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Operationalising One Health-One Welfare

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What is One Health?

The World Health Organisation (WHO) describes One Health as an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes.¹ WHO considers the 'One Health' approach to be "critical to addressing health threats in the animal, human and environment interface".²

The World Organisation for Animal Health (OIE) states that the One Health approach summarises an idea that had been known for more than a century; that human health and animal health are interdependent and bound to the health of the ecosystems in which they exist. They envisage and implement this as a "collaborative global approach to understanding risks for human and animal health (including both domestic animals and wildlife) and ecosystem health as a whole".³

The Food and Agricultural Organization of the UN (FAO) also recognise the health of animals, people, plants and the environment as interconnected. Thus, they view One Health as "an integrated approach that recognises this fundamental relationship and ensures that

¹ World Health Organisation. One Health. <https://www.who.int/news-room/q-a-detail/one-health>

² World Health Organisation Regional Office for Europe. One Health. <https://www.euro.who.int/en/health-topics/health-policy/one-health>

³ OIE. One Health at a Glance. <https://www.oie.int/en/for-the-media/onehealth/>

specialists in multiple sectors work together to tackle health threats to animals, humans, plants and the environment”.⁴

There is no single, internationally agreed upon definition of One Health, although several have been suggested, including the above. When examined, these often reflect the remit or priorities of those framing the definition, and some are unduly complex. However, a much simpler definition has been provided by the One Health Institute of the University of California at Davis: “One Health is an approach to ensure the well-being of people, animals and the environment through collaborative problem solving—locally, nationally, and globally”.⁵ This encapsulates the essence of One Health, in an easily understandable way.

WHO, OIE and FAO have been working together for many years to prevent, detect, control and eliminate health threats to humans, originating - directly or indirectly - from animals. They meet regularly and their principal activities have been aimed at early detection of the emergence of animal and human diseases, so that these could be met with a swift and targeted response to control disease outbreaks and prevent their spread worldwide. In 2010 the three organisations formed the Tripartite Alliance, and published a [Concept Note](#)⁶

describing their collaboration and objectives in the prevention and control of health risks at the human–animal–ecosystems interface.⁷

In November 2020, the UN Environment Programme (UNEP) joined these three organisations to set up a [One Health High-Level Expert Council](#) to collect, distribute and publicise reliable scientific information on the links between human, animal and environmental health.⁸

These four members of the One Health Expert Council have different roles, which are briefly as follows:

WHO: A specialised agency of the UN. Primary role is to direct and coordinate international (human) health within the United Nations system.

OIE: Not a UN agency, but governed by member country delegates. Responsible for improving animal health worldwide. But a technical organisation, not including advocacy or implementation.

FAO: A specialised agency of the UN. Leads international efforts to defeat hunger.

UNEP: A UN programme. The global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment.

⁴ FAO. One Health. <http://www.fao.org/one-health/en/>

⁵ John S Mackenzie, Martyn Jeggo. The One Health Approach—Why Is It So Important? <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6630404/>

⁶ OIE. The FAO-OIE-WHO Collaboration - A Tripartite Concept Note. https://www.oie.int/fileadmin/Home/eng/Current_Scientific_Issues/docs/pdf/FINAL_CONCEPT_NOTE_Hanoi.pdf

⁷ OIE. One Health. <https://www.oie.int/en/for-the-media/onehealth/controlling-health-risks/collaboration-internationale/>

⁸ UNEP. UNEP joins three international organizations in expert panel to improve One Health. <https://www.unep.org/news-and-stories/story/unep-joins-three-international-organizations-expert-panel-improve-one-health>

What Areas are Covered by One Health?

One Health should cover any health-related issues at the human–animal–ecosystems interface, and most particularly those that require close collaboration across sectors, stakeholders and countries. However, the type of issues which the organisations involved frequently cite as relevant include:

- food safety
- control of zoonotic diseases (diseases that can spread between animals and humans)
- laboratory services
- neglected tropical diseases
- environmental health
- antimicrobial resistance (when bacteria change after being exposed to antibiotics and become more difficult to treat).^{9 10}

The US Centres for Disease Control and Prevention (CDC) adds to this list:

- Food security, as well as food safety
- Vector-borne diseases
- Environmental contamination

Plus, other health threats shared by people, animals, and the environment. As they state, other fields can also benefit from a One Health approach involving collaboration across disciplines and sectors, including the fields of chronic disease, mental health, injury, occupational health, and non-communicable diseases.¹¹

A Brief History of One Health

The concept of One Health is not new and can be traced back for at least two hundred years, firstly as One Medicine, then as One World, One Health and eventually One Health. The term One Health was first used in 2003–2004, and was associated with the emergence of severe acute respiratory disease (SARS) in early 2003 and subsequently by the spread of highly pathogenic avian influenza H5N1, and by the series of strategic goals known as the ‘Manhattan Principles’¹² derived at a meeting of the Wildlife Conservation Society in 2004, which clearly recognised the link between human and animal health and the threats that diseases pose to food supplies and economies.¹³

⁹ World Health Organisation Regional Office for Europe. One Health. <https://www.euro.who.int/en/health-topics/health-policy/one-health>

¹⁰ World Health Organisation. One Health. <https://www.who.int/news-room/q-a-detail/one-health>

¹¹ Centres for Disease Control and Prevention (CDC). One Health Basics. <https://www.cdc.gov/onehealth/basics/index.html>

¹² Wildlife Conservation Society. One World One Health. The Manhattan Principles. <https://oneworldonehealth.wcs.org/About-Us/Mission/The-Manhattan-Principles.aspx>

¹³ John S Mackenzie, Martyn Jeggo. The One Health Approach—Why Is It So Important? <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6630404/>

The CDC website includes a timeline of key events/people leading up to and during the development of the One Health Concept.¹⁴ Some of these key events have been included below, and supplemented by other relevant events from other sources:¹⁵

1821-1902: Dr Rudolf Virchow, MD, recognised the link between human and animal health and coined the term “zoonosis”.

1947: James H. Steele, DVM, MPH, founded the Veterinary Public Health Division at CDC. Dr Steele understood the important role of animals in the epidemiology of zoonotic diseases, and he recognised that good animal health is important for good public health.

1927-2006: Calvin Schwabe, DVM, ScD, coined the term “One Medicine”. The term emphasises the similarities between human and veterinary medicine and the need for collaboration to effectively cure, prevent, and control illnesses that affect both humans and animals.

2001: Meeting of Society for Tropical Veterinary Medicine and the Wildlife Disease Association issues joint Pilanesberg Resolution sent to 30 international donor agencies calling on them to recognise animal health sciences as essential to the design and implementation of livestock and wildlife-based projects in low-income countries for the purpose of preventing disease transmission.

2004: The Wildlife Conservation Society symposium entitled “Building Interdisciplinary Bridges to Health in a ‘Globalized World’” which brought together human and animal health experts to discuss the movement of diseases among humans, domestic animals, and wildlife. This led to the “Manhattan Principles” mentioned above.

2005: FAO/OIE Network of Expertise on Animal Influenzas (OFFLU) is formed to provide early recognition and characterisation of emerging influenza viral strains in animal populations, and effective management of known infections, thereby better managing the risk to human health and promoting global food security, animal health and welfare, and other community benefits derived from domestic animals and wildlife.

2007: The American Medical Association (AVMA) convened the One Health initiative Task Force (which became the One Health Commission in 2009), and passed a resolution calling for increased collaboration between the human and veterinary medical communities.

2007: Representatives of 111 countries and 29 international organisations met in New Delhi India for the International Ministerial Conference on Avian and Pandemic Influenza. During this meeting, a One Health approach was recommended for pandemic preparedness and human security. In response to this meeting, FAO, OIE, WHO, UNICEF, the World Bank, and the United Nations System Influenza Coordination (UNSIC) came together to develop a document entitled “Contributing to One World, One Health™- A Strategic Framework for Reducing Risks of Infectious Diseases at the Animal-Human-Ecosystems Interface”.

2008: Representatives from more than 120 countries and 26 international and regional organisations attended the 2008 International Ministerial Conference on Avian and Pandemic Influenza in Sharm el-Sheikh, Egypt. The Strategic Framework mentioned above was officially released, and One Health became a recommended approach and political reality for infectious disease control in areas where animals, humans, and ecosystems meet.

2009: A One Health office was opened at the CDC.

2009: USAID launched an Emerging Pandemic Threats Programme.

¹⁴ CDC. History. <https://www.cdc.gov/onehealth/basics/history/index.html>

¹⁵ Kelley Lee, Zabrina L. Brumme. Operationalizing the One Health approach: the global governance challenges. <https://academic.oup.com/heapol/article/28/7/778/826736>

2009: The Public Health Agency of Canada hosted “One World, One Health™: From Ideas to Action”, an expert consultation in Winnipeg, Manitoba. Key recommendations emerged for actions that countries could take to advance the concept of One Health.

2010: a total of 71 countries and regional bodies, along with representatives from international organisations, development banks and other stakeholders, attended the 2010 International Ministerial Conference on Avian and Pandemic Influenza in Hanoi, Vietnam. The meeting unanimously adopted the Hanoi Declaration which recommended broad implementation of One Health.

2010: OIE, FAO and WHO joined together to publish the Tripartite Concept Note.

2010: CDC, in collaboration with the OIE, FAO and WHO, hosted a meeting in Stone Mountain, Georgia, entitled, “[Operationalizing ‘One Health’: A Policy Perspective—Taking Stock and Shaping an Implementation Roadmap pdf](#)”. The meeting, which came to be known as the “Stone Mountain Meeting,” was designed to define specific action steps to move the concept of One Health forward. There is more about this in the section on **Operationalising One Health-One Welfare** below.

2010: The UN and the World Bank released the “Fifth Global Progress Report on Animal and Pandemic Influenza.”

2010: World Bank report, People, Pathogens and Our Planet: Towards a One Health Approach for Controlling Zoonotic Diseases puts forward a framework for the funding and implementation of One Health.

2010: The European Union published the “Outcome and Impact Assessment of the Global Response to the Avian Influenza Crisis” report and reaffirmed its commitment to operating under a One Health umbrella.

2011: The first International One Health Congress was held in Melbourne, Australia. More than 650 people from 60 countries and a range of disciplines came together to discuss the benefits of working together to promote a One Health approach. In addition to understanding the interdependence of human, animal, and environmental health, attendees agreed that it is important to include other disciplines such as economics, social behaviour, and food security and safety.

2011: The Tripartite organised a high-level technical meeting in Mexico City November 15-17, 2011. The focus of this meeting was to address health risks that occur in different geographic regions by highlighting three priority One Health topics - rabies, influenza, and antimicrobial resistance.

2012: The first One Health Summit was held in Davos, Switzerland. The Summit presented the One Health concept as a way to manage health threats, focusing on food safety and security. The conference ended by approving the “Davos One Health Action Plan,” which pinpointed ways to improve public health through multi-sectoral and multi-stakeholder cooperation.

2013: The second International One Health Congress was held in conjunction with the Prince Mahidol Award Conference. With more than 1,000 attendees from over 70 countries, it was the largest One Health conference to date. The conference encouraged collaboration across disciplines to promote effective policy development related to human, animal, and environmental health.

A study of these past events shows that various efforts have been made to embed One Health within existing global institutions. In practice, however, One Health has struggled to gain a firm institutional foothold. Beyond meetings, there has been little attempt so far to

create a single designated global level institution for One Health. Instead, implementation has been attempted through principles and declarations agreed to at meetings, endorsements by international organisations, governments and other institutional players, and in some cases, ‘focal points’ within existing institutions. Moreover, much of this impetus has come from the animal health side, with veterinarians and the OIE demonstrating by far the strongest commitment to the approach (for example, including it in their strategic plan).¹⁶ Moreover, this work was initially in connection with pandemic influenza preparedness, and the main focus remains on disease prevention and control. This is probably due to influence by its roots in human and veterinary medicine, rather than seeking and addressing the broader direct and indirect drivers needed for sustainable prevention going forward.

Why is the One Health Approach Gaining Traction?

One Health is gaining recognition globally as an effective way to fight health issues at the human-animal-environment interface, including zoonotic diseases. One Health is not new, but it has become more important in recent years. This is because many factors have changed interactions between people, animals, plants, and our environment, with serious consequences for human health and well-being. These include:

- Human populations are growing and expanding into new geographic areas, resulting in more people living in close contact with wild and domestic animals, both livestock and pets. On the one hand, animals play an important and positive role in human lives – including for companionship, education, leisure, spiritual enrichment, food, fibre, work and livelihoods. But on the other hand, close contact with animals and their environments provides more opportunities for diseases to pass between animals and people.
- The earth has experienced changes in climate and land use, such as deforestation and intensive farming practices. Disruptions in environmental conditions and habitats provide new opportunities for diseases to pass between, to and from animals.
- The movement of people, animals, and animal products has increased from international travel and trade. As a result, diseases can spread quickly across borders and around the globe.

These changes have led to the spread of existing or known (endemic) and new or emerging [zoonotic diseases](#), which are diseases that can spread between animals and people.¹⁷

Animals also share human susceptibility to some diseases and environmental hazards. Because of this, they can sometimes serve as early warning signs of potential human illness. For example, birds often die of West Nile virus before people in the same area get sick with West Nile virus infection.¹⁸ Also, this shared susceptibility underlines the fact that efforts by

¹⁶ Kelley Lee, Zabrina L. Brumme. Operationalizing the One Health approach: the global governance challenges. <https://academic.oup.com/heapol/article/28/7/778/826736>

¹⁷ Centres for Disease Control and Prevention (CDC). One Health Basics. <https://www.cdc.gov/onehealth/basics/index.html>

¹⁸ Centres for Disease Control and Prevention (CDC). One Health Basics. <https://www.cdc.gov/onehealth/basics/index.html>

just one sector cannot prevent or eliminate the problem. For instance, rabies in humans is effectively prevented only by targeting the animal source of the virus (for example, by stray dog control and vaccinating dogs). Information on influenza viruses circulating in animals is crucial to the selection of viruses for human vaccines for potential influenza pandemics. Drug-resistant microbes can be transmitted between animals and humans through direct contact between animals and humans or through contaminated food, so to effectively contain it, a well-coordinated approach in humans and in animals is required.¹⁹

A One Health approach enables authorities to monitor and control public health threats and to learn about how diseases spread among people, animals, plants, and the environment. This requires the cooperation of human, animal, and environmental health partners. Professionals in **human health** (doctors, nurses, public health practitioners, epidemiologists), **animal health** (veterinarians, paraprofessionals, agricultural workers), **environment** (ecologists, wildlife experts, plant health experts), and **other areas of expertise** need to communicate, collaborate on, and coordinate activities.²⁰ But effective prevention requires far more than this – including collaborative research into the root causes and drivers of challenges to animal, human and environmental health and well-being, and effective preventative action to address these factors (in a way that does not have adverse impacts on other aspects of well-being). This requires the involvement of multi-sectoral researchers, policymakers, enforcement authorities, agriculture, civil society, communities, and pet owners. No one person, organisation, or sector can address issues at the animal-human-environment interface alone.

Lessons from COVID-19 and Other Pandemics

COVID-19 brought into sharp focus the inextricable linkages between ecological integrity and human and animal health and welfare. It also provided a graphic example of the massive human and economic costs of exploiting animals without due regard for their health and welfare, or the increasing pressures on nature, including destruction of ecosystems and biodiversity. This underlined the fact that to reduce the risk of future world-stopping pandemics, we must give more priority to nature protection and fundamentally reorientate our relationship with animals, from a relationship of exploitation to a relationship of mutuality, including the incorporation of animal health and welfare in all policy-making. As was stated in the report Preventing the Next Pandemic by UN Environment (UNEP) and the International Livestock Research Institute (ILRI)²¹: “Pandemics such as the COVID-19 outbreak are a predictable and predicted outcome of how people source and grow food, trade and consume animals, and alter environments”.

The conclusions of the WHO-convened Global Study of the Origins of SARS-CoV-2 point to exotic animals farmed for trade as the most likely source of the virus. Whether the species involved are ever categorically identified or not, the fact is that this was a zoonotic disease and there are two known danger areas for transmission: the first is people interfering with

¹⁹ World Health Organisation. One Health. <https://www.who.int/news-room/q-a-detail/one-health>

²⁰ Centres for Disease Control and Prevention (CDC). One Health Basics. <https://www.cdc.gov/onehealth/basics/index.html>

²¹ <https://www.unenvironment.org/resources/report/preventing-future-zoonotic-disease-outbreaks-protecting-environment-animals-and>

wildlife habitats, which pushes animals out of their natural habitat and into closer contact with humans; and the second is the commercial trade in wild animals, which pulls animals out of their natural habitats and into closer contact with humans and other animals.^{22 23}

The US Centers for Disease Control and Prevention (CDC) states that three out of four new or emerging infectious diseases originate in animals²⁴. Some ways in which animals are used carry an intrinsic risk of disease transmission – for example, where animals are mixed, congregated and/or kept in close confinement. Research has also shown that there is a strong link between poor standards of animal welfare and reduced immunity, with increased risk of disease and more rapid transmission. As stated by Michael C. Appleby, PhD., former Chief Scientific Advisor to the World Society for the Protection of Animals: “In case after case, conditions that are bad for welfare such as close confinement and high stocking densities are associated with dangerous diseases, while higher welfare systems such as grazing are as good or better for animal health. Safeguarding farm animal and human health is best achieved by safeguarding other aspects of animal welfare.”²⁵ This is not only the case for livestock, but also for fish and wildlife. Indeed, captivity can seriously impair the welfare of wild animals as they are unable to carry out their behavioural needs and suffer enormous stress in captivity.

Farmed animals are a major cause of disease. The World Health Organisation (WHO) considers the greatest risk for transmission to be through “human exposure to animals, their products (e.g., meat, milk, eggs...) and/or their environments”.²⁶ Intensive animal agriculture facilities – together with live animal transport, markets and industrial scale slaughter - provide rich breeding grounds for the emergence, spread and amplification of pathogens, some of which are zoonotic^{27 28 29}. The last global pandemic before COVID-19 emerged from farm animals; this was the 2009 swine flu pandemic which killed between 151,00 and 575,000 people worldwide³⁰. The intensive poultry sector is also high risk. When

²² WHO. Origins of the SARS-CoV-2 virus. <https://www.who.int/health-topics/coronavirus/origins-of-the-virus>

²³ Independent. Whatever your thoughts on the origin of Covid, all theories point to the same solution. <https://www.independent.co.uk/voices/covid-origin-wildlife-trade-china-b1825712.html>

²⁴ Centers for Disease Control and Prevention. Zoonotic Diseases. <https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html>

²⁵ CIWF and WSPA. Zoonotic Diseases, Human Health and Farm Animal Welfare. <https://www.ciwf.org.uk/media/3756123/Zoonotic-diseases-human-health-and-farm-animal-welfare-16-page-report.pdf>

²⁶ WHO. Zoonoses and the Environment. http://www9.who.int/foodsafety/areas_work/zoonose/en/

²⁷ Otte, J., D. Roland-Holst, R. Pfeiffer Soares-Magalhaes, Rushton, J., Graham, J., and Silbergeld, E. 2007. Industrial Livestock Production and Global Health Risks. Food and Agriculture Organization of the United Nations, Pro-Poor Livestock Policy Initiative Research Report.

²⁸ EMA (European Medicines Agency) and EFSA (European Food Safety Authority), 2017. EMA and EFSA Joint Scientific Opinion on measures to reduce the need to use antimicrobial agents in animal husbandry in the European Union, and the resulting impacts on food safety. EFSA Journal 2017;15(1):4666

²⁹ Council for Agriculture, Science and Technology. Global Risks of Infectious Animal Diseases. *Issue Paper 28*, February 2005; 15pp

³⁰ Centres for Disease Control and Prevention <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html> Accessed 12 April 2020

bird flu - avian influenza (AI) - gets into industrial poultry sheds packed with thousands of birds, low pathogenic AI can evolve into a dangerously high pathogenic form of AI^{31 32 33}.

Industrial farming can also have an indirect effect on the emergence of new viruses. Industrial animal agriculture requires huge amounts of soy and cereals as feed for livestock. This leads to the expansion of farmland into forests and other wildlife habitats. Industrial farms themselves are sometimes built close to forests. This closer contact between people and wildlife can lead to pathogen spill-over with viruses being transmitted from wild animals to people.³⁴

Industrial livestock production not only poses serious risks of future pandemics, but also fuels antibiotic-resistance, and detrimentally impacts biodiversity, climate change, deforestation, water, soils and the health and welfare of animals.

Despite these clear interlinkages and the stark lessons from COVID-19, at present, animal health and welfare are dealt with in a separate policy silo under the OIE, and not afforded the political priority deserved – including from many parts of the UN system: The Sustainable Development Goals; UNEP; and across Multilateral Environmental Agreements covering animals. Nor is it effectively included in international development programmes or countries' national development plans.

Whilst a One Health approach has been increasingly used post-COVID-19, and the OIE, FAO, WHO and UNEP take part in the One Health High-Level Expert Council, this has been working mainly on communication, coordination and collaboration on technical health/disease issues. Whilst some research has been carried out on the drivers of COVID-19 and other pandemics, this work has not yet evolved to take a wider One Welfare³⁵ approach or the more proactive and preventative action needed to effectively address these drivers.

For example, research carried out jointly by UNEP and the International Livestock Research Institute on preventing the next pandemic contained some important findings about the causes of pandemics which have not yet been actioned. These included the identification of seven human-mediated factors that are most likely driving the emergence of zoonotic diseases: 1) increasing human demand for animal protein; 2) unsustainable agricultural intensification; 3) increased use and exploitation of wildlife; 4) unsustainable utilisation of natural resources accelerated by urbanisation, land use change and extractive industries; 5)

³¹ Newman *et al*, 2010). FAO EMPRES Wildlife Unit Fact Sheet: Wildlife and H5N1 HPAI Virus - Current Knowledge. Animal Production and Health Division, FAO <http://www.fao.org/avianflu/en/wildlife/index.html>)

³²

<https://www.cms.int/sites/default/files/Scientific%20Task%20Force%20on%20Avian%20Influenza%20and%20Wild%20Birds%20H5N8%20HPAI%20December%202016%20FINAL.pdf> Accessed 14 June 2020

³³ Nickbakhsh, S. *et al.*, 2016, Modelling the impact of co-circulating low pathogenic avian influenza viruses on epidemics of highly pathogenic avian influenza in poultry, *Epidemics*, 17:27-34

³⁴ Jones B *et al*, 2013. Zoonosis emergence linked to agricultural intensification and environmental change. *PNAS* <https://www.pnas.org/content/110/21/8399>

³⁵ One Welfare. <https://www.onewelfareworld.org/>

increased travel and transportation; 6) changes in food supply; and 7) climate change.³⁶ This underscores the need for a wider and more proactive approach to prevention. As can be seen below, a move to One Welfare is recommended, so broader factors can be included such as food safety and security, sustainable consumption and production, environmental protection and other vital sustainability and wellbeing issues.

This One Welfare approach should cover all human uses of live animals, reassessing the sustainability and desirability of each use, the impact on animal welfare, and the impacts on human and environmental wellbeing. The [Animals Manifesto](#) contains a call from over 170 non-governmental organisations from across the globe for a reassessment of current COVID-19 response efforts, realigning these with the glaring need for transformative change, and finally addressing humanity's exploitation of animals.³⁷ This includes an overview of animal issues associated with COVID-19, and identifies areas where change is urgently needed. What is vital is a move away from the commercial wildlife trade and the industrial animal agriculture, through a "just transition".

Clearly, other drivers should also be addressed by effective preventative policy measures. These would include factors such as land conversion and infrastructure developments that fragment and destroy natural habitats and disruption of ecosystem functionality, which place enormous stresses on wildlife, and bring people and wild animals into ever closer contact. Beyond this, indirect drivers also need to be considered and addressed including poverty, lack of livelihoods and food security; and the current economic and development paradigms (which are dealt with in more detail below).

Last October, the world's leading scientists said [the world was in an "era of pandemics"](#) and that diseases would emerge more often, spread more rapidly, kill more people and affect the global economy with more devastating impact than ever before, unless the devastation of the natural world ends. Since the coronavirus pandemic began, the UN, WHO and others have warned the world must tackle the [cause of these outbreaks](#) and [not just the health and economic symptoms](#). In June, experts called the pandemic an "[SOS signal](#) for the human enterprise".³⁸

Post-COVID-19 stimulus packages/recovery finance provides an opportunity for bold action to "build forward better" in ways which contribute to the prevention of future pandemics. To do this effectively will require the operationalisation of a One Health-One Welfare approach. It is vital that post-COVID recovery delivers a clean, green and just transition to tackle the climate emergency and biodiversity loss, and towards the achievement of sustainable development (Green New Deals); and that financial packages and loans are directed towards a regenerative, humane, healthy, and environmentally-friendly future.

³⁶ UNEP and ILRI. Preventing the next pandemic - Zoonotic diseases and how to break the chain of transmission. <https://www.unep.org/resources/report/preventing-future-zoonotic-disease-outbreaks-protecting-environment-animals-and>

³⁷ Animal Manifesto. <https://pub.lucidpress.com/1c6e4a02-2bae-4656-a238-333d956dc2a0/#VpP~8 R-MDuR>

³⁸ The Guardian. Inaction leaves world playing 'Russian roulette' with pandemics, say experts. <https://www.theguardian.com/environment/2021/mar/09/inaction-leaves-world-playing-russian-roulette-pandemics-experts>

Investment should be in solutions, not bail-outs. Moreover, there should be stringent policies and checks to ensure that no post-COVID-19 recovery finance could amplify the risks of future outbreaks and crises or detrimentally impact biodiversity, pollution, climate change and the health and welfare of animals.³⁹

New Development Paradigm

COVID-19 has also exposed the inherent lack of sustainability within current healthcare, policy and “development” frameworks, and the need for transformative change – the kind highlighted in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment Report – a fundamental, system-wide reorganisation across technological, economic and social factors, including paradigms, goals and values, promoting social and environmental responsibilities across all sectors.⁴⁰ As daunting and costly as this may sound – it pales in comparison to the price we are already paying, and even greater price we may pay for similar disasters in the future.

The current primary development paradigm is based on economic growth, as measured by Gross Domestic Product (GDP). This inevitably puts pressure on the environment and animals, as well as fuelling social inequity. For many years, UN civil society/NGOs have been calling for a new development paradigm that prioritises the flourishing/thriving of humans, nature, and animals. This aligns perfectly with a One Health-One Welfare approach.

There is now increasing acceptance of the need to move beyond GDP as the primary measure of progress, from countries, regional economic communities and international organisations. For example, the European Commission has a Beyond GDP initiative which is about developing indicators that are as clear and appealing as GDP, but more inclusive of environmental and social aspects of progress. Economic indicators such as GDP were never designed to be comprehensive measures of prosperity and well-being. As the Commission says: “We need adequate indicators to address global challenges of the 21st century such as climate change, poverty, resource depletion, health and quality of life”.^{41 42}

The Organisation for Economic Cooperation and Development (OECD) has also worked on Beyond GDP. It established a High-Level Expert Group on the Measurement of Economic Performance and Social Progress (HLEG) to follow-up on the recommendations of the Commission on the Measurement of Economic Performance and Social Progress (also known as the Stiglitz-Sen-Fitoussi Commission) and provide impetus and guidance to the various initiatives currently ongoing on measuring people’s well-being and societies’ progress. The HLEG’s work covered four substantive areas in the field of measuring economic performance and social progress:

³⁹ IPBES. Guest Article. COVID-19 Stimulus Measures Must Save Lives, Protect Livelihoods, and Safeguard Nature to Reduce the Risk of Future Pandemics

<https://ipbes.net/covid19stimulus>

⁴⁰ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Global Assessment. <https://ipbes.net/news/Media-Release-Global-Assessment>

⁴¹ European Commission. Beyond GDP. https://ec.europa.eu/environment/beyond_gdp/index_en.html

⁴² European Commission. Beyond GDP background.

https://ec.europa.eu/environment/beyond_gdp/background_en.html

- Income and Wealth Inequality
- Multidimensional and Global Inequalities
- Multidimensional Subjective Well-Being
- Sustainability

This work provides leadership on measuring well-being and progress worldwide as well as directly informing the OECD's own work on measuring well-being and progress.⁴³

The World Bank Group has also considered the limitations of GDP as a measure of prosperity and well-being.⁴⁴ Even the World Economic Forum (WEF) has given positive support to alternatives to GDP.^{45 46}

Much of this work centres on measurements and indicators for well-being. But much more is needed to embed a new development paradigm. In practice, such changes would equate to the One Health⁴⁷- One Welfare⁴⁸ approach, which needs to be used more in proactive policy planning and development, and brought down to national and regional levels. There is more about this in the section on **Operationalising One Health-One Welfare** below.

What is One Welfare?

There is a full explanation of One Welfare on the [One Welfare World](#) website, and in the [One Welfare Framework book](#).⁴⁹

In essence, One Welfare is an emerging concept which includes, but goes wider than, One Health; and so is a useful complement to develop One Health to address wider needs connected to well-being. Whilst One Health derives from a medical/veterinary health focus, One Welfare serves to highlight the interconnections between animal welfare, human wellbeing and the environment. It fosters interdisciplinary collaboration to improve human and animal welfare internationally, nationally and locally.

Dr Rebeca García Pinillos is the Chair and Project Founder of One Welfare Community Interest Company, which started as a voluntary project, launching a global consultation to define and create a One Welfare framework as a complement to One Health and creating social media platforms and a web presence to help expand and disseminate the concept and related work. Initiatives launched to date supporting these objectives are the publication of the One Welfare Framework book and the projects One Welfare World and One Welfare Phoenix. Dr García Pinillos qualified as a vet at the University of Zaragoza, Spain and completed a PhD at the University of Reading, England. She is a diplomate of the European College of Animal Welfare and Behavioural Medicine and a certified specialist by the Royal

⁴³ OECD. High-Level Expert Group on the Measurement of Economic Performance and Social Progress. <https://www.oecd.org/statistics/measuring-economic-social-progress/>

⁴⁴ World Bank Live. What will it take to move beyond GDP? <https://live.worldbank.org/move-beyond-GDP>

⁴⁵ World Economic Forum. Beyond GDP. <https://www.weforum.org/focus/beyond-gdp>

⁴⁶ World Economic Forum. To move beyond GDP put alternatives front and centre. <https://www.weforum.org/agenda/2020/01/gdp-alternatives-growth-change-economic-development>

⁴⁷ One Health. <https://www.oie.int/en/for-the-media/onehealth/>

⁴⁸ One Welfare. <https://www.onewelfareworld.org/>

⁴⁹ One Welfare. <https://www.onewelfareworld.org/>

College of Veterinary Surgeons (RCVS) in animal welfare, ethics and law. She now works a Veterinary Adviser for the UK's Department for Food, Environment and Rural Affairs, and is a Past-President of the Association of Government Vets.

The One Welfare Framework to Improve Animal Welfare and Human Wellbeing is now available in a book.⁵⁰ The final framework is made of five key sections, which are:
Section 1 - The Connections Between Animal and Human Abuse and Neglect
Section 2 - The Social Implications of Improved Animal Welfare
Section 3 - Animal Health and Welfare, Human Wellbeing, Food Security and Sustainability
Section 4 - Assisted interventions Involving Animals, Humans and the Environment
Section 5 - Sustainability: connections Between Biodiversity, the Environment, Animal Welfare and Human Wellbeing

The One Welfare Framework book includes 20 case studies of successful organisations implementing the one health approach for the good of animal welfare, human wellbeing and the environment. The examples range from the link between animal and human abuse, working animal welfare, food safety, the impact of war and climate change and sustainability, biodiversity and conservation. All of them key areas for improved human health and a better society overall.

The One Welfare concept and its benefits are further explained in [this blog](#)⁵¹ on health and welfare for all, and [this paper](#) in the Veterinary Record⁵² and [this abstract](#)⁵³ on One Welfare – a platform for improving human and animal welfare.

One Welfare recognises that whilst health is a key priority, looking after our wellbeing and that of animals, society and the environment is paramount. Improved wellbeing has an effect within the immune system that indirectly enhances animal and people's health and life expectancy; It can strongly support efforts to better health care and by interconnecting professionals working with humans, animals and the environment we can strengthen the effect and efficiency that one profession would have alone.

Indeed, One Welfare is a more appropriate approach for the ever-evolving and broadening One Health vision, as this has now moved beyond health alone. Indeed, it already takes into account well-being and future sustainability and quality of life, and this will only increase and widen as the root causes and drivers (direct and indirect) of our current crises and pandemic threats are addressed.

⁵⁰ One Welfare World. One Welfare A Framework to Improve Animal Welfare and Human Wellbeing. <https://www.onewelfareworld.org/book.html>

⁵¹ Rebeca Garcia Pinillos. One Health and One Welfare for all. <https://blog.cabi.org/2018/04/30/on-world-health-day-one-health-and-one-welfare-for-all-by-rebeca-garcia-pinillos/>

⁵² Veterinary Record. One Welfare – a platform for improving human and animal welfare. https://www.researchgate.net/publication/309366752_One_Welfare_-_a_platform_for_improving_human_and_animal_welfare

⁵³ OIE. One Welfare – a platform for improving human and animal welfare. <https://www.oie.int/eng/animal-welfare-conf2016/Poster/Abstracts/Garcia.pdf>

The WHO Director-General Tedros Adhanom Ghebreyesus spoke of the need to strengthen the One Health approach when opening the 27th Tripartite Annual Executive Committee Meeting in February 2021.⁵⁴ He said that while the concept of One Health may have once seemed simple, “it is no longer”. WHO supports a greater One Health emphasis on connections to the environment, as set out in the WHO Manifesto for a healthy and green recovery from COVID-19. “We need more science, better data and bolder policies across multiple sectors, with a whole-of-government and whole-of-society approach”. He stressed that the COVID-19 pandemic is providing a unique opportunity to drive real change, but added: “It is clear, however, that One Health must be about more than zoonoses. We cannot protect human health without considering the impact of human activities that disrupt ecosystems, encroach on habitats, and further drive climate change”.⁵⁵ These activities include pollution, large-scale deforestation, intensified livestock production and the misuse of antibiotics, along with how the world produces, consumes and trades food.

It is said that the application of a One Health approach is critical for achieving the UN 2030 Agenda for Sustainable Development and the related Sustainable Development Goals⁵⁶, but the truth is that it is only the wider One Welfare approach which could succeed.

Expanding One Health to One Welfare

Now is the time to expand the One Health approach to the wider One Welfare approach, and to operationalise this. But the question is what is needed to make this a reality? Especially when One Health is only just gaining traction, and has a long way to go before being effectively operationalised. There has already been advocacy around the need to move from One Health to One Welfare, but this has not yet been accepted in official circles.

One barrier may be the clear veterinary/animal welfare origins and focus of One Welfare, at a time when this is not yet an accepted priority in international policy. What is needed to improve acceptability and uptake is a triple vision - humans, animals and the environment, with a focus on the intersections between these. Generating an understanding of the benefits of animal welfare across the system is important, including a clear demonstration of how this ultimately meets human needs (physical, mental and social/behavioural) as well as animal interests. And the same for benefits of ensuring a healthy and flourishing environment – as opposed to the current extractive, utilitarian approach which has endangered humanity over time. This necessitates the removal of silos – replaced by holistic analysis and systems thinking systems-thinking, and incorporating an examination of all impacts of policies and programmes across the system.

Also, because health has its basis in the medical/veterinary treatment paradigm, there is not enough focus on prevention. Once there is a greater focus on the root causes and drivers of

⁵⁴ UN News. Strengthen ‘One Health approach’ to prevent future pandemics – WHO chief. <https://news.un.org/en/story/2021/02/1084982>

⁵⁵ WHO. WHO Director-General's opening remarks at 27th Tripartite Annual Executive Committee Meeting World Organisation for Animal Health (OIE) - 17 February 2021. <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-27th-tripartite-annual-executive-committee-meeting-world-organisation-for-animal-health-oie-17-february-2021>

⁵⁶ FAO. One Health. <http://www.fao.org/one-health/en/>

challenges to animal, human and environmental health and well-being, the need for the wider scope of One Welfare will become more apparent. Effective prevention is not possible without effective policies and programmes to address these factors (in a way that does not have adverse impacts on other aspects of well-being).

The expansion of One Health to One Welfare should also be linked to the need to move beyond growth towards a new primary development paradigm based on well-being. As can be seen above, this is gaining increasing support and traction. ***The operationalising of One Welfare is effectively the implementation of a wellbeing paradigm, and these together represent the defining changes needed to build a humane and sustainable future.***

Strategic policy advocacy is needed to move the leaders of One Health (primarily the One Health Council) and their influencers (especially the CDC and key national governments) from the increasingly accepted One Health approach to the wider and more relevant One Welfare approach. The factors above may help in this task.

There is also a real need for increased education and awareness of the potential of One Welfare, not only vis-à-vis key policy makers, but also local and global networks of those working in animal welfare, human wellbeing and environmental issues.

Operationalising One Health-One Welfare

Much of the work on operationalising One Health has centred on technical aspects such as detection, surveillance, diagnosis and treatment. This includes laboratory collaboration, such as the upgrading of facilities, training and collaboration between regional and international reference laboratories for diagnosis and quality assurance. Plus, cooperation between human and animal surveillance systems in analysing available evidence and evaluating responses and the timely sharing of comparable epidemiological and pathogen data across the relevant sectors.^{57 58}

The OIE, FAO and WHO have traditionally favoured the focus on zoonoses, consistent with their established technical roles, and likely reflecting the desire to protect their mandates and any future resources accruing to them. Their narratives focus on “emerging infectious diseases at the animal–human–ecosystems interface” or “animal and public health risks attributable to zoonoses and animal diseases with an impact on food security”. The World Bank has called for a wider, more systems-based approach which focusses on health issues that have similar infrastructure needs, rather than particular diseases. The World Bank has also called for a “more general, permanent system for coordinated national and international surveillance and control” that would entail “more regular channels of collaboration than the current communication between agencies that prevails to date, which is based on temporary arrangements formed in response to various contingencies”. Overall, global institutions have so far tended to interpret the scope of One Health within the context of their existing mandate and activities, with most institutions reluctant to

⁵⁷ OIE. Contributing to One World, One Health* A Strategic Framework for Reducing Risks of Infectious Diseases at the Animal–Human–Ecosystems Interface. <https://www.oie.int/doc/ged/D5720.PDF>

⁵⁸ OIE. Contributing to One World, One Health. <https://www.oie.int/doc/ged/D5720.PDF>

broaden their remit too widely. Indeed, claims by FAO and WHO that they already function according to One Health principles arguably demonstrate their lack of active engagement with the initiative, and raises broader concerns about their commitment to change.⁵⁹

As far back as 2011, the National Collaborating Centre for Environmental Health had flagged the fact that the strategic framework for the implementation of One Health has been predominately focused on curbing the emergence of zoonotic disease within the human, animal interface with little focus on the ecosystem. Now UNEP is part of the One Health council, there is an opportunity for this to be remedied, but this will take an entirely different approach, based on prevention and precaution. The Collaborating Centre also pointed out that capacity can be a challenge for government bodies, as not all countries have the ability to support a One Health agenda. This lack of resources and informed personnel may prove a barrier in establishing networks between animal, human, and environmental health professionals.⁶⁰

Even the CDC, which has long supported a One Health approach both domestically and globally, is very much focussed on emerging zoonotic diseases. It prioritises a process that builds collaboration across disciplines and sectors to “focus limited resources on preventing, detecting, and responding to those zoonotic diseases of greatest national concern”.⁶¹

The specific goal of the 2010 Stone Mountain meeting was to identify clear and concrete actions to move the concept of One Health from vision to implementation, taking into account past meetings and pronouncements. A meeting overview was prepared, entitled “Operationalizing One Health: A Policy Perspective—Taking Stock and Shaping an Implementation Roadmap”.⁶² This identifies seven specific activities which they felt were critical steps in attaining the defined 3-5 years vision, and separate workgroups were formed to address each of these activities. These were covered by these themes:

Training: Develop and build skills, expertise, and competencies.

One Health Global Network (OHGN): Advocate and garner international support for One Health through a network.

Information Clearing House: Promote One Health advocacy through a centralised area where One Health success stories and lessons learned are gathered.

Needs Assessment: Develop country-level self-assessment methods that will identify programmatic areas that could benefit from a One Health approach.

⁵⁹ Kelley Lee, Zabrina L. Brumme. Operationalizing the One Health approach: the global governance challenges. <https://academic.oup.com/heapol/article/28/7/778/826736>

⁶⁰ National Collaborating Centre for Environmental Health. One Health: A Primer https://ncceh.ca/sites/default/files/One_Health_Primer_Nov_2011.pdf

⁶¹ CDC. <https://www.cdc.gov/>

⁶² CDC. Operationalizing “One Health”: A Policy Perspective— Taking Stock and Shaping an Implementation Roadmap. <https://www.cdc.gov/onehealth/pdf/atlanta/meeting-overview.pdf>

Capacity Building: Identify ways to leverage existing programmes and capacity-building efforts to have a major impact at minimal cost.

Proof of Concept: Demonstrate through a retrospective and prospective evidence base that the use of One Health interventions leads to better cross-species health outcomes.

Business Plan: Articulate the concept of and rationale for One Health more clearly and present this information to policymakers and donors worldwide, using plans and partnerships within a designated timeframe.

The One Health Commission did eventually prepare a **strategic plan** (dated 2014).⁶³ But when examined, it shows its medical and veterinary leanings, with a strong emphasis on disease prevention and treatment, with the addition of brief coverage of “environmental and plant health”. See below its outcomes and key objectives.

Outcomes:

- Increased Interdisciplinary Programs / Teams
- Increased Information Sharing / Networking
- Improved Disease Prevention / Interventions
- Improved Approaches to Therapy
- Improved Public Health
- Improved Environmental and Plant Health
- More focused research on One Health issues

Key Objectives:

- Increase the number of speaking opportunities at major conferences and symposia annually.
- Expand and build traffic to the OHC website with links to related information and organizations.
- Create a One Health Commission email newsletter that provides abstracts and links to news concerning One Health and the Commission.
- Develop an annual One Health Symposium.
- Develop Op Eds, press releases and evaluate their effectiveness to advance One Health.
- Evaluate the use of on-line webinars (providing CE credits) for professionals regarding One Health
- Proactively seek to collaborate with like-minded organizations, through alliances and joint projects, programs and activities.

COVID-19 has provided a stark lesson of the inadequacy of this strategic plan and its approach. Furthermore, the environmental and animal emergency we are now facing will exacerbate the likelihood of future pandemics, and create other emergencies affecting our health and wellbeing. More radical and systemic action is required, and far more focus on prevention and tackling direct and indirect drivers. This should include a complete rehaul of the development paradigm, couple with proactive policy-making and effective implementation.

⁶³ One Health Commission. Strategic Plan.

https://www.onehealthcommission.org/en/why_one_health/strategic_plan/

Even though lip service is often paid to “systems thinking”, One Health implementation is still not approached holistically, with equal consideration to every part of an ecosystem. Different One Health partners still deal with their key interests. Organisations and departments do likewise. An ecosystem is a biological community of interacting organisms and their physical environment. In other words, a system. It is not a case of the health of plants and animals and the environment in which they live, but the health and well-being of a system, which includes animals, plants, humans and the environment. So, it goes without saying that One Health-One Welfare operationalisation must be using an ecosystems approach. The very least that should be demanded is a cross-analysis to ensure that any policies or programmes do not adversely impact the other elements of a system i.e., humans, animal or the environment. This links with two important principles: the precautionary principle and non-regression.

Much has been written about the dysfunctions that plague global health governance (GHG), and so simply grafting One Health onto existing structures and systems was likely to pose risks. The main criticisms of GHG are that it is based around a burgeoning number of uncoordinated initiatives, often around certain diseases – with resources allocated based on attractiveness to donors, public opinion, foreign, economic or security policy priorities and so on—rather than health need. The key fault lines on GHG are the tension between this vertical (disease-focussed) approach and the horizontal (systems-focussed) approach which is increasingly recognised as needed. The One Health approach has been particularly challenging to operationalise in this context.⁶⁴

Another related problem has been the current human-centric prioritisation, which would need to be reframed towards a holistic perspective that values the three pillars equally. This would require a realignment of professional values, interests and goals between the three disciplines, underpinned by institutional factors such as authority and resource allocation.⁶⁵

The alignment of values, interests and goals is a challenge when there is not a corresponding development paradigm (as explained above), backed by a corresponding financial/economic framework.

What More is Needed for Effective Operationalisation?

The above examination of the history of One Health and its operationalisation clearly shows the work that has already been done on operationalisation – in theory and understanding, if not in practice. As the analysis shows, much more is needed to build and implement a successful One Health-One Welfare system.

⁶⁴ Kelley Lee, Zabrina L. Brumme. Operationalizing the One Health approach: the global governance challenges. <https://academic.oup.com/heapol/article/28/7/778/826736>

⁶⁵ Kelley Lee, Zabrina L. Brumme. Operationalizing the One Health approach: the global governance challenges. <https://academic.oup.com/heapol/article/28/7/778/826736>

Starting with the need to prevent future pandemics, the UNEP/ILRI report “[Preventing the next pandemic - Zoonotic diseases and how to break the chain of transmission](#)”⁶⁶ is a useful first step. A bare minimum would be to address the seven disease drivers which this identifies. These cover areas as diverse as human consumption patterns, agriculture and food, urbanisation, land use change, extractive industries, travel and transport, as well as environmental and animal issues. The extent of these issues is another indication of the need to move beyond One Health to One Welfare. The present One Health Council members could truly cooperate on the policies and programmes needed to impact these drivers, and the vehicles for implementing these (thus working towards One Welfare).

The [Animals Manifesto](#)⁶⁷ should also be thoroughly examined for additional preventative measures needed with respect to animals and their use and welfare. This contains far more detail and advice on animal issues than does the UNEP/ILRI report. WHO, OIE and UNEP have now recommended that countries suspend trade in live wild mammals for food and close sections of food markets selling these animals.⁶⁸ This is a good start, but much more is needed, including both a much more comprehensive study of prevention and careful consideration of how the policy framework can be moved beyond advice to action. What would be the best way to ensure implementation – for example, a convention or treaty?

Whilst there is a pressing need to address animal issues, clearly other environmental and human aspects of health and wellbeing must also be addressed. To do this effectively, in a way that ensures effective operationalisation, the following would be needed:

- A new development paradigm based on flourishing/thriving of people, animals and nature (see above).
- A supportive economic system – such as Doughnut Economics with animal welfare added.
- Integration into the 2030 Agenda – including the addition of animal health and welfare into the goals.
- One Welfare – the proactive development of policies and programmes which target root causes and drivers.
- One Welfare policies need to run through every institution, organisation and department – in a systemic and consistent way, across silos.
- One Welfare policies also need to run through every level – from international, to regional, to national, to local.
- The introduction of a system to build in prevention, and uphold the principles of “precaution” and “non-regression”. For example, impact assessments not just for environmental impacts, but also for animal welfare impacts and social wellbeing impacts.
- Government structures – both dedicated department and mainstreaming.

⁶⁶ UNEP. Preventing the next pandemic - Zoonotic diseases and how to break the chain of transmission. <https://www.unep.org/resources/report/preventing-future-zoonotic-disease-outbreaks-protecting-environment-animals-and>

⁶⁷ WFA. The Animals Manifesto. <https://pub.lucidpress.com/1c6e4a02-2bae-4656-a238-333d956dc2a0/#VpP~8 R-MDuR>

⁶⁸ WHO. Sale of live wild mammals in traditional food markets. <https://www.who.int/news-room/q-a-detail/sale-of-live-wild-mammals-in-traditional-food-markets>

- Matrix management – integrating interests of people, animals, nature, and mainstreaming across other issues.
- Capacity building.
- Science/research, development and application.
- Education and awareness development.
- An implementation system with strong enforcement and monitoring and evaluation frameworks.

It would be a big task to change to a new development paradigm, and supportive economic system – but this is well overdue. In order to achieve this, national development planning and international development assistance would need to be radically changed.

Development policies, funding and projects should focus on positively building the well-being of humans, animals and the environment, as well as ensuring no harm. In many cases that would mean planning and implementing a humane, sustainable and equitable transition.

The pre-eminence of economic growth has placed profit above humans, nature and animals, and given corporations carte-blanche to exploit and commoditise, rolling back regulation and borders, supported by government subsidies and incentives, and without paying for the costs of “externalities”. New systems would be needed to:

- Regulate corporations to protect people, animals and the environment over profit.
- Finalise the development of an international legally binding instrument to regulate transnational corporations.
- Ensure that corporate responsibility and accountability are consistent in all regions where companies do business.
- Implement extended producer responsibility. For example, there should be strong regulation to protect against climate change impacts, biodiversity loss and pollution, and holding transgressors accountable.
- Remove all perverse subsidies and incentives; and refocus on the transition to sustainable, environmentally-friendly and animal welfare compliant alternative products.
- Change the “free-trade” system, to ensure that trade and profit do not take precedence over policy objectives designed to increase sustainability, environmental protection, and the welfare of people and animals.
- Develop sustainable consumption and production – through product pricing, product criteria and labelling, education and consumer awareness.

Economic systems would also have to be adapted to reflect the need for measurements which reflect what is important and meaningful to the well-being of people, animals and nature? Economist Tim Jackson has written two exceptional books on this issue. His first book *Prosperity Without Growth*⁶⁹ was a challenge to conventional economics. It contained his key ideas and core vision of his research and policy work over three decades. First published as a report to the UK government in 2009, it rapidly became a landmark in the

⁶⁹ Prosperity Without Growth <https://timjackson.org.uk/ecological-economics/pwg/>

sustainability debate. His recent book *Post Growth*⁷⁰ is a “must read” - a manifesto for system change.

*Doughnut Economics*⁷¹, developed by economist Kate Raworth, is a promising base for a new model of economic assessment. This is built from an overlay of planetary and social boundaries. However, it is a “safety net” system, which doesn’t go as far as measuring well-being-thriving. And, it currently omits any aspects of animal health and well-being. This system could be tweaked to meet these additional needs, and work has been started on this.

This seems far-reaching, but One Health-One Welfare will never be effectively operationalised if the current development paradigm and economic systems remain – because the focus on business and money (coupled with the neoliberal system) is what has been imperilling the wellbeing of people, animals and the environment. Anthropocentric policy-making has landed us with our current multiple crises, and the looming threat of future pandemics. And isolated One Health-One Welfare interventions will never succeed against the prevailing policy framework.

Conclusions

There is an urgent need to move policy from One Health to the wider One Welfare. (In reality, One Health has already been expanding its coverage to embrace aspects of One Welfare).

There is also a need to link this advocacy to the need for a new primary development paradigm and supportive economic systems. *Doughnut Economics* is the most promising (and popular) alternative economic system, but in need of updating to include animal health and welfare. The SDGs must be linked into the operationalisation of the new development paradigm, and also be updated to include animal health and welfare.

Operationalisation of One Health-One Welfare has been taking far too long. The current multiple emergencies demand more extensive and more rapid action. Strong advocacy and exposés are needed for a move forward.

In the meantime, the bare minimum is to call for the precautionary principle and non-regression principles to be actioned. This could be achieved through impact assessments on all development and government funding and programmes. Much more could be done in COVID recovery programmes too.

To achieve effective operationalisation will take strategic and sustained advocacy. Working with and through international and regional organisations, and sympathetic countries, as well as with prospective allies from NGOs and sympathetic economists

NGOs should always be encouraged to consistently call for a changed development paradigm (and supportive economic systems) in their advocacy. And this should be linked to One Welfare. And vice-versa.

This is what is needed to achieve the operationalisation of One Health-One Welfare (and to begin to address the multiple emergencies facing the world today).

⁷⁰ Post Growth <https://timjackson.org.uk/ecological-economics/postgrowth-book/>

⁷¹ Kate Raworth. *Doughnut Economics*. <https://www.kateraworth.com/doughnut/>

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