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Why is Animal Welfare Important for Sustainable Consumption and Production?

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Why is Animal Welfare Important for Sustainable Consumption and Production?

The 2030 Agenda envisages a development model "in which humanity lives in harmony with nature and … other living species are protected[i]." Yet while the relationship between animal welfare, environmental well-being and human development is increasingly researched and evidenced, there remains very little recognition of this relationship and the crucial role animal welfare plays in sustainable development for people and planet in UN discussions on the Sustainable Development Goals (SDGs), particularly for SDG 12 Sustainable Consumption and Production, which links to all other SDGs. It is high time that this was remedied, and animal welfare embraced throughout the UN system.

Animal Welfare

In wider policy circles, it is increasingly recognized that animal welfare should be "at the heart of sustainability"[ii]. It is an important ethical issue, and a societal value which is strongly supported by citizens and consumers across the world. Indeed, this was demonstrated in the Sustainable Development Goal consultation process when animal protection achieved the second highest score among a number of options for the seventeenth additional goal in the My World 2015 survey.[iii,iv] As another example of the public support for animal welfare to be addressed by the UN, a recent petition jointly promoted by Cruelty Free International and The Body Shop calling on the "countries of the UN to formalize an international framework to end cosmetic animal testing" generated over 8 million signatures in under 15 months.[v] It is also an internationally-accepted policy issue; and a practical issue which can help with the achievement of most, if not all, of the SDGs.

The importance of animal welfare is underlined by an increasing body of science which confirms that animals are sentient beings who share with us feelings, emotions, perceptions – and the ability to suffer and experience states of wellbeing. Animal welfare is now covered by a wide-ranging and growing body of internationally and regionally accepted science-based standards, treaties, conventions, regulations, directives and agreements.[vi,vii,viii,ix,x,xi] It has an international policy stream with agreed international standards, under the aegis of the World Organisation for Animal Health (the OIE), and regional strategies for the development of animal welfare covering all continents (including Africa now, thanks to the African Union). It has also been taken into account by other international and regional policy-making bodies, including some Regional Economic Communities[xii], the UN's World Committee on Food Security[xiii], the Food and Agricultural Organization of the United Nations (FAO)[xiv], the Organisation for Economic Cooperation and Development (OECD)[xv], the International Organization for Standardization (ISO)[xvi], and some lending institutions – including the International Finance Corporation (IFC)[xvii] and the World Bank.

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As can be seen from the report from the FAO's Agriculture and Consumer Protection Department on "Animal Welfare at the Heart of Sustainability"[xviii], the European Commission (EC) and the FAO have also stressed the need for animal welfare to be at the heart of sustainability; and recognized that animal production and animal welfare are inextricably linked with ethical, political, economic, environmental and social issues. The EC's Andrea Gavinelli stated that: "The welfare of animals is not only about changing values, but about added value for all those involved." Daniela Battaglia of FAO pointed out that animal welfare is directly related to such fundamental rights as the right to food and adequate nutrition, livelihood, decent work conditions and overall social justice; and such global common goods as biodiversity and natural resources. FAO data indicates that up to 850 million people are currently malnourished and for many of these people, particularly in rural communities, the welfare of their animals is inextricably linked with their own livelihood. In Battaglia's words: "The food and the way we eat is not a private issue anymore, we have to take into consideration the effects on the global population, the environment and the animals."

Ultimately, giving due concern to animal welfare provides many opportunities: Opportunities in market differentiation and segmentation; quality production; national reputation and trade; as well as livelihoods, sustainability and development.

Animal welfare is also inextricably linked with animal health, and human health and welfare. For example, it has been demonstrated that the welfare of farm animals has various links to food safety. Stress and poor welfare in farm animals increases the transmission and virulence of a number of zoonotic diseases, and stressed animals during transport and slaughter often release more pathogens. Protecting the welfare of farm animals can therefore be an important factor in decreasing the spread of disease.[xix] Another link demonstrating the need for a more holistic approach to the dimensions of human and animal health and wellbeing is that of antimicrobial resistance.

The health and environmental legacy of the artisanal refineries has yet to be studied in detail, and has been overshadowed, both literally and figuratively, by the burning oil wells of northern Iraq.

Evidence continues to mount that the use of antimicrobials in farm animals is contributing to the rise of antimicrobial resistance for drugs that are important to human health.[xx]

For these reasons and others, the "One Health" approach has become a well-entrenched collaborative effort of multiple disciplines – working locally, nationally and globally – to attain optimal health for people, animals and the environment."[xxi] Increasing awareness of the importance of animal welfare across the board has now led to moves to advance a "One Welfare"[xxii] approach, which emphasizes these links, and brings forth a harmonized, interdisciplinary way of working to solve complex animal welfare problems. This will lead to changes in systems of animal welfare governance at international, regional and national levels, as well as to further increasing the political importance and adoption of animal welfare. Animal welfare is no longer an issue that can be ignored.

Sustainability

No consumption or production can be considered sustainable if:

- It involves the depletion of a resource, which becomes unavailable to the system.
- It produces an impact which prevents the functioning of the system (for example, environmental pollution, greenhouse gas emissions etc.).
- Members of the public find any activities involved unacceptable.[xxiii]

The first two cases clearly affect the system to the detriment of people, animals or the environment. Whereas in the last case, people will shun the consumption or production because this is no longer morally acceptable. Indeed, it is true that no system or activity is sustainable if a substantial proportion of the local or world population, at this moment, finds aspects of it unacceptable, or if they consider now that its expected consequences in the future are morally unacceptable.[xxiv]

It is no longer ethically acceptable to use animals in ways that compromise their health and welfare. In the book 'The Principles of Humane Experimental Technique', first published in 1959, Russell and Burch proposed the concept of the "Three Rs." The original Three Rs stand for Replacement, Reduction and Refinement. The Three Rs have long been accepted with regard to animal experimentation, but the principle now needs to be mainstreamed across every sector of animal use. Every effort should be made to find humane and sustainable solutions; and animal suffering and deaths should simply not be sanctioned where uses are inessential and/or proven alternatives are available.

The use of animals in agriculture has developed industrially over time to meet increased demand for animal products (due to drivers such as population increase and changing consumer tastes and habits). However, there is now increasing consideration of whether certain animal production systems or methods are sustainable; together with recognition that short-term profitability and demand are no longer sufficient reasons for continuation of production in the absence of sustainability. The same applies to the use of animals for product testing and the consumptive use of wildlife – and indeed any other areas of production and animal use which harm animals, biodiversity/ ecosystems and habitats.

Some consequences of practices in animal use, production, transport or slaughter are unacceptable and therefore unsustainable because of the clearly damaging consequences to people, animals or the environment.

Intensive production practices and water pollution: When livestock are raised in intensive, high-concentration conditions, the production of waste often exceeds the land's ability to buffer the pollution. This results in the pollution of water with nitrates (as well as other types of air and soil pollution as well).	
Impact on Animals	While intensive livestock production systems are harmful to animal welfare, the waste produced by these also harms animals living outside the farm. High concentrations of nitrates in water ways have resulted in fish kills. Water that is contaminated with nitrates or algal toxins can harm wildlife, livestock and pets.[xxv]
Impact on the Environment	High nitrate concentrations in water ways results in algal blooms, which decrease the availability of oxygen in the water and can result in ocean "deadzones."[xxvi, xxvii]
Impact on People	Nitrates negatively impact human health and are especially harmful to infants, who can develop methemoglobinemia as a result of drinking water contaminated with nitrates. Water nitrate concentrations in Europe have exceeded drinking water limits in roughly a third of areas tested. In India, 21 states have nitrate levels that far exceed the nationally set limit.[xxviii]
Live Transport of livestock: Live transport of livestock can result in poor welfare for animals as well as human and environmental impacts.	
Impact on Animals	Live transportation of animals can result in poor welfare for animals; and animal suffering is inherent in long-distance transport.[xxix] Animals can suffer through poor vehicle design, exhaustion, transport stress, injuries and pain, and improper handling techniques, as well as long periods without food or water. Transportation can also increase the transmission of disease between herds.
Impact on the Environment	Transporting live animals requires fossil fuels and emits greenhouse gases. A U.S. study of cattle transport in the beef sector found that transporting cattle 326 km resulted in the use of 24 L of fossil fuel and the emission of 83 kg of greenhouse gases per 1,000 kg of boneless beef.[xxx]
Impact on People	Live transport can result in meat loss and poor quality meat through bruising. A study in Uruguay found on average 899 g meat per head of cattle were lost, which cumulatively represents a substantial economic loss.[xxxi] Additionally, long distance live transport can contribute to the spread of zoonoses and is implicated in the spread of H1N1, where the "FAO identified the transport of live birds reared for human consumption as a primary culprit in the rapid spread."[xxxii]
Large-scale slaughter: the link between worker safety, environmental protection and animal welfare	
Impact on Animals	Large scale slaughter poses a clear threat to animal welfare by reducing workers' ability to follow protocols and maintain equipment. At the same time, effluent from slaughterhouses poses a risk to wildlife. For example, in 2015 29 million gallons of pig waste from a JBS meat processing plant in Illinois, USA killed 64,566 fish.[xxxiii]
Impact on the Environment	The waste from large slaughterhouses has a substantial impact on the environment. A study of slaughterhouses in Nigeria found faecal coliform bacteria, heavy metals and nutrients in nearby ground and surface waters exceeded acceptable limits.[xxxiv] A report analyzing data from the U.S. Environmental Protection Agency found that three quarters of U.S. slaughterhouses that discharge into waterways violated their permits between 2016 and 2018.[xxxv]

Impact on People	The negative impacts slaughterhouses have on the environment also impact humans due to the contamination of drinking water. However, industrialized slaughterhouses also pose a risk to worker safety and wellbeing, especially with high speed lines.[xxxvi, xxxvii] Additionally, there is evidence that slaughterhouse work also causes psychological harm to workers,[xxxviii] and communities surrounding slaughterhouses tend to have increased rates of crime.[xxxix, xl]

Some systems of agricultural production are considered unsustainable because of inefficient utilization of resources and pollution. On the other hand, some systems can use resources efficiently, increase biodiversity, minimize pollution and improve animal welfare[xli]. For example, silvopastoral systems (pastures with shrubs, trees and herbage) improve animal welfare and productivity, soil health, and biodiversity. A study of silvopastoral systems in Colombia found that silvopastoral systems had 30% more bird species than conventional pasture. With more bird species there were also fewer ticks and concomitant diseases—reducing the incidence of the disease anaplasmosis in cattle by 25 percent.[xlii] The introduction of high animal welfare standards supports the transition to more sustainable production systems. To demonstrate how this works in practice, Compassion in World Farming has assembled a number of technical case studies demonstrating how animal welfare can go hand in hand with improving environmental sustainability, worker wellbeing and human health (by reducing reliance on antibiotics for example).[xliii]

Phasing out poor welfare systems and their associated negative impacts on environment and human health and wellbeing is key to making the transition to systems that are more beneficial for humans, animals and the environment—and the achievement of the SDGs.

Animal Welfare and Development

Given the linkages above, it is clear that animal welfare and human-animal relationships must be mainstreamed in development policy and international development work[xliv]. World Animal Net (WAN) is now working with the World Bank and other partners – the FAO, World Organization for Animal Health (OIE) and Wageningen University – on a project which will help remedy this situation. Known as "The Wageningen Process", this project has been created to develop "Animal Welfare Good Practices in Agriculture Development" in order to promote the implementation of good animal welfare practices in agricultural development activities in Low- and Middle- Income Countries (LMICs). The first set of guidance, which covers pig production, is expected to be ready by the end of 2018, and this will be followed by guidance covering working equines, other farmed animals, transport and slaughter.

The Concept Note for this project recognizes the need to improve animal welfare standards for both ethical and sustainability reasons. It also takes into account the common concern about the economic viability of addressing animal welfare. An analysis by Temple Grandin shows that good animal welfare reduces financial losses due to bruising and injuries while improving meat quality, improving employee safety, reducing labor requirements by creating environments that allow easier and safer handling of animals, reducing costly line stoppages, and improving the public's perception of the meat industry and preventing costly bad publicity.[xlv]

With regard to sustainability, it states: "While animal welfare may be perceived as unachievable for economic reasons, this is often not the case as a lot can be done to improve welfare of animals without negative financial impact, and many examples have proven the economic rewards of good welfare instead. Well cared for animals are productive animals; and improving animal welfare enhances health, sustainability and production, opening up new trade opportunities for farmers and other actors along the value chain. In addition, citizens are increasingly sensitive to animal welfare, which can sometimes become a driver for product choice, price and market opportunities."

Industrial Animal Production

Every year approximately 10 billion terrestrial animals are killed in the U.S. (data from 2011) and 7.5 billion in the European Union[xlvi] (data from 2014), and over 68 billion worldwide in 2014.[xlvii] This is, of course, if we exclude fish, who are killed by the trillions.[xlviii, xlix]

Confined pigs in pens. © We Animals. Available at: https://www.weanimalsarchive.org/media/5591

The industrial production of animals for food results not only in poor welfare for animals, but is also a major contributor to water, soil and air pollution and has high reliance on inputs like water, land, energy, pesticides and fertilizers, medication such as antibiotics ; as well as having negative health and social impacts (for example, increasing incidence of non-communicable diseases and the risk of antimicrobial resistance, and negatively affecting livelihoods and job opportunities in rural communities[l]). Greenhouse gas emissions from the livestock sector are estimated to account for 14.5% of the global total, more than direct emissions from the transport sector.[li]

Currently, the predominant food and agriculture system is not sustainable into the future, given that the world's human population is projected to grow to 9.7 billion in 2050. Shifting to higher welfare agroecological systems and reduced and healthier levels of consumption of animal products will have a significant impact on one of the key root causes of environmental degradation. Additionally, a third of global food production is lost or wasted annually[lii]. This adds substantial pollution to our environment, simply for food that is being thrown into landfills to pollute our environment even further. This waste is especially egregious in the case of animal products, which wastes animal lives and causes immense animal suffering, in addition to the large environmental impact incurred in the production of these products, without feeding any of the world's 821 million hungry people.[liii] Besides consumer food waste, there is another even more significant production-side food loss issue which is rarely addressed: the opportunity cost of feeding human-edible crops to animals to produce meat and dairy products. For every 100 calories fed to animals as cereals, only 17 to 30 calories enter the human food chain as meat.[liv, lv] Globally, 36-40% of crop calories are used as animal feed.[lvi, lvii] Plant-based replacements for each of the major animal categories (beef, chicken, etc.) can produce between twofold to 20-fold more nutritionally similar food per unit of cropland.[lviii] For example, "nutritionally comparable plant-based diets optimized to nutritionally replace eggs" produce two times more protein per acre than eggs themselves. On the other end of the range, nutritionally comparable plant-based diets optimized to replace beef produce 20 times more protein per acre than beef does. Poultry is comparable to eggs, and pork is comparable to beef, with dairy lying between the two.[lix]

Wildlife

Meanwhile we are witnessing the "biological annihilation" of wildlife, with the sixth mass extinction in Earth's history under way. Collectively 32% of mammals, reptiles, amphibians, birds and

fish are in decline.[lx] Of the 85,000 species listed by the IUCN, more than 24,000 are in danger, including lions, rhinos and giraffes, whose numbers have fallen by nearly 40 per cent over the last 40 years[lxi]. A study published in the journal Science Advances in January 2017 found that three-quarters of primate species have falling numbers, with 60 per cent threatened with extinction, among them gorillas and chimpanzees.[lxii]

However, we should not only focus on the loss of charismatic species, as biodiversity is a complex web of interactions, and the loss of smaller, seemingly less consequential species can have a vast impact on our planet and its balance of animal and plant-life. They make the soil, pollinate the flowers, spread seeds and recycle valuable nutrients back into the soil. They are also food for many well-loved birds, and keep other small animals in check by eating or parasitizing them.[lxiii] For example, many pollinator species are threatened with extinction, including some 16 percent of vertebrates like birds and bats; and scientists have predicted that this could threaten world food supplies.[lxiv]

Mr. Wu Hongbo, UN Under-Secretary-General for Economic and Social Affairs from 2012-2017, spoke about the wildlife crisis at a side event on World Wildlife Day in March 2014[lxv]. He spoke passionately about what he saw as the two main threats to wildlife: habitat loss and illegal trade, and stressed the fact that efforts towards sustainable development cannot yield irreversible results without protection of biodiversity and wildlife. In his words, "humans and wildlife are inseparably dependent on each other – ultimately, if one suffers, the other will suffer too".

Habitat loss and degradation is a great threat to wildlife and biodiversity, and is impacted by factors such as land use change and land degradation, deforestation, pollution, climate change and ocean acidification— all of which can be linked back to industrial systems of agriculture and directly threaten the well-being of human beings and sustainable development, as well as animals.

Illegal hunting, poaching and trafficking is increasingly recognized for its role in decimating wildlife, bringing many species to the verge of extinction. The global trade in illegal wildlife is a growing illicit economy, estimated to be worth billions of US dollars annually. This has led to a sea-change in the nature of poaching, with traps and rifles being exchanged for sophisticated weaponry, handled by ruthless criminals, using helicopters. A recent UN report on World Wildlife Crime has acknowledged the links between the illegal wildlife trade and professional criminal groups involved in other transnational offences, such as drug trafficking, human trafficking and terrorism.

Further, there is a schism between the traditional conservation ethos, which promotes the "sustainable consumption" of wildlife and places "intrinsic value," on species, rather than individual animals, and the growing scientific evidence of animal sentience and the scientific basis of animal welfare. In reality, these new scientific understandings can and should be knit together with conservation science to bring conservation into the 21st century. While this is a slow transition in practice, there is reason to hope that these separate scientific fields can be merged. In 2017 The Convention on the Conservation of Migratory Species (CMS) passed a resolution on the Conservation Implications of Animal Culture and Social Complexity, and held a workshop on this in 2018.[lxvi] This sort of innovative approach to managing conservation at both the level of species and individual animals may be exactly what is needed to better address the continuing loss of wildlife and biodiversity.

Seized Ivory Collection. Public Domain Photograph. Available at: https://en.wikipedia.org/wiki/Destruction_of_ivory#/media/File:Pallet_of_seized_raw_ivory_(USFWS).jpg

Elephant in the wild. © Jo-Anne McArthur. Available at: https://www.pexels.com/photo/view-of-elephant-in-water-247431/

For the last century, conservation has taken a species-based approach that encouraged the "sustainable use" of wildlife. However, despite isolated success stories, the crisis of species extinction and biodiversity loss we face only continues to grow. The "conservation as usual" approach is failing, and there is decades of evidence to prove this—we have lost 60% of birds, mammals, fish, reptiles and amphibians over the course of the last 40 years.[lxvii]

Is it possible that through traditional conservation practices which focus on species and encourage use of wildlife as entertainment (including trophy hunting), clothing and ancillary sources of food[lxviii] we are encouraging the consideration of wildlife as "resources" in a way that results in overexploitation, unsustainable consumption patterns and which fails to stem the loss of biodiversity and species extinction?

The magnitude of the extinction crisis requires innovative approaches to conservation, as well as the need to incorporate other types of scientific knowledge and understanding, such as animal welfare science and research on sentience and cognition. Recognizing and protecting individual members of species holds the potential to finally make progress in achieving conservation of species and biodiversity—and programs like the CMS Working Group on Animal Culture and Social Complexity are paving the way forward.

Animal Testing of Products

Half a million animals are used and killed by experiments done for cosmetics products alone each year.

Non-animal alternatives to testing are often not only more effective than traditional animal tests but also quicker and less expensive. In vitro tests for skin and eye irritation can be conducted within a single day, whilst the corresponding tests on rabbits take two to three weeks to complete. Computer models can be run at very little cost, saving thousands of dollars. A Cell Transformation Assay can cost as little as $500 dollars and avoids a cancer bioassay on rats which can take two years to carry out and costs approximately $1,000,000. In 2004, the Food and Drug Administration of the United States (FDA) estimated that 92 percent of drugs that pass preclinical tests, including "pivotal" animal tests, fail to proceed to the market. More recent analysis suggests that, despite efforts to improve the predictability of animal testing, the failure rate has actually increased and is now closer to 96 percent. The main causes of failure are lack of effectiveness and safety problems that were not predicted by animal tests.[lxix]

Innovative Solutions

There are already a large number of innovative solutions to these problems, and more on the horizon. These include:

- Technological innovations such as plant-based and cellular alternatives to meat, fish and dairy products, such as Impossible Foods and Beyond Meat, which the UN recently awarded the Champions of the Earth Award in the Science and Innovation category.[lxx]

- Agro-ecological production methods (including silvo-pastoral systems, where the introduction of trees and shrubs into production systems can also help combat climate change).

- A wide range of alternatives to animal experiments.

- Creative education/awareness campaigns designed to bring about beneficial societal change and promote living in "harmony with nature",[lxxi] including humane education[lxxii] (educational programs designed to create a humane and sustainable world) and public awareness campaigns to bring about dietary changes, including reducing meat and dairy consumption in favor of a predominantly plant-based diet such as "Meatless Monday" or "Green Monday".[lxxiii]

In order to ensure lasting change, it is vital that the systemic and structural causes of inhumane and unsustainable consumption and production are addressed. Both sides of the equation – consumption and production – need to be tackled if the type of transformative change that is needed is to be achieved[lxxiv]. This will require in-depth research followed by targeted policies to stimulate these systemic and behavioral changes, including:

- Regulation and enforcement;

- Fiscal incentives and disincentives (particularly, the removal of subsidies from unsustainable industrial food and farming systems, disincentives/penalties applied to unsustainable production (internalizing externalities) and incentives to support sustainable, ecological alternatives); and

- Education/awareness backed by sound information and labelling.

Most importantly, we need to reinforce sustainable values which support the need to respect and care for nature and animals; as societal values and actions are ultimately the only thing that will ensure the survival of our Planet.

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World Animal Net (WAN) was established in 1997 to improve communication and coordination among the world's animal protection groups. Today World Animal Net is the world's largest network of animal protection societies with over 3,000 affiliates in more than 100 countries and special consultative status at the United Nations. WAN's work is primarily conducted by experts and consultants from around the world who donate their time and expertise. WAN's mission is to improve the status and welfare of animals worldwide by offering information, expertise and new opportunities to connect, collaborate, and campaign for change. Our aim is to focus the animal protection movement and strengthen the impact of key animal campaigns and legislative efforts.

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