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Nollkaemper, A.

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CHAPTER 11

The Quadripartite: Building Alliances between the WHO, the FAO, WOAH and UNEP

*André Nollkaemper**

1 Introduction

This contribution is written in honour of the work and legacy of Niels Blokker. Throughout his career, he has made significant contributions to the knowledge and understanding of the law and practice of international institutions. The field of international institutions is ever evolving to keep pace with the development of shared interests of states and the wider international community. The emergence of the little known Quadripartite, discussed in this contribution, is yet another example of the evolution.

Yuval Noah Harari observed that "modern industrial agriculture might well be the greatest crime in history".[1] Every year, billions of animals are born, live and die in industrialised farms where they are subjected to industrial management practices, with the aim of achieving maximum yields of output per animal.[2] Cattle, pigs, poultry, and sheep live and die together in overcrowded spaces or alone in narrow cages, leading to stress, aggression and inability to display natural behaviour, and experience additional suffering during transport and slaughter.

* The author is University Professor of International Law and Sustainability, University of Amsterdam.

1 Yuval Noah Harari, "Industrial Farming Is One of the Worst Crimes in History", in *The Guardian* of 25 September 2015.

2 Heinrich Böll Stiftung, *Meat Atlas 2021: Facts and Figures about the Animals We Eat*, available at <https://eu.boell.org/en/MeatAtlas>, accessed 25 December 2021; Marco Liverani a.o., "Understanding and Managing Zoonotic Risk in the New Livestock Industries", in *Environmental Health Perspectives* (2013), p. 873; James M. MacDonald, "CAFOs: Farm Animals and Industrialized Livestock Production", in Richard W. Hazlett (ed.), *The Oxford Encyclopedia of Agriculture and the Environment* (Oxford UP, 2020); William Gilbert a.o., "Review: Mitigating the Risks Posed by Intensification in Livestock Production: The Examples of Antimicrobial Resistance and Zoonoses", in *Animal: An International Journal of Animal Bioscience* vol. 15 (2021), pp. 100–123; G.M. Cronin a.o. "Lessons Learned from Past Experience with Intensive Livestock Management Systems", in *Revue scientifique et technique* (published by OIE) vol. 33 (2014), p. 139.

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While initially international law supported this process with a view to meet the nutritional needs of a growing population, in the past decades states and international institutions have sought to address the worst excesses of this situation. They allowed the World Organization for Animal Health (WOAH)[3] to transition from an organization solely focused on animal health problems that created risks for humans, to an organization that professes to protect animal welfare world-wide.[4] In 2005 it incorporated animal welfare standards in the Terrestrial Animal Health Code (TAHC),[5] a comprehensive international set of standards for the protection of farm animals, signalling that animal welfare "had become an issue for official attention at a global level".[6]

Although WOAH has achieved remarkable progress in the past two decades, its regime is limited in fundamental respects. The TAHC is not legally binding, it lacks concrete indicators of animal welfare, and its scope is limited. For the most part, it addresses conditions *inside* intensive animal farms. It does not provide regulations that may reduce the scale of industrial farming, by targeting the supply-side (e.g. reducing subsidies for intensive livestock farming, granting subsidies for organic farming, providing support for plant-based options and cultured meat) and/or the demand side (e.g. higher taxes on meat, labelling and information campaigns, supporting non-meat consumption in public catering, or financial support to help low-income households purchase food produced in an environmentally friendly manner).[7] Developing a regulatory approach that includes such supply and demand measures presents a huge challenge at the national and regional levels (where the EU is a frontrunner

3 In 1924, the WOAH was set up as the International Agreement for the Creation of an Office International des Épizooties (OIE). The organization used the name OIE – also in English language documents – until May 2022, when the organization started to use the new name and acronym to provide more clarity to its mandate; see *The World Organisation for Animal Health launches its refreshed brand identity.* <https://www.woah.org/en/the-world-organisation-for-animal-health-launches-its-refreshed-brand-identity/>. In this article I will use the name WOAH, but I still will refer to OIE for older documents that used the initial name. See on the WOAH also the contribution by Klabbers elsewhere in this volume.

4 OIE – World Organisation for Animal Health, *Strategy*, available at <https://www.oie.int/en/who-we-are/strategy/>, accessed 13 March 2022.

5 *Terrestrial Animal Health Code* (as amended in May 2021 by the World Assembly of Delegates of the OIE), Art. 7.1.1. WOAH published the first edition in 1968; this edition as well as all later editions until 2004 were only concerned with animal health. For a rare discussion, see Anne Peters, *Animals in International Law* (2021), pp. 85–97.

6 David Fraser, "Toward a Global Perspective on Farm Animal Welfare", in *Applied Animal Behaviour Science* vol. 113 (2008), pp. 330, 331.

7 Céline Bonnet a.o., "Viewpoint: Regulating Meat Consumption to Improve Health, the Environment and Animal Welfare", in *Food Policy* vol. 97 (2020), pp. 101847.

with its 'Farm to Fork' strategy),[8] and much more so at the global level. WOAH is not well positioned to push this agenda. Given world-wide differences in cultures, socio-economic situations, cultural values, consumer preferences and perspectives on animal welfare, states are unlikely to support a more demanding WOAH regime that is based on the intrinsic value of animal welfare.

In this situation, the activities of other international institutions are critical. Industrial animal farming does not only harm animals but also humans. A variety of international institutions have acted to address such impacts, in particular in relation to the global economy, human health and climate change. These institutions, that together form a regime complex for meat production,[9] include the World Health Organization (WHO), that has recognized the close connections between animal welfare and human health,[10] the Conferences of the Parties to the UN Climate Change Convention that could reduce the scale of the livestock industry to curtail climate change,[11] and the United Nations Environment Programme (UNEP) that aspires to reduce nitrogen pollution, which could require reductions in the scale of intensive farming.[12] The prospect for improved legal protection of the welfare of farm animals does not only depend on WOAH's own practices but also on the ability of WOAH to engage in alliances with these 'human-centred' international institutions.

In this paper, I will focus on one particular type of alliance. In 2010, FAO, OIE (now WOAH), and WHO formed the Tripartite to implement connected strategies.[13] In 2022, the Tripartite organizations partnered with the UNEP,

8 European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Farm to Fork Strategy for a Fair, Healthy and Environmentally-Friendly Food System*, (2020) COM/2020/381 final.

9 For the concept of regime complexity, see Karen J. Alter and Sophie Meunier, "The Politics of International Regime Complexity", in *Perspectives on Politics* vol. 7 (2009), p. 13; Thomas Gehring and Benjamin Faude, "The Dynamics of Regime Complexes: Microfoundations and Systemic Effects", in *Global Governance* vol. 19 (2013), p. 119.

10 Colin Kinniburgh, "Covid-19: How the Meat Industry Became a Global Health Liability", at *France 24*, 24 May 2020.

11 Zoran Petrovic a.o., "Meat Production and Consumption: Environmental Consequences", in *Procedia Food Science* vol. 5 (2015), p. 235; Quirin Schiermeier, "Eat Less Meat: UN Climate-Change Report Calls for Change to Human Diet", in *Nature* (2019), p. 291.

12 Susan J. Kraham, "Environmental Impacts of Industrial Livestock Production", in Gabriela Steier and Kiran K. Patel (eds.), *International Farm Animal, Wildlife and Food Safety Law* (Springer, 2017), available at <https://doi.org/10.1007/978-3-319-18002-1_1>, accessed 22 April 2022.

13 See *The FAO-OIE-WHO Collaboration. Sharing Responsibilities and Coordinating Global Activities to Address Health Risks at the Animal-Human-Ecosystems Interfaces. A Tripartite Concept Note* (2010).

turning the Tripartite into a Quadripartite.[14] I will assess how WOAH, through its alliances with other international institutions, notably in the Quadripartite, has attempted to advance the goals of animal welfare and assess what lessons we can draw from this collaboration for cooperation between international institutions.

2 Framework for Understanding Alliances between International Institutions

To analyse WOAH's animal welfare alliances, I will draw on the conceptual framework and theoretical insights developed in research on regime complexes,[15] governance by 'orchestration'[16] and diffusion of norms.[17] From this literature, we can infer that international organizations will engage in alliances with other international organizations (and sometimes NGOs or other actors) when they have ambitious governance goals but only moderate governance capacity and when they are nested in a regime complex with other institutions with (wholly or partly) overlapping goals and relevant capabilities.[18] Engaging in such alliances can then help an organization pursue its goals.[19]

For international institutions, alliances are an indirect form of governance. While most organizations eventually seek to achieve their objectives by impacting directly on the practices of states or private actors ('target actors') that are material to the goals of the organization, in an alliance, an international organization does not target such actors directly; but rather works with 'intermediary actors'. Such intermediaries bring capabilities (e.g., rulemaking power, expertise, political support) to the table that the organization itself does not have to strengthen its ability to impact the practice of target actors.[20]

14 See *UN Environment Programme Joins Alliance to Implement One Health Approach* (World Health Organization, 18 March 2022).

15 For the concept of regime complexity, see the sources mentioned *supra* note 9.

16 The term orchestration is somewhat misleading. It has a connotation of one-directedness, whereas in most cases one cannot really speak of one organization 'orchestrating' another organization, but rather of collaboration between two or more international organizations that seek shared or overlapping goals.

17 Michael Zürn, André Nollkaemper and Randall Peerenboom, "Introduction: Rule of Law Dynamics in an Era of International and Transnational Governance", in Zürn, Nollkaemper and Peerenboom (eds.), *Rule of law dynamics in an era of international and transnational governance* (Cambridge UP 2012).

18 Kenneth W. Abbott a.o., "Orchestrating Global Governance: From Empirical Findings to Theoretical Implications", in *APSA 2014 Annual Meeting Paper*.

19 *Ibidem*.

20 Jaye Ellis, "Calculative Practices in International Environmental Governance: In (Partial) Defence of Indicators", in *Transnational Environmental Law* vol. 9 (2020), p. 297; Thomas

Such indirect governance is relevant to WOAH, which has high ambitions to protect animal welfare in the meat industry but whose ability to induce change in policies and practices of states and corporations is constrained by its restrictive mandate and limited financial and administrative resources. WOAH therefore has engaged in alliances with a variety of other organizations (at global level WHO, FAO, and UNEP but also regional and non-governmental organizations), which give it access to governance capabilities that WOAH itself lacks – such as different regulatory instruments, technical expertise, enforcement capacity, material resources, legitimacy and direct access to target actors.[21]

For identifying, describing and evaluating the practices of alliances in the field of animal welfare, this paper will use three theoretical propositions developed in prior scholarship. First, alliances are more likely to contribute to the goals of an international organization when the intermediaries, with whom it forms the alliance, have correlated goals. Conversely, the intermediary's willingness to participate in an alliance depends on whether its goals are aligned or compatible with those of the 'orchestrator'. Aligned goals may derive from shared norms, values or principles laid down in the constituting treaties or mandates of the relevant actors. They also may be socially constructed through diffusion of norms, influenced by international organizations. On this point, the insights of the literature on norm diffusion are relevant.[22] Alliances also may lead to an adjustment of goals or the articulation of new ones.[23] However, correlating goals do not necessarily imply harmony. Goals may overlap in part and conflict in other respects; intermediaries may have different substantive or organizational priorities that clash with the orchestrator's goals.

Second, the possibility that an organization will be successful in engaging in alliances that help it to pursue its goals, depend on whether it has something to offer to the other partners in the alliance. An organization will be more successful if it can offer support, or added capabilities, to intermediaries in an alliance. For instance, it can offer normative guidance on governance issues and

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Gehring and Sebastian Oberthür, "The Causal Mechanisms of Interaction between International Institutions", in *European Journal of International Relations* vol. 15 (2009), p. 125; Thomas Gehring and Sebastian Oberthür, "Exploring Regime Interaction", in Arild Underdal and Oran R Young (eds.), *Regime Consequences: Methodological Challenges and Research Strategies* (Springer, 2004); Ellen Hey and Federica Violi, "The Hard Work of Regime Interaction: Climate Change and Human Rights", *Preadvies Koninklijke Nederlandse Vereniging voor Internationaal Recht* [Conference Paper, Royal Netherlands Society of International Law] (2018); Olav Schram Stokke, *The Interplay of International Regimes: Putting Effectiveness Theory to Work* (Fridtjof Nansen Institute, 2001).

21 Jeffrey L. Dunoff, "A New Approach to Regime Interaction", in Margaret A. Young (ed.), *Regime Interaction in International Law: Facing Fragmentation* (Cambridge UP, 2012).

22 Zürn a.o. (*supra* note 17).

23 Dunoff (*supra* note 21); Hey and Violi (*supra* note 20).

plausible policy solutions for such issues; such guidance may influence priorities of intermediaries and help them define their strategies. Organizations also may provide material support, such as financial or administrative assistance or technical expertise; thereby, they can strengthen intermediaries' operational capacities to pursue shared objectives. International organizations can also empower intermediaries by endorsing them as competent and legitimate and by formally recognizing their activities. They can also increase the impact of intermediaries by coordinating their activities; this may both serve the orchestrator's goals and enhance the intermediaries' effectiveness.[24]

Third, alliances are more likely to contribute to the goals of an international organization when intermediary organizations have capabilities that can compensate for capabilities that the organization lacks. When an organization lacks elements of regulatory competence, operational capacity, and/or legitimacy to unilaterally achieve its objectives vis-à-vis target actors, intermediaries can provide such missing capabilities. Alliances may also help an organization develop its capabilities and expand its authority beyond its initial powers. They may allow the organization to enhance its expertise and legitimacy and pursue more demanding governance modes or to expand into areas it was not previously capable of addressing.[25]

Each of these theoretical insights is relevant for analysing and evaluating the practice of collaboration between organizations in the global animal welfare regime. In the following sections, I will explore how these benefits have actually materialized.

3 WOAH's Animal Welfare Standards

From the perspective of animal welfare, the animal welfare standards adopted by WOAH lie at the heart of the strategic alliances in the Quadripartite. In the early part of the 20th century, states recognized the risks of an unrestrained transnational process of meat production. As animal diseases spread to humans and crossed boundaries, states tried to curtail such risks by imposing trade restrictions.[26] In 1924 twenty-eight states established what is now WOAH and agreed that traded meat products had to be accompanied by sanitary

24 Abbott a.o. (*supra* note 18).

25 Cornis van der Lugt and Klaus Dingwerth, "Governing Where Focality Is Low: UNEP and the Principles for Responsible Investment", in Kenneth Abbott a.o. (eds.), *International Organizations as Orchestrators* (Cambridge UP, 2015).

26 Sylvain Kahn, "Animal Welfare in the Context of World Trade Organization Dispute Settlement", in *Revue scientifique et technique* vol. 39 (2020), p. 69.

documents provided by properly organized veterinary services; only such documents could sufficiently guarantee food safety.[27]

While initially WOAH's role was limited to contagious animal diseases,[28] eighty years after its establishment WOAH has assumed a central role in the global regime for the protection of the welfare of animals.[29] Considerations that drove this change appeared to be that animal health and animal welfare were inextricably linked and the need for guidance to assist states in international trade and bilateral negotiations.[30] In its 2001–2005 Strategic Plan, the Member Countries prioritised animal welfare and agreed that the WOAH must provide international leadership.[31] In 2002, the organization formally adopted an animal welfare mandate.[32]

The TAHC is the primary normative instrument by which WOAH has given substance to its leadership role;[33] it is the single most authoritative global instrument for protecting farm animals. Based on a broad definition of animal welfare,[34] it articulates standards for production systems for beef cattle,[35] chicken,[36] and pigs.[37] Given differences in socio-economic situations, cultural

27 International Agreement for the Creation of an Office International des Epizooties in Paris (25 Jan. 1924), 57 LNTS 135.

28 Organic Statutes of the OEI (adopted 25 Jan. 1924, 57 LNTS 135, hereafter Organic Statues), Art. 4.

29 Gardner Murray, Katherine Ashley and Rasto Kolesar, "Drivers for Animal Welfare Policies in Asia, the Far East and Oceania", in *Revue scientifique et technique* vol. 33 (2014), pp. 77, 78.

30 A. Petrini and D. Wilson, "Philosophy, Policy and Procedures of the World Organisation for Animal Health for the Development of Standards in Animal Welfare", in *Revue scientifique et technique* vol. 24 (2005), pp. 665, 666.

31 *Ibidem*.

32 OIE, Res. XIV on the Animal Welfare Mandate of the OIE, 70th Gen. Sess., OIE Doc. 70GS/FR (May 26–31, 2002), at pp. 31–33. See Peters (*supra* note 5), pp. 86–89.

33 TAHC, *supra* note 5.

34 An animal experiences good welfare if it is "healthy, comfortable, well nourished, safe, is not suffering from unpleasant states such as pain, fear and distress, and is able to express behaviors that are important for its physical and mental state"; and good animal welfare requires "disease prevention and appropriate veterinary care, shelter, management and nutrition, a stimulating and safe environment, humane handling and humane slaughter or killing"; *ibidem*, Article 7.1.1. See also David Fraser, "Understanding Animal Welfare", in *Assessment of Animal Welfare Collection* (2008). And see Caroline J. Hewson, "What Is Animal Welfare? Common Definitions and Their Practical Consequences", in *The Canadian Veterinary Journal* vol. 44 (2003), pp. 496, 496, defining animal welfare as comprising "the state of the animal's body and mind, and the extent to which its nature (genetic traits manifest in breed and temperament) is satisfied".

35 TAHC, *supra* note 5.

36 *Ibidem*, at Chapter 7.10.

37 *Ibidem*, at Chapter 7.13.

values and consumer preferences across the world, the fact that the WOAH succeeded in getting these standards adopted by representatives of (now) 182 states in the WOAH's World Assembly of Delegates was a remarkable achievement.

The TAHC, and its contribution to the protection of farm animals is limited in three respects, however. First, like all normative instruments adopted by WOAH, the TAHC is not a legally binding document.[38] States remain free to engage in meat production processes causing great suffering to animals, without facing legal consequences.

Second, the TAHC has a narrow scope in addressing the causes of animal suffering. It mainly regulates production systems for farm animals, addressing such matters as animal health management, temperature, lighting, air quality, nutrition, stocking density, resting areas, castration, tail docking, transport (for instance, addressing the time animals should spend on a journey, the competency of animal handlers, the availability of water and feed, and inspection)[39] and slaughter (e.g. stunning practices).[40] It does not include measures that address supply or demand side for meat, that may be required for addressing structural causes of suffering of farm animals. WOAH appears to have accepted intensive livestock farming as a given or has found reform of industrial farming beyond its mandate, and on that basis has addressed specific welfare threats within that practice such as space, animal feed and conditions of transport and slaughter.

Third, the definition of animal welfare in the THAC and the standards that it incorporates are formulated in general terms, which may be interpreted differently by different actors in different regions.[41] Most standards lack concrete indicators that would make it possible to determine whether or not a particular standard is actually complied with, and producers, veterinarians and other actors have leeway to make choices that fit the local context.[42] This is not to suggest that in 2005 more could have been done, given diversity on this topic, but it is a dominant feature that limits the ability to rely on the standards to push for a change in animal welfare practices.

Within these three limitations, WOAH faces the challenge of getting these standards accepted and implemented by the relevant actors, in particular

38 The only legal obligation stemming from the Organic Statutes of the OEI is that member states must notify disease status and disease control measures to the OIE; see Organic Statues, Art.5. This legal obligation does not pertain to the TAHC.

39 TAHC (*supra* note 5), at Chapter 7.3.

40 *Ibidem*, at Art. 7.5.10.

41 Bonnet a.o. (*supra* note 7).

42 Peters (*supra* note 5), pp. 89–90.

states, meat-producing corporations, and veterinarians. However, the ability of WOAH to support the implementation of the TAHC by these actors is limited by the resources that its members and other parties have given it. Its budget is just over 42,5M USD,[43] compared to about 195M USD for the World Trade Organization (WTO),[44] USD 872M for UNEP,[45] USD 3.25 billion for the FAO[46] and USD 6,72 billion for the WHO.[47] These differences give some idea of the differences in political weight attached to animal welfare as compared to other public policy issues. They also highlight the fact that WOAH cannot operate alone, but depends on cooperation with other international institutions.

4 WOAH and the WHO

WOAH has found some allies in institutions engaged with the protection of human health from the adverse consequences of meat production and consumption. In response to such adverse effects (the FAO observed that "livestock health is the weakest link in our *global health chain*"[48]), WOAH has engaged in alliances in relation to antimicrobial resistance and infectious diseases.[49]

The practice of providing large doses of antimicrobials to cattle contributes to antimicrobial resistance (AMR) and related health problems for humans.[50]

43 WOAH, *OIE 88th General Session Financial Summary Report* (2020), available at <https://web.oie.int/downld/SG/2021/A_88SG_OIE_Financial_Summary.pdf>, at p. 3.

44 WTO, *WTO Annual Report* 2022, available at <https://www.wto.org/english/res_e/booksp_e/anrep_e/ar22_e.pdf>, at p. 208.

45 UNEP, *Programme of work and budget for 2022–2023*, UNEP/EA.5/3/Add.1, Dec. 2022, § 48, at p. 37.

46 FAO, *Adjustments to the Programme of Work and Budget 2022–23*, CL 168/3, Oct. 2021, at p. 15.

47 WHO budget, available at <https://www.who.int/about/accountability/budget>.

48 FAO, *World Livestock 2013. Changing Disease Landscapes* (2013); Evelyne Battaglia Richi a.o., "Health Risks Associated with Meat Consumption: A Review of Epidemiological Studies", in *International Journal for Vitamin and Nutrition Research* (2015), p. 70; Charles H.J. Godfray a.o., "Meat Consumption, Health, and the Environment", in *Science* (2018); Leo Horrigan, Robert S. Lawrence and Polly Walker, "How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture", in *Environmental Health Perspectives* (2002), p. 445.

49 There are also examples of alliance without WOAH involvement, e.g. in relation to the international food standards of the Codex Alimentarius of the FAO and the WHO; see FAO/WHO, *Codex Alimentarius – Code of Practice to Minimize and Contain Antimicrobial Resistance* (2005) CXC 61–2005.

50 The World Bank estimated that low-income countries will experience larger declines in economic growth, thereby further increasing economic inequality and potentially driving an additional 24 million people into extreme poverty by 2030 and that by 2050, global

Initiatives to curtail the use of antibiotics with a view to protect human health, may benefit farm animals.[51] Given that the entire architecture of industrialised meat production was in large premised on antibiotics;[52] substantial reductions in the use of antibiotics may spur alternative, less intensive ways of farming.

Based on the partly overlapping goals, WOAH brings something to the table in the alliance that can benefit the WHO and the other institutions. WOAH has direct access to the meat production sector, which the WHO lacks. It incorporated standards for the use of antibiotics for animals in the TAHC[53] and adopted a list of Antimicrobial Agents of Veterinary Importance that indicates when providing a particular antimicrobial agent is compatible with the principle of responsible and prudent use.[54] Some of this is expressly aimed at protecting human health. For instance, the WOAH Working Group on Antimicrobial Resistance has been given the mandate to "maintain a global perspective and foresight on antimicrobial resistance regarding animal health and the interface *with human health*, food production and the environment".[55]

Conversely, the WHO has the expertise that adds capabilities to WOAH, and that can benefit WOAH's goals to reduce antibiotics in animals with a view to protecting animal welfare. Examples are the WHO's List of Critically Important Antimicrobials for Human Medicine and the WHO Guidelines on Antimicrobials, which attribute weight to the need to protect animal welfare by ensuring the availability of antimicrobials to treat sick animals.[56] The collaboration between the institutions also led to the joint recommendation to

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increases in health-care costs could range from $300 billion to more than $1 trillion per year and a decline in global livestock production could range from 2.6 per cent to 7.5 per cent per year. See Report of the Secretary-General, *Follow-up to the Political Declaration of the High-Level Meeting of the General Assembly on Antimicrobial Resistance* (2019), UN Doc A/73/869.

51 Claas Kirchhelle, "Pharming Animals: A Global History of Antibiotics in Food Production (1935–2017)", in *Palgrave Communications* vol. 4 (2018), p. 1, noting that "regulating these supply chains and reducing antibiotic consumption will require global solutions".

52 Ignacio R. Castanon, "History of the Use of Antibiotic as Growth Promoters in European Poultry Feeds", in *Poultry Science* (2007), p. 2466.

53 TAHC (*supra* note 5), at par. 6.10.2.

54 See *List of Antimicrobial Agents of Veterinary Importance Adopted by WOAH* (Res. No. XXVIII, May 2007).

55 OIE Working Group on Antimicrobial Resistance, Terms of Reference.

56 *Ibidem*. See also Lawrence O. Gostin, Mary Clare DeBartolo and Rebecca Katz, "The Global Health Law Trilogy: Towards a Safer, Healthier, and Fairer World", in *The Lancet* (2017), pp. 1918, 1921–1922, suggesting that the International Health Regulations should address the integral connections existing between the health of people, animals, and the environment, and the WHO should therefore embody the One Health concept in these regulations as a legal basis for working with complementary organizations.

reduce the use of antimicrobials when not needed for the treatment of diseases of individual animals.[57] These instruments, if properly implemented, can help to protect both human health and animal welfare. Based on the 2022 Strategy, the alliance also aims to strengthen the capacity of states to implement 'one-health responses' to AMR by aligning legislation and regulations with international standards[58] – an example where the alliance will be able to do much more than what WOAH could do alone.

Another potential lead to reform industrial farming is the risk that such farming may cause infectious diseases. A recent study found that agricultural practices have been associated with more than 50 percent of zoonotic infectious diseases that have emerged in humans, and that this number is likely to increase as agriculture expands and intensifies.[59] While in relation to COVID-19 much attention has focused on the interaction between humans and wild animals, also industrialized meat production creates risks of infectious diseases[60] and indeed can create pandemic risks.[61] Drivers are the increased scale of disease impact, the immunosuppression of intensively farmed animals, and the risks associated with transportation.[62]

In some situations regulation of meat production to protect human health may have beneficial impact on animal welfare, in particular when they would lead to reduction of production and consumption.[63] It is here where the agendas of WOAH and the WHO intersect. The One Health Strategy that WOAH,

57 Ad hoc Interagency Coordination Group (IACG) on Antimicrobial Resistance. This aim was included in the 2013 Chennai Declaration, that recommends 80% compliance with the rule that antibiotics used for human treatment will not be used for growth promotion in food animals; see *Indian Journal of Medical Microbiology* vol. 32 (2014), p. 221.

58 Strategic Framework for Collaboration on Antimicrobial Resistance – Together for One Health – WOAH – World Organisation for Animal Health.

59 Jason R. Rohr a.o., "Emerging Human Infectious Diseases and the Links to Global Food Production" in *Nature Sustainability* vol. 2 (2019), p. 445.

60 Richard Coker a.o., "Towards a Conceptual Framework to Support One-Health Research for Policy on Emerging Zoonoses", in *The Lancet* (2011), p. 11; Leah Garcés, "COVID-19 Exposes Animal Agriculture's Vulnerability", in *Agriculture and Human Values* (2020); Courtney G. Lee, "Industrial Animal Agriculture in the Pandemic Spotlight" (SSRN Scholarly Paper ID 3810976); Romain Espinosa, Damian Tago and Nicolas Treich, "Infectious Diseases and Meat Production", in *Environmental & Resource Economics* (2020); Liverani a.o. (*supra* note 2).

61 UNEP and International Livestock Research Institute, *Preventing the next Pandemic: Zoonotic Diseases and How to Break the Chain of Transmission* (2020); Espinosa a.o. (*supra* note 60); Peter Daszak and others, *IPBES Workshop Report on Biodiversity and Pandemics* (Intergovernmental Platform on Biodiversity and Ecosystem Services, 2020).

62 Coker a.o. (*supra* note 60); Espinosa a.o. (*supra* note 60).

63 Moreno Di Marco a.o., "Opinion: Sustainable Development Must Account for Pandemic Risk", *Proceedings of the National Academy of Sciences of the United States of America* vol. 117 (2020), p. 3888; Espinosa a.o. (*supra* note 60).

the WHO, the FAO and UNEP adopted in 2022 expressly recognized farming as a potential driver of pandemics and recognized the need for regulation of farming as a risk mitigation measure,[64] and thus provides for correlating goals. This alliance can be beneficial for both institutions. WOAH brings expertise and direct access to practices of veterinarians and other actors involved in animal farming; WHO brings expertise on human health risks and, potentially, a more developed institutional machinery and much larger resources. On this basis, the alliance could give concrete meaning to the general obligation of preventing pandemics as recognized by the 2021 resolution of the *Institut de Droit International* (IDI), for instance, by requiring states to improve regulation of the production of meat and reduce its consumption.[65]

However, concrete initiatives have yet to emerge to regulate farming as a risk mitigation strategy. This certainly is not on the agenda of the WHO; even though the WHO mandate extends to diseases and risks stemming from industrial meat production, the treatment of animals and reform of the intensive farming sector is outside the agenda of the WHO. The ongoing revisions of the International Health Regulations do not move in that direction.[66] The same is true for the global pandemic prevention, preparedness, and response instrument.[67] WOAH does not appear to have been a relevant participant in this process.

It follows that while the risks that intensive meat production poses for human health have allowed WOAH to work with other organizations to address such risks, these alliances have not resulted in regulatory strategies to address the root causes of such risks beyond the animal health and welfare standards

64 *One Health Joint Plan of Action Launched to Address Health Threats to Humans, Animals, Plants and Environment* (WOAH – World Organisation for Animal Health, 17 October 2022), p. 27, available at <https://www.woah.org/en/one-health-joint-plan-of-action-launched-to-address-health-threats-to-humans-animals-plants-and-environment/>, accessed 22 October 2022.

65 Espinosa a.o. (*supra* note 60); *Meat Atlas 2021* (*supra* note 2), p. 47; Lawrence Gostin, "Strengthening International Legal Authorities to Advance Global Health Security", in *Bill of Health*, 29 Sept. 2021, available at <http://blog.petrieflom.law.harvard.edu/2021/09/29/pandemic-treaty-health-security/>, accessed 15 July 2022.

66 Nasiya Daminova, "The First Working Draft of the WHO's 'Pandemic Treaty': Attempting to Cover Normative Gaps Indicated by the COVID-19 Pandemic?", in *EJIL:Talk!* (13 October 2022), available at <https://www.ejiltalk.org/the-first-working-draft-of-the-whos-pandemic-treaty-attempting-to-cover-normative-gaps-indicated-by-the-covid-19-pandemic/>, accessed 22 October 2022.

67 WHO, *First Meeting of the Intergovernmental Negotiating Body to Draft and Negotiate a WHO Convention, Agreement or Other Instrument on Pandemic Prevention, Preparedness and Response*, UN Doc A/INB/1/10 (1 June 2022).

of WOAH that currently are in place. It remains to be seen whether the risks are given sufficient weight to allow WOAH, the WHO, and other actors to articulate an evidence-based strategy to assess the risks of intensive meat production.[68]

5 WOAH and UNEP

WOAH can find a separate set of allies for its animal welfare agenda in institutions seeking to address meat production's adverse environmental effects. Intensive livestock production has resulted in a range of other environmental problems,[69] and regulations that aim for environmental protection from meat production may need to lead to restrictions on intensive farming.

For instance, intensive livestock production is a significant source of nitrogen emissions. Application of synthetic nitrogen fertiliser and manure to cropland and grassland and the management, accumulation and transport of manure result in risks for both ecosystems and humans in the form of air pollution, pollution of freshwater and coastal areas, and loss of biodiversity.[70] There is good authority for the proposition that "a reduction in the production and consumption of livestock products is probably necessary to keep global [nitrogen] emissions within planetary boundaries".[71]

Comparable to climate change policies, international regulatory policies addressing such environmental effects can benefit animal welfare. In the Netherlands, concerns over nitrate pollution have led to initiatives to introduce a subsidy programme for farms that go out of the business of intensive livestock farming and a scheme to reduce the number of dairy cows and young cattle.[72] Apart from reducing the size of livestock production, measures to

68 See, e.g., Gostin a.o. (*supra* note 56), pp. 1921–1922.

69 FAO, *Livestock's Long Shadow. Environmental Issues and Options*; Kraham (*supra* note 12); Thomas Banhazi, Andres Aland and Jörg Hartung, *Air Quality and Livestock Farming* (CRC Press, 2018); Brian Machovina, Kenneth J. Feeley and William J. Ripple, "Biodiversity Conservation: The Key Is Reducing Meat Consumption", in *Science of The Total Environment* vol. 536 (2015), p. 419.

70 Aimable Uwizeye a.o., "Nitrogen Emissions along Global Livestock Supply Chains", in *Nature Food* vol. 1 (2020), p. 437.

71 Joseph Poore and Thomas Nemecek, *Reducing Food's Environmental Impacts through Producers and Consumers* (2018), p. 987; Marco Springmann a.o., "Options for Keeping the Food System within Environmental Limits", in *Nature* (2018), p. 519; Uwizeye a.o. (*supra* note 70), p. 443.

72 NL Times, "More Nitrogen Polluters to Be Targeted; Most Farmers Claim No Negative Influence on Environment", available at <https://nltimes.nl/2022/10/22/nitrogen-polluters-targeted-farmers-claim-negative-influence-environment>, accessed 22 October 2022.

address nitrogen pollution include breeding, feeding and manure management in large-scale livestock farms[73] and distribution of livestock production.[74] While not all of such measures benefit animals (distribution just means suffering in different places; and in China, such measures aim to realize more livestock protein with fewer animals and less total pollution impact), policies aimed to reduce environmental advise effects of nitrogen on the environment and humans may well benefit animal welfare.

Also, in this field, we can identify a correlation between the goals of various international institutions. These include WOAH, FAO and UNEP, but the problem of nitrogen pollution is also on the agenda of the states parties to the Convention on Biological Diversity (CBD)[75] (that adopted the Aichi Biodiversity Targets, requiring that by 2020 pollution from excess nutrients be brought to levels that are not detrimental to ecosystem function and biodiversity),[76] the states parties to the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)[77] (which have called for the reduction of input from agriculture),[78] and the states parties to the Convention on Long-Range Transboundary Air Pollution (CLRTAP).[79]

Compared to the human health agenda, WOAH and FAO play a modest role here. The problem of nitrogen pollution was not addressed in the 2022 One Health Action Plan. However, FAO has engaged in a widespread programme to develop information on livestock and the environment[80] and has set up a

73 Zhiping Zhu a.o., "Integrated Livestock Sector Nitrogen Pollution Abatement Measures Could Generate Net Benefits for Human and Ecosystem Health in China", in *Nature Food* vol. 3 (2022), p. 161; J. Dijkstra, O. Oenema and A. Bannink, "Dietary Strategies to Reducing N Excretion from Cattle: Implications for Methane Emissions", in *Current Opinion in Environmental Sustainability* vol. 3 (2011), p. 414.

74 Zhaohai Bai a.o., "Relocate 10 Billion Livestock to Reduce Harmful Nitrogen Pollution Exposure for 90% of China's Population", in *Nature Food* vol. 3 (2022), p. 152.

75 Convention on Biological Diversity (CBD) of 5 June 1992, 1760 *UNTS* 79.

76 CBD, Key Elements of the Strategic Plan 2011–2020, Including Aichi Biodiversity Targets (2018).

77 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) of 22 September 1992, 2354 *UNTS* 67.

78 OSPAR Commission, *Nutrients in the Convention Area Inputs of Nutrients into the Convention Area Implementation of PARCOM Recommendations 88/2 and 89/4*.

79 Convention on Long-Range Transboundary Air Pollution (CLRTAP) of 12 November 1979, 1302 *UNTS* 217. On the application of this convention to nitrogen; see *Report of the First E-Briefing for the Nitrogen Working Group of the United Nations Environment Programme: Implementation of the UNEA-4 Resolution on Sustainable Nitrogen Management*, par. 42.

80 *Livestock and the Environment* (*LivestockEnv*), available at <http://www.fao.org/livestock-environment/en>, accessed 19 November 2022.

'Livestock Environmental Assessment and Performance Partnership', in which WOAH participates.[81]

As yet, none of this has led to regulation at the global level. In 2019, the UNEP Assembly set in motion a process to establish an inter-governmental mechanism to coordinate nitrogen policies.[82] After initial discussions indicated little support for a global convention,[83] the process is now expected to bring into existence a mechanism for inter-convention nitrogen coordination[84] among various conventions relevant to nitrogen emissions, including the CBD, the United Nations Framework Convention on Climate Change (UNFCCC),[85] CLRTAP, and the Global Programme for Action on the Protection of the Marine Environment from Land-based Activities (GPA), to enhance the consistency of actions taken by and the sharing of solutions among member states.[86] FAO and WOAH do not appear to be involved in this process.

The overall picture is that of a patchwork of international agreements that have articulated requirements for the livestock sector to reduce nitrogen emissions in varying degrees of detail but invariably stop short of legally binding restrictions on intensive animal farming. There are few indications that states see the threats of nitrogen emissions to the environment and human health as sufficiently serious to allow the UNEP-driven initiatives at the global level to lead to legal restrictions on intensive livestock production.

6 The Quadripartite

It appears from the above that institutional governance of animal welfare, food production, human health, and environmental protection has close connections. However, institutional fragmentation has hampered the effective addressing of these links. To address this problem, in 2010, FAO, OIE (now

81 'Partners | Livestock Environmental Assessment and Performance (LEAP) Partnership | Food and Agriculture Organization of the United Nations' <https://www.fao.org/partnerships/leap/partners/en/> accessed 19 November 2022.

82 UNEP, UN Environment Assembly, *Sustainable Nitrogen Management*, doc. Res. UNEP/EA.4/L.16 (28 March 2019).

83 Fourth Meeting of the International Nitrogen Management System (INMS-4). Summary of the High-Level Segment (2019).

84 Report of the First E-Briefing (*supra* note 79).

85 United Nations Framework Convention on Climate Change (UNFCCC) of 9 May 1992, 1771 *UNTS* 107.

86 Report of the First E-Briefing (*supra* note 79), at par. 56.

WOAH), and WHO formed the Tripartite, which was extended through a partnership with UNEP into the Quadripartite.

The Quadripartite is now the main governance forum for addressing the combined problems of animal welfare, food production, global health, and protection of the environment. This alliance between the four institutions is based on partly overlapping goals. For instance, a reduction in the use of antibiotics is suitable for animal welfare and human health alike. These overlapping goals are brought together in the overarching concept of One Health,[87] which is premised on the idea that the health of people, animals, and the wider environment are intertwined and must be addressed in a coordinated manner.[88] In 2022, the Quadripartite adopted a five-year action plan for One Health to provide for such coordinated policies.[89] The alliance also provided several policy documents relating to AMR, culminating in the 2022 joint WAOH, WHO, FAO and UNEP strategy.[90]

Potentially, the Quadripartite can provide each of the benefits of international institutional alliances identified in section 2. The alliance can contribute to the goals of each of the organizations since they, to some extent, have correlated goals derived from the constituting treaties and mandates of the four participating institutions.

The Quadripartite can also help pursue the individual organizations' goals. For instance, it can offer normative guidance on governance issues and plausible policy solutions for such issues. The institutions can also pool financial or administrative assistance or technical expertise, thereby strengthening their individual operational capacity objectives. It can contribute to the goals of individual institutions by providing capabilities that compensate for each organization's capabilities. For instance, in theory, WHO and UNEP can address other stakeholders other than WOAH and vice versa.

The results have been mixed in the few years since the initiation of the Quadripartite. Regarding goals, the animal welfare goals of WOAH only partly correlate to and may be furthered by, or undermined by, the human-centred

87 UNEP, UN Environment Assembly, *Animal Welfare – Environment– Sustainable Development Nexus*, Res. UNEP/EA.5/Res.1 (2 March 2022).

88 Ad hoc Interagency Coordination Group (IACG) on Antimicrobial Resistance, *No Time to Wait: Securing the Future from Drug-Resistant Infections* (2019).

89 One Health Joint Plan of Action (2022–2026) *Working Together for the Health of Humans, Animals, Plants and the Environment* (WOAH, 2022).

90 Strategic Framework for Collaboration on Antimicrobial Resistance – Together for One Health – WOAH, available at <https://www.woah.org/en/document/strategic-framework-for-collaboration-on-antimicrobial-resistance-together-for-one-health/>, accessed 9 October 2022.

goals of organizations like WHO and FAO. An illustration of the non-parallelism of the goals is the situations where to avoid the risk of human contamination, all animals at farms located in zones at high risk of a spread of disease were culled once a case was detected.[91] For instance, the African Swine Fever led to a contraction of more than 40 per cent of China's swine inventory (which represents almost a quarter of the global swine herd) within the first year.[92] Also, recent bird flu outbreaks have led to calls to shut down free-range chicken production, leading to another tension between human health and animal welfare.[93]

When combined under the One Health umbrella, the organizations' goals do not appear to be identical.[94] For instance, the respective policy documents of the organizations show that they define the AMR problem differently.[95] A survey among human and animal health practitioners revealed disagreements concerning prioritising human health, animal health, and economic considerations.[96] Indeed, One Health policy documents often frame the causality of human-animal relations as one-directional. Humans suffer from AMR, "while animals are presented mainly as potential risk factors for human health".[97] This framing entails that the values of the human health sector prevail above those of other non-human sectors.

As regards the benefits that WOAH may bring to the other partners in the Quadripartite, it appears that WOAH can, in particular, bring expertise and a network of stakeholders to the table, which may make it for the WHO, FAO and UNEP worthwhile to engage in an alliance with WOAH and work towards common goals. Conversely, WHO, FAO, and UNEP each bring their expertise and

91 Espinosa a.o. (*supra* note 60).

92 *Ibidem*. Another example is the decision of the Danish Government to cull 17 million minks after the report of mink-specific mutations of severe acute respiratory syndrome coronavirus 2 in humans; see Roger Frutos and Christian A Devaux, "Mass Culling of Minks to Protect the COVID-19 Vaccines: Is It Rational?", in *New Microbes and New Infections* vol. 38 (2020), 100816.

93 Tom Levitt, "The Birds Are All Back inside: Could This Be the End for Free-Range Eggs in the UK?", in *The Guardian* of 21 October 2022.

94 Steve Hinchliffe, "More than One World, More than One Health: Re-Configuring Interspecies Health", in Social Science & Medicine (2015), p. 129; Alena Kamenshchikova a.o., "Anthropocentric Framings of One Health: An Analysis of International Antimicrobial Resistance Policy Documents", in *Critical Public Health* vol. 31 (2021), p. 306.

95 *Ibidem.*

96 *Ibidem*, stating that while human health professionals gave greater weight to the emotional well-being of people, those from the animal health sector gave greater weight to animal health and economic concerns.

97 *Ibidem*.

networks to the collaboration. However, it seems that neither of these institutions can expand capabilities for regulation or oversight of state and private actors and expand the focus of regulation from conditions inside industrial farming to more fundamental causes of supply and demand of meat.

It is noteworthy that the 2022 joint One Health agenda also does not consider the broader and more fundamental risks that human practices – above all industrialised meat production – can pose to animals.[98] The Quadripartite's 2022 One Health Action Plan only contains a single reference to the problems of intensive livestock farming as a cause of problems of animal welfare, human health, climate change and environmental pollution[99] None of the action tracks provided for the Action Plan sets out to provide such attention and integrated policies.

7 Conclusions

The above assessment does indicate that in the past two decades, we have witnessed a substantial development of the global regime for the protection of the welfare of farm animals. WOAH's adoption of the TAHC and its alliances with the WHO, the FAO and UNEP has strengthened the position of animal welfare in the regime complex for meat production, even though, to a large extent, these agendas for now are stuck in strategies and policies rather than actual regulation that concretely will benefit farm animals.

Beyond the activities of WOAH and the Quadripartite, protection of farm animals may be strengthened by autonomous policies and practices on institutions; these include self-regulation of meat-producing corporations, the CFS with its Principles for Responsible Investment in Agriculture and Food Systems, the WTO's Appellate Body with its series of somewhat animal welfare friendly rulings, the FAO and so on – these practices indicate that animal welfare has become an interest that many institutions can (for a variety of reasons) no longer disregard.

98 *Ibidem*.

99 *One Health Joint Plan of Action Launched to Address Health Threats to Humans, Animals, Plants and Environment*, at p. 9, stating that "Healthy and sustainable agrifood systems are an integral part of the One Health vision for a better future. Livestock and fish food systems require targeted attention and integrated policies given the multiple effects that the growing demand for protein has on the animal production sector and associated systems (for example, deforestation for the production of animal feed, the increasing scale and density of animals, disease emergence and land-use change".

Even though much progress has been made in the past decades, the institutional architecture and regulations that apply to intensive meat production seem inadequate for realizing a structural improvement in the protection of farm animals. Given the projected trends in meat consumption and production, the magnitude of animal suffering worldwide, and the adverse effects of industrial meat production on human health and climate change, the highly fragmented and legally undeveloped regime for animal welfare protection will not be fit for purpose.

While WOAH has formulated relatively demanding standards that aim to protect the welfare of animals within intensive livestock farming, at the global level, no policies are on the agenda that would more fundamentally curb the scale of intensive livestock farming in a way that the EU Farm to Form agenda has done this.

The story of the emergence of WOAH as a global actor in the protection of animal welfare certainly cannot be seen as a story of institutional and normative development that led to a decisive improvement in the welfare of farm animals. However, it is a story of a slow transformation of a regime that for the most of history has aimed to stimulate growth in meat production with direct consequences for animal suffering to a regime that recognizes the interest of animals and that slowly builds instruments that can be used for the protection of animal welfare. It is also a story that indicates that such a massive task cannot be undertaken by any organization alone but rather depends on alliances that are premised on correlating goals and do expand capabilities in pursuit of a partly joint agenda. The Quadripartite is an innovative experiment to shape such alliances. It provides another example of how states and international institutions pursue global problems that transcend the mandates of individual institutions.

The Quadripartite is an interesting new form of institutional cooperation between independent international institutions that have their own goals but cannot achieve them without the other institutions. However, such institutional cooperation eventually is limited by the mandates, powers, and capabilities of the participating institutions – individually and combined. Critically, informal cooperation in a forum like the Quadripartite, cannot create mandates or legal powers where none exist. Decisive international responses to the fundamental problems raised by global industrialized meat production can use and build on the machinery of the Quadripartite but will require more than that.