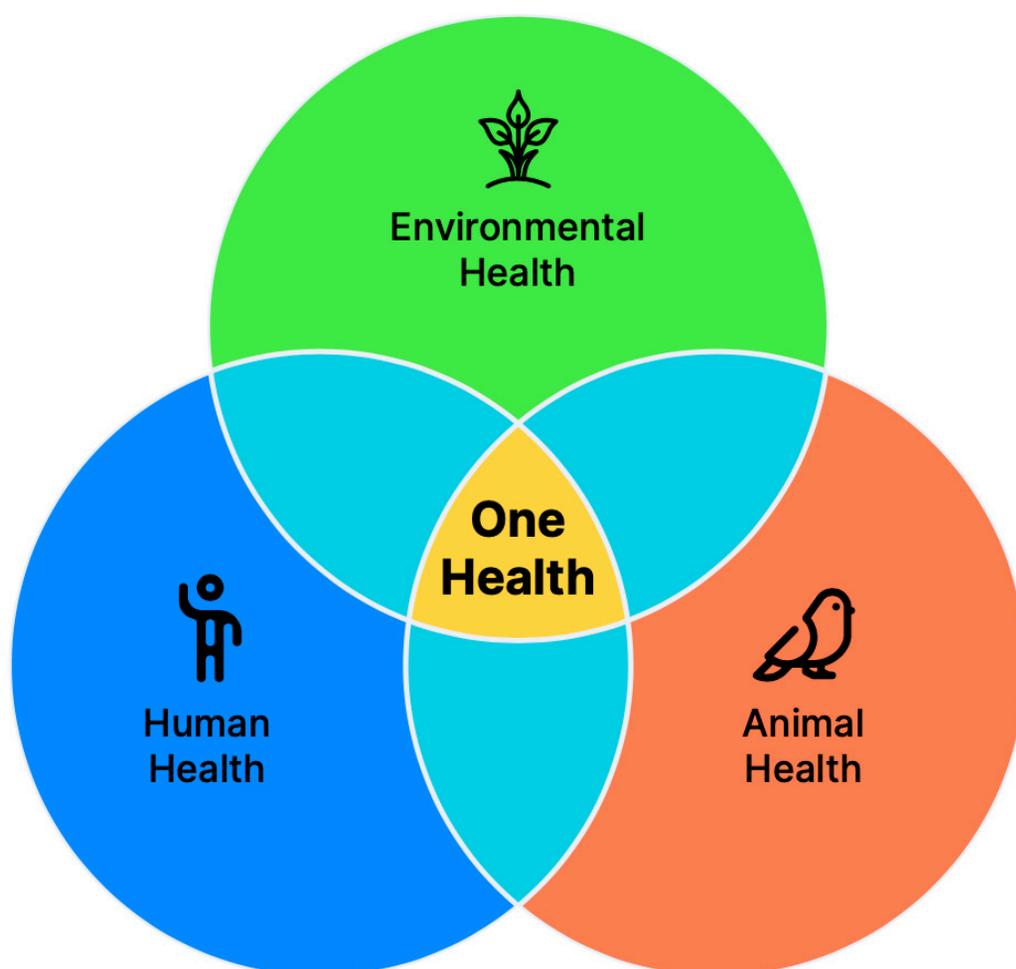

Figure 2. The One Health concept, which recognizes the important connections between human, animal and environmental health. An important step forward for the way we conceptualize and seek to prevent and address health challenges, the One Health framework could benefit humans, animals and the environment even more effectively through a stronger emphasis on animal welfare.

Source: Adapted from Ripple et al. (2022).

Recognize the importance of animal welfare in political declarations

Animal welfare could also be recognized in other sustainable development policy instruments that go beyond the field of health. Indeed, the 2019 UN Global Sustainable Development Report recognized that animal welfare is a 'key missing issue' in the 2030 Agenda (Messerli et al., 2019; see also Torpman & Röcklinsberg, 2021), with Visseren-Hamakers making the case for an 18th SDG for animal health, welfare and rights (Visseren-Hamakers, 2020). Governments could therefore begin preparations to recognize the importance of animal welfare in the next, post-2030, development agenda, for instance by commissioning relevant research on the interconnections between animal welfare and the SDGs[5], and integrating animal welfare in their implementation of the SDGs.

Governments can also recognize the importance of animal welfare in other sustainable development communications. Possibilities include the proposed Universal Declaration on Animal Welfare, which has been endorsed by over 45 countries (Visseren-Hamakers, 2018). Following the precedent of the 2022 United Nations Environment Assembly resolution, which recognizes the strong body of evidence supporting animal welfare, and animal welfare's contribution to addressing environmental challenges and the SDGs (United Nations Environment Programme, 2022), governments could also recognize the importance of animal welfare in a declaration at the upcoming Stockholm+50 Conference, at the High-Level Political Forum on Sustainable Development, and at other international conferences.

Integrate animal welfare into new or existing legal regimes

A third way to give animals more protection and recognition at the international level is to secure their rights in legally binding instruments. One possibility is for governments to support a stand-alone treaty to protect animals (Favre, 2016). The civil-society proposed UN Convention on Animal Health and Protection (https://www.uncahp.org) is one possible example. Such an approach could play an important role in ensuring that governments consider human, animal and environmental impacts holistically, and with a firm legal grounding, although it may be challenging to achieve in the short term.

Governments can also incorporate an expanded concern for animal welfare into existing international instruments that aim to protect specific animals or species. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) regime already includes a provision on animal welfare, but this provision applies only to the international transport of live animals (Favre, 2012; Nyilas, 2021). Meanwhile, the Convention on Biological Diversity does not reference animal welfare at all (Futhazar, 2020). In response, experts have argued for integrating 'compassionate conservation' principles that promote animal welfare into the international biodiversity regime as well as related agreements such as the Gorilla Agreement, the Agreement on the Conservation of Polar Bears, and the International Convention for the Regulation of Whaling (Verniers, 2021).[6]

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5. The report on the nexus between animal welfare, the environment and sustainable development mandated by the 2022 United Nations Environment Assembly is a positive development in this regard.

6. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has explicitly acknowledged animal welfare as an important element in the achievement of sustainable food and agriculture (Díaz et al., 2019, p. 42). Its recent conceptual framework for biodiversity and ecosystems services also makes room for diverse cultural-specific perspectives on animal welfare, some of which regard humans as not being separate from nature, as well as relations of kinship and reciprocity towards animals (Díaz et al., 2018; see also Comberti et al., 2015).
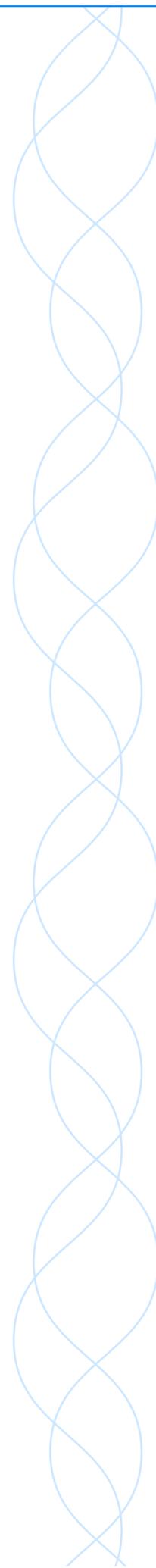
Additionally, governments can incorporate concern for animal welfare into existing international instruments that are not centrally about animals, but that nevertheless substantially affect them. As noted above, for example, climate change is already impacting animals in myriad ways, as countless animals will experience the effects of rising sea levels, flooded coastal areas, an increase in the frequency and intensity of extreme weather events, and regional conflicts over land, water and food. Climate change mitigation and adaptation policies will have an impact on animals, too. Under the UN climate regime, governments can recognize that these impacts matter and begin to consider the interests and needs of non-human animals when deciding how to build more sustainable and resilient societies.

Similarly, the international trade system affects animals in many ways. Although the World Trade Organization (WTO) Agreements do not refer to animal welfare directly, WTO case law has recently recognized that animal welfare can be a legitimate reason to restrict trade (Maciel & Bock, 2020). Nevertheless, governments can do more to mainstream animal welfare concerns throughout the WTO regime, for instance through recognition of the animal welfare standards of the OIE (Maciel & Bock, 2020). Countries can also give animal interests a more prominent role in their multilateral and bilateral trade agreements, as some are already doing (Fraser, 2008; Hooton, 2019).

3.2 Adopt policies to support healthy, compassionate and sustainable practices

National and local government policies are vitally important to put global sustainable development commitments into practice. Below and in Table 1, we list several steps that governments can take to improve transparency, reduce support for harmful industries, increase support for alternatives and provide just transitions for people along the way. Of course, policies will need to be adapted to national and local contexts and policy systems; nevertheless, this overview demonstrates the variety of options available to policymakers to build a more healthy, compassionate and sustainable world.

Information and transparency

Improved information and transparency can help consumers, investors and other stakeholders to make informed choices.

One way to increase information and transparency around animal welfare is through product labelling and certification (Main et al., 2014). In many countries, there are already government requirements or private sector–NGO initiatives for animal welfare labelling for animal products consumed for food. Such labelling could be expanded to other food products and goods and services such as furniture, clothing, machinery, energy, cleaning products and cosmetics. Such products often have impacts on animals, for instance through the direct use of animals or animal products, the use of animal testing, or through destruction or pollution of animal habitats in the process of production or use. Such labelling should be accompanied by monitoring and transparency mechanisms to ensure the standards are sufficiently high and implemented in practice (Main, 2014).

Governments can also implement information campaigns to educate people about the importance of human, animal and environmental health and welfare; the connections between human, animal and environmental health and welfare; and the impacts that our current and potential future policies and practices have on humans, animals

and the environment (see e.g. Minelli et al., 2021). By raising awareness in these ways, governments can help build the shared knowledge, capacity and political will necessary for humanity to coexist with animals in a compassionate, democratically legitimate and politically sustainable manner.

Governments can furthermore require corporations to disclose welfare, health or environmental risks associated with their practices to investors. For example, FAIRR is currently working with investors to assess food companies according to risk factors such as greenhouse gas emissions, deforestation and biodiversity, water use and scarcity, waste and pollution, antibiotics use, animal welfare, working conditions, and food safety (https://www.fairr.org). By compelling corporations to disclose information about these risks, governments can support this drive toward transparency and empower investors to make more socially and economically responsible financial decisions.

But while information and transparency are important, they are typically not sufficient to bring about positive change in and of themselves. Even when people have information about the welfare, health and environmental impacts of different industries, they might not change their consumer or political behaviour without additional incentive to do so (Verbeke, 2009). For instance, factors such as price, taste and convenience matter for consumers, and factors such as returns on investment matter for investors. Efforts to increase information and transparency will therefore likely be more effective when combined with other interventions, such as economic measures.

Economic measures

Economic tools are a valuable way to incentivize activities that support animal welfare, and disincentivize activities that conflict with animal welfare.

Currently, one key challenge is that the prices of many products, such as industrially farmed meat, dairy and eggs, are artificially low. When governments deregulate harmful practices, they conceal the true cost of these practices, either by neglecting them or by transferring them to the public. If, instead, governments regulated harmful practices by improving and enforcing animal welfare standards and internalizing currently externalized public health and environmental costs, then prices would reflect the true cost of these practices, and so these practices would be less competitive in a market economy (Baltussen et al., 2017; Pieper et al., 2020; Springmann, 2020; Vinnari & Tapio, 2012).

Governments can also phase down subsidies for practices that harm humans, animals and the environment. For instance, agricultural subsidies are a key underlying driver of global forest loss (Kissinger, 2015), and animal products including poultry, pork, mutton and beef are among top 10 food products that benefit the most from government support, with support often going to large companies that practise intensive farming methods (Food and Agriculture Organization of the United Nations et al., 2021). Global fisheries subsidies were estimated at around USD 35 billion in 2009, and the vast majority of capacity-enhancing subsidies (90%) – which exacerbate overfishing – were provided to large-scale industrialized fisheries (FAO et al., 2021). By phasing down such subsidies, governments can further reveal the true cost of these practices, and reduce their harms.

Governments can then increase subsidies for healthful, compassionate and sustainable alternatives. For instance, on the supply side, governments can subsidize plant-based food production and consider investing in research and development of plant-based or cell-based alternatives for meat, dairy, eggs and fish, as economies such as Canada, China, Denmark, the EU, the Netherlands, Singapore and the UK have started to do (Baker, 2022; UK Research and Innovation, n.d.; Verkuijl & Green, 2021). On the demand side, governments can subsidize purchase of plant-based foods for low-income individuals or otherwise introduce policies to ensure access to healthy, compassionate and sustainable meals.

Governments can also end or reduce procurement of products that harm humans, animals and the environment. Many cities and regions have committed to reducing or eliminating meat consumption in public facilities and to implementing meatless days in public schools (Meat Free Monday, 2019; Minelli et al., 2021). Other governments can consider doing the same.

Relatedly, governments can divest state funds from companies that significantly harm humans, animals and the environment, and can invest in alternative systems. As with procurement policies, these investment policies have both an expressive and an economic function, since they signal which practices are acceptable and unacceptable, and they allocate economic support accordingly.

Regulatory instruments

Governments can regulate sectors that affect humans, animals and the environment more effectively, holding companies to higher standards for their activities. Like full-cost pricing, improved regulation, oversight and enforcement will in many cases reveal the true cost of practices that appear affordable only because of neglected and externalized costs and harms.

Indeed, legislation is currently one of the key ways to ensure minimum standards for animal welfare. However, not all countries have adopted legislation to protect animals[7], and even when animal protection laws are in place, oversight and enforcement are often lacking (Shaffner, 2010). Governments can therefore make progress by working to develop animal protection laws in line with the best available science – with the support of expert bodies like the World Organisation for Animal Health – while also improving oversight and enforcement so that they can properly disincentivize harmful practices.

Governments can also require animal impact assessments for policies that will significantly affect animals (Harrop, 2011; McCulloch & Reiss, 2017; Sebo, 2022). Environmental impact assessments (EIAs) are already a requirement of customary or general international law where a proposed activity is likely to have a significant adverse impact on the environment and may have transboundary impacts (Boyle, 2011), and many national jurisdictions require EIAs under certain circumstances (Rogalla von Bieberstein et al., 2018). But while EIAs might consider impacts on biodiversity, they do not consider impacts on animal welfare. Combining EIAs with animal impact assessments that consider impacts on animal welfare will allow governments to make more informed policy decisions (Sebo, 2022; see also McCulloch & Reiss, 2017, for the application of an animal welfare impact assessment to a concrete case study).

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7. For databases tracking animal law and policy, see https://api.worldanimalprotection.org and (for laws and policies that impact farmed animals) https://calf.law/
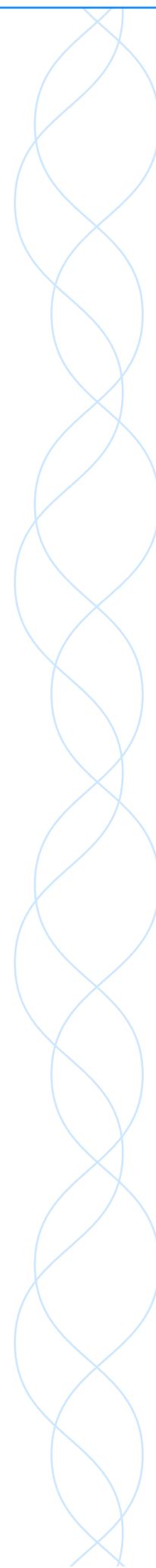
Just transition support

It is widely recognized that transitioning towards a better world for humans and the environment will require fundamental change (Díaz et al., 2019). A shift towards a more compassionate world for animals will similarly entail significant – and interrelated – changes to our economies and everyday practices. Through just transition planning and support, governments can maximize the benefits of these transitions and transformations and minimize the disruptions (Sebo, 2022).

Indeed, the benefits may be considerable: for instance, joint research by the International Labour Organization and Inter-American Development Bank suggests that a shift away from animal-based food production and towards more plant-based agriculture could involve significant employment gains in Latin America, particularly through a shift to higher-value fruit and vegetable production (19 million jobs gained compared to 4 million lost) (Saget et al., 2020).

Nevertheless, global transitions such as food system reform will not affect all stakeholders equally. Lessons from transitions in other sectors point to the importance of ensuring meaningful, inclusive participation of stakeholders who stand to be affected (Stockholm Environment Institute et al., 2019). These stakeholders may include, for instance, workers, consumers, companies, specially affected communities, and organizations representing the interests of animals. It is also important that transitions do not exacerbate existing inequalities or create new ones, for instance by amplifying food or income insecurity for marginalized communities or those with food intolerances or allergies.

Governments can facilitate and support transitions in many ways, including compensation for lost incomes and jobs, investments in regional economies and communities, investments in social safety nets, and funding for education and retraining that prepare people for work in more healthful, compassionate, sustainable sectors. In addition, governments can bring animal welfare into overarching policy frameworks that focus on equitable and sustainable societal transitions, such as 'Green Deals' (Sebo, 2022). Lower income countries will likely need international support to pursue such policies and measures, as discussed below.

Policy type	Examples
Informational approaches	Improved certification and labelling, financial disclosure requirements, information campaigns
Economic measures	Full-cost pricing, altered subsidies, altered procurement policies, divestment of state-controlled funds from harmful activities
Regulatory instruments	Improved animal welfare standards, oversight and enforcement, animal impact assessments
Just transition support	Inclusive and participatory planning, compensation for lost incomes, regional- and community-level investments, education and retraining, social safety nets

Table 1: Examples of policies that can support healthy, sustainable and compassionate practices
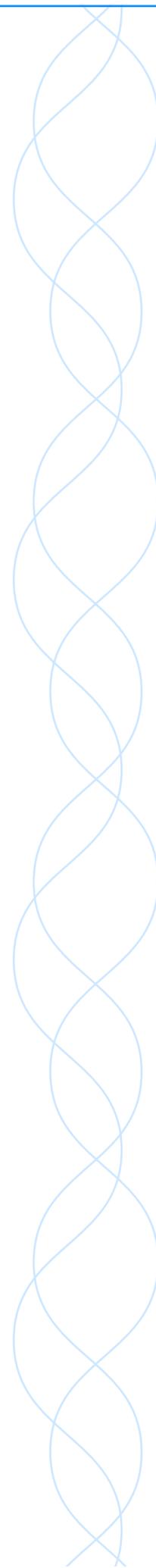
3.3 Pave the way for future action

While governments can make significant progress in all the ways set out above, gaps in knowledge, capacity and international cooperation still remain.

Investing in research and capacity

One priority is to learn more about animal welfare, particularly wild, aquatic and invertebrate animal welfare. For example, how do animals perceive, communicate and make decisions, and how does that affect what they need in order to live well? Which animals currently have good and bad lives, and which environments are good or bad for particular animals, both at the individual level and at the population level? More generally, how can we reliably improve our understanding of animal welfare given the limits of our human perspectives, and how can we conduct this research in a responsible way, without harming or killing animals unnecessarily in the process (Andrews, 2020; Sebo, 2022)?

Another priority is to learn more about the effects of current or future human activities on non-human animals. For example, what are the expected animal welfare impacts of emerging food systems such as insect farming and octopus farming? How do global changes such as deforestation and climate change alter non-human animal populations and the experiences of individual animals? If we build new cities, how will that affect urban animal populations? If we build new food, energy and transportation systems, how will that affect wild animal populations? If we build sea walls and other coastal adaptations, how will that affect animals who travel between land and sea and marine animals?

Another priority is to build capacity to provide animals with what they need. At present, even when governments know what animals need, they often lack the personnel and infrastructure necessary to provide that. For example, when animals are at risk during a fire or flood, governments often lack the veterinary expertise or medical resources necessary to protect them. This, in turn, can cause animals to travel into human communities in search of food, water or shelter, thereby increasing human–wildlife conflict. In the same way that there is value in investing in knowledge, then, there is value in investing in the skills and know-how necessary to recognize, mitigate and avoid such impacts (Dubois et al., 2017).

This knowledge and capacity-building work is important because it will allow governments to identify mitigation and adaptation strategies that benefit humans and non-human animals at the same time, as well as to anticipate any negative side effects of favoured policies. If we can anticipate trade-offs that might arise in policymaking, then we can develop more inclusive just transition strategies that support vulnerable human and non-human animal populations as much as possible. And if we invest in the personnel and infrastructure necessary to implement these strategies, then we can also benefit vulnerable human populations by providing people with additional educational and occupational opportunities.
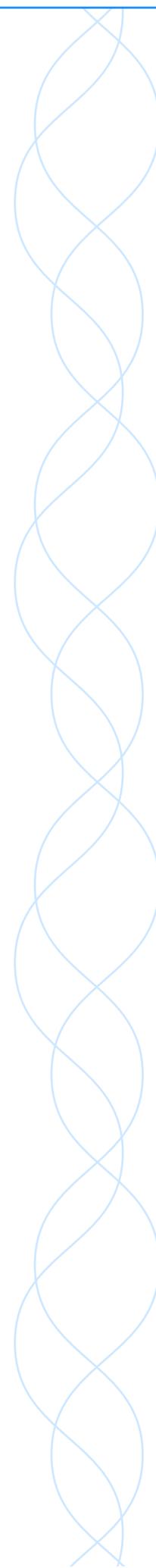
Ensure animals are represented in institutional decision-making

However, there is a limit to how much progress governments can make in these ways within existing institutions, since animals are generally neglected in public decision-making procedures. By ensuring representation for animals in processes that affect them, governments can more effectively identify opportunities to benefit humans and non-human animals at the same time.

There are many options for increasing representation for animals. For example, some governments are now opening animal welfare offices or hiring animal welfare officers. While these individuals tend to lack formal decision-making power, they can still play an advisory role and represent the interests of animals in governance processes that affect them (Sebo, 2022).

Governments can consider other approaches as well. For example, some scholars are proposing that governments create citizens' assemblies to provide informal representation for future generations, or even that they create legislative houses to provide formal representation for future generations (John & MacAskill, 2020). Perhaps governments can consider similar options for nonhuman animals.

Governments can consider making changes to the legal status of animals as well. For instance, many people are now advocating for non-human animals to count as legal persons, or to otherwise count as legal subjects. This is not to say that non-human animals would have legal duties, but is rather to say that they would have legal rights that protect their basic interests (Andrews et al., 2018; Wise, 2003).

International cooperation and support

As with other sustainable development challenges, international cooperation and support will be critical to improve animal welfare globally. For example, countries can collaborate in capacity building to share information, best practices and skills to improve the welfare of animals such as farmed animals, companion animals, laboratory animals and wild animals.

In some cases, international exchanges to promote animal welfare are already happening, for instance through the OIE's efforts to promote animal welfare standards, national legislation, and scientific research and education (Huertas et al., 2014). As a further example, the International Society for Applied Ethology runs a collaborative academic scheme to improve international access to and education in animal welfare science (ISAE, 2021).

Governments can also provide financial support, and share technologies, infrastructure, medicine and vaccinations that can benefit animals. Technology transfer is already a key pillar of other areas of sustainable development cooperation, such as ozone, biodiversity, desertification and climate change (Nyekwere & Ole, 2021). Governments can take this approach to accelerating efforts to improve the lives of animals, too.

International financing institutions have an important role to play, as well. Many major international financing institutions can do more to consider animal welfare in their funding decisions (Van der Mark & Nedeff, 2021). By excluding practices that are particularly harmful to animals from their financing activities, and redirecting financing to more sustainable and compassionate alternatives, these institutions can help to accelerate transitions that benefit humans, non-human animals and the environment simultaneously.

In all these areas, sharing of knowledge, best practices, capacity and technologies internationally should enable flows of knowledge from and to all regions; empower countries and communities to improve animal welfare through culturally appropriate and tailored approaches; and should be informed by the best available science from different disciplines (von Keyserlingk & Hötzel, 2015).

4. Conclusion

In the 50 years since the first Stockholm Conference, the international community has recognized its collective impacts on global health, the environment, members of other nations and future generations. The time has come to recognize the intrinsic value of non-human animals, their role as important stakeholders of sustainable development policy, and that improving our treatment of animals is key to meeting our broader health and environmental goals.

This policy brief has identified three key policy pathways to better integrate animal welfare into sustainable development policymaking: (a) considering animal welfare in international policy and legal instruments; (b) i mproving national and local policies to more fully reflect animal welfare concerns while ensuring other social, health and economic goals are met; and (c) p aving the way for additional action through improved knowledge, capacity building, representation and international cooperation.

Changing international, national or local sustainable development policies to better reflect animal welfare concerns will not always be easy. It will require transformative changes to some industries, practices and values, and it will also encounter resistance from lobby and interest groups. It will require innovative thinking to maximize synergies and minimize trade-offs between different areas of sustainable development policy, including through just transition planning and support.

Nevertheless, it is clear that sustainable development matters for animals, and that animals matter for sustainable development. Bringing animal welfare into the realm of sustainable development is an opportunity to create a healthier, more compassionate and more sustainable world for all.

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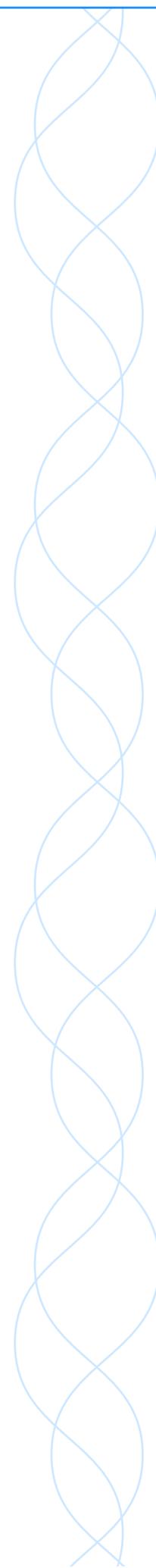
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