



Article

Whitehead, Tansley, Sen, Bobbio Hand the One Health approach

Whitehead, Tansley, Sen, Bobbio e a abordagem One Health


Whitehead, Tansley, Sen, Bobbio y el enfoque One Health

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Submitted on: 01/10/24

Revision on: 02/02/24

Approved on: 02/13/24

Abstract

Objective: draw parameters to structure concepts of the One Health approach through the thoughts of Alfred North Whitehead, Arthur George Tansley, Amartya Sen, and Norberto Bobbio. **Methodology:** this was original research, with a deductive approach, hermeneutic bias based on the selected thoughts and the One Health. **Results:** One Health is structured on the holistic and integrated assertion that human, animal, and environmental health are interconnected. From Whitehead's perspective, the One Health approach can be considered a dynamic and relational process, where humans, animals, and the environment constantly interact, interconnecting through relationships and processes, forming a whole. From Tansley's perspective, the idea of One Health can align with the ecosystem concept, where health cannot be analyzed in isolation in individuals, but necessarily through the complex interactions between humans, animals, and the environment. From Sen's development prism (rights and freedoms), the One Health approach can be seen to achieve it, through the interrelation of mechanisms, systems, and institutions focused on promoting health and well-being. In Bobbio's view, fundamental rights, democracy, and peace are ethical and primary ways to ensure rights, especially a right of nature (humans, animals, and the environment) in the joint pursuit of guarantees for peaceful coexistence. **Conclusion:** the One Health approach is not just a practical strategy, but also a renewed vision of the old perception that recognized the interconnection of all forms of life.

Keywords

One Health. Health Systems. Human Rights. Socioeconomic Rights. Systems Integration.

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Resumo

Objetivo: traçar parâmetros para estruturar conceitos da abordagem *One Health* através dos pensamentos de Alfred North Whitehead, Arthur George Tansley, Amartya Sen e Norberto Bobbio. **Metodologia:** tratou-se de pesquisa original, com abordagem dedutiva e viés hermenêutico, baseada nos pensamentos selecionados e na orientação de Saúde Única. **Resultados:** *One Health* estrutura-se na afirmativa holística e integrada que a saúde humana, animal e ambiental estão interligadas. Sob a perspectiva de Whitehead, a abordagem *One Health* pode ser considerada um processo dinâmico e relacional, onde humanos, animais e meio ambiente interagem constantemente, interconectando-se por relações e processos, formando um todo. Pela perspectiva de Tansley, a ideia de *One Health* pode alinhar-se ao conceito de ecossistema, não podendo a saúde ser analisada isoladamente em indivíduos, mas, necessariamente, pelas interações complexas entre seres humanos, animais e o ambiente. Sob o prisma de desenvolvimento (direitos e liberdades), proposto por Sen, a abordagem *One Health* pode ser considerada um meio para alcançá-lo, através da interrelação de mecanismos, sistemas e instituições focados na promoção da saúde e do bem-estar. Na visão de Bobbio, direitos fundamentais, democracia e a paz, são formas éticas e primordiais para assegurar direitos, especialmente um novo direito da natureza (humanos, animal e ambiente) na busca conjunta de garantias para a convivência pacífica. **Conclusão:** a abordagem *One Health* não é apenas uma estratégia prática, mas também uma visão renovada da antiga percepção que reconhecia a interconexão de todas as formas de vida.

Palavras-chave

Saúde Única. Sistemas de Saúde. Direitos Humanos. Direitos Socioeconômicos. Integração de Sistemas.

Resumen

Objetivo: establecer parámetros para estructurar conceptos del enfoque *One Health* a través de los pensamientos de Alfred North Whitehead, Arthur George Tansley, Amartya Sen y Norberto Bobbio. **Metodología:** se trató de una investigación original, con un enfoque deductivo, sesgo hermenéutico basado en los pensamientos seleccionados y el Salud Única. **Resultados:** *One Health* se estructura en la afirmación holística e integrada de que la salud humana, animal y ambiental están interconectadas. Desde la perspectiva de Whitehead, el enfoque *One Health* puede considerarse un proceso dinámico y relacional, donde humanos, animales y el medio ambiente interactúan constantemente, interconectándose a través de relaciones y procesos, formando un todo. Desde la perspectiva de Tansley, la idea de *One Health* puede alinearse con el concepto de ecosistema, donde la salud no puede analizarse aisladamente en individuos, sino necesariamente a través de interacciones complejas entre seres humanos, animales y el ambiente. Desde el prisma del desarrollo (derechos y libertades) propuesto por Sen, el enfoque *One Health* puede considerarse un medio para alcanzarlo, a través de la interrelación de mecanismos, sistemas e instituciones enfocados en la promoción de la salud y el bienestar. Desde la visión de Bobbio, los derechos fundamentales, la democracia y la paz son formas éticas y primordiales para asegurar derechos, especialmente un derecho de la naturaleza (humanos, animales y ambiente) en la búsqueda conjunta de garantías para la convivencia pacífica. **Conclusión:** el enfoque *One Health* no es solo una estrategia práctica, sino también una visión renovada de la antigua percepción que reconocía la interconexión de todas las formas de vida.

Palabras clave

Salud Única. Sistemas de Salud. Derechos Humanos. Derechos Socioeconómicos. Integración de Sistemas.

Introduction

In 2008, the United Nations (UN) launched the One Health Initiative, aiming for “one world, one health” for the treatment and prevention of common diseases in animals and humans (1). In 2010, the One Health Tripartite document, with the participation of the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (UNAA)⁴ and the World Organization for Animal Health (WOAH)⁵, outlined guidelines for approaching health in a single context, looking at the axes of health: human-animal-environment (2). In 2022, the 'Joint Health Action Plan'⁶ reaffirmed the need to work together for the benefit of human, animal, plant and environmental health, making up the Quadripartite Organizations, adding the United Nations Environment Programme (UNEP) to the three participants (3).

The vision of a single approach in the context of health is a topic that is increasingly debated among the sectors involved, the applicability of which demands an improvement in interpretation (4). Research shows that the human-animal-environment link can be indicative of new health policies (4,5).

The scope note contained in the Health Sciences Descriptors defines One Health as “an integrative effort of multiple disciplines working collaboratively at local, national and global levels in all aspects of health care for humans, animals and the environment” (6). The WHO defines One Health as “an approach to designing and implementing programs, policies, legislation and research in which multiple sectors communicate and work together to achieve the best public health outcomes”(1).

The initiative is based on an interdisciplinary and intersectoral approach, seeking the prevention and control of diseases (human, animal and environmental), including surveillance and the promotion of strategic implementation research for new policies and the control of those already known, recognizing environmental sustainability as of paramount importance, involving the protection of ecosystems, promoting biodiversity and mitigating the impacts of climate change (7).

The combination of the three spheres, human-animal-environment, invokes an interrelationship between the functions of health in the socio-environmental sphere (8). In the words of Carneiro and Pettan-Brewer (4), the One Health approach recognizes the interconnection between “human, animal, environmental and plant health in an interdisciplinary approach represented by a complex biological and social system, involving multiple actors and processes and their interactions over time at local, national and global levels”.

It is a 'new' way of approaching health and its areas of interest and scope, as a result of its determinants (social, environmental, economic, etc.).

There is a firm understanding and orientation within the WHO that health should be considered and presented in all [public] policies, in an integrative way, which is called Health in All Policies (HiAP). HiAP “aims to address policies such as those influencing transport, housing and urban planning, the environment, education, agriculture, finance, policing and economic development” (9).

In addition to the integrative approach in all policies, collaboration, communication, coordination and capacity building, through intersection and transdisciplinarity, are proposed for the joint and integrated action plan to tackle health threats (3).

⁴ Better known as FAO, it stands for Food and Agriculture Organization.

⁵ Better known as WOAH, it stands for World Organization for Animal Health.

⁶ A reflection of the COVID-19 pandemic.

Understanding the new approach to health problems (both conceptually and in terms of recognizing new rights) and the interactions between humans, animals, plants and the environment is made possible by drawing on the thinking of four selected authors.

Alfred North Whitehead, English, born in 1861, died in 1947, mathematician, was a philosopher whose contributions were significant in the field of philosophy and mathematics. Creator of the “philosophy of process”, he argued that reality is characterized by change, by dynamic processes. In the academic field, he taught at renowned institutions and was an advocate of critical thinking and holistic learning. The works that influenced this research are “The Concept of Nature” (10) and “Nature and Life” (11).

Arthur George Tansley, British, born in 1871, died in 1955, botanist, was an ecologist who produced the significant concept of “ecosystem”. He took a holistic approach to ecological systems, emphasizing the importance of the interactions and relationships between different organisms and their environments. His ideas and theories have helped shape contemporary understanding of ecosystems and their management. Creator of the concept - published in 1935 in the scientific article “The use and abuse of plant terms and concepts” which influenced this research - and the important role of the ecosystem in environmental conservation and the study of ecological change (12).

Amartya Kumar Sen, born in India in 1933, is an economist and philosopher. He is an adherent of the theory of development, well-being and social justice. He was awarded the Nobel Prize for Economics in 1998 and has had an influential academic career as a professor at several prestigious universities. Works by him that have influenced this research: “The concept of development” (13) and “Development as freedom” (14).

Norberto Bobbio, Italian, born in 1909, died in 2004, graduated in Law and Philosophy, was a philosopher, theorist and politician. He was a supporter of democratic thinking and the defense of peace, human rights with equality, freedom and justice. He had an influential academic career in political philosophy, law and political theory. His works that have influenced this research are “State, Government and Society: Towards a General Theory of Politics” (15) and “The Age of Rights” (16).

Based on the works and thoughts of the authors, the question was asked: is the conceptual approach of One Health compatible with the proposals of Whitehead, Tansley, Bobbio and Sen for nature, ecosystems, the creation of rights and development?

The aim of the research was to draw up parameters to structure concepts (and possible rights) of the new One Health approach⁷ through thoughts that integrate human rights, the ecosystem, the dynamic and interrelational processes of development, with the justification of the need to fit it into existing philosophical bases, even though at no time do the works make direct references to One Health.

Methodology

This was an unprecedented and original study, based on the principiophilosophical philosophy created by Whitehead, Sen and Bobbio and the structuring concept created by Tansley, through a hermeneutic bias and deductive reasoning (17) to trace the construction of the One Health approach. In the first stage, the methodological path used the hermeneutic approach to analyze the context (17) in which the texts “The concept of nature” (10) and “Nature and life” (11) by Alfred North Whitehead were

⁷ The authors chose to use the English term, *One Health* and the Portuguese term, *Saúde Única*, written in initial capital letters because it is a proper name and a Health Science Descriptor (14).

produced; “The use and abuse of plant terms and concepts” (12) by Arthur George Tansley; “The concept of development” (13) and “Development as freedom” (14) by Amartya Sen; “State, government and society: Towards a general political theory” (15) and “The age of rights” (16), by Norberto Bobbio. In the second stage, deductive reasoning (17) was used to identify whether the authors' ideas (major premises) would be compatible and projectable (minor premises) for the One Health proposal.

Using the One Health approach as a basic tool, we established a correspondence and identification of converging points between the concepts of nature and unveiled the styles and structured thoughts on development and human rights, transposing these categories into the One Health proposal.

For the bibliographic and documentary survey, only the classic texts of each author were used (without the use of interpreters); for the research on the concepts of 'single health', the Virtual Health Library website (<https://decs.bvsalud.org/>) and the websites of international organizations linked to the United Nations system (<https://digitallibrary.un.org/>) were used; the related material used to reinforce the discussion and contextualization was taken from the Google Scholar database.

It was not the focus of the research to delve into the works and thinkers selected, but only to use the source of thought for the questions raised and concepts debated. Nor was it the aim of the research to explore biology terms and concepts, or ecology terms and concepts.

Results and discussion

Whitehead and Tansley: thoughts on understanding nature and the ecosystem to conceptualize One Health

In 1920, Whitehead, in “The Concept of Nature”, explored the relationship between human reality and nature itself. Whitehead argues that there is no way to understand the realities of man and nature separately⁸. Whitehead presents an organic view of reality (10).

He argues that the reality of nature claims for itself an integrity and interconnectedness of all the aspects that make it up, such as the qualitative and subjective aspects, which involves deeply interconnected experiences and realities in a more holistic way. Sensory perceptions (e.g. emotions and consciousness are inseparable aspects of natural reality), perceptions of time and space, physical characteristics or phenomena are parts of a single continuous process that constitutes nature (10).

In 1934, in “Nature and Life”, he states that nature is a dynamic, evolving, constant and interactive process, characterized by continuous change and by relationships and interconnections and interactions between entities. For Whitehead, events (or portions of life, a term he used himself) are whitewashed by the advance of nature and do not occur in isolation, but are always related to each other in a network of causes and effects that involve creativity, satisfaction and purpose (10,11).

⁸ Cartesian and mechanistic thinking, based on theories of the bifurcation of nature (the realm of sensory appearance and the realm of modern physical science), where there were no entanglements and congruencies between time, space and the movement of man and nature, was the majority understanding at the time the book was released. Whitehead broke paradigms by launching a new vision of the concept of nature. Some principles of Whitehead's process philosophy, although not related to the concept of deep ecology, have been influential and compatible with advocates of this theory. This is because Whitehead is emphatic about the interconnection and interdependence of all things in the universe, with a holistic view of nature, a view also promoted by deep ecology.

The idea defended by the authors of this research is that the holistic vision is not plastered, but can be adapted to the evolution of processes that affect animals, humans and nature; it imprints the sensations and functions of each living being and imprints the rights of humans, the rights of animals and the rights of nature.

Whitehead's holistic view of life and nature leads us to understand that ecological and environmental systems are in a constant process of evolution and are characterized by interactions and interdependencies of various events involving humans, the environment and animals.

In 1935, Tansley, in his text “The use and abuse of plant terms and concepts” (12), contributed to the vision of nature and life by coining and conceptualizing the term ecosystem. For Tansley, living (biotic) and non-living (abiotic) organisms make up the system, interconnecting all the components of an environment, forming a single, complex and dynamic whole, the so-called ecosystem. Understanding the life cycles of animals and humans and the flows and nutrients in the environment are important in this understanding. Ecology (and human, animal and environmental sustainability), through this approach, integrates biological, chemical, physical and geological aspects (12).

Whitehead's vision of life and nature and Tansley's vision of ecosystems reiterate and corroborate the understanding of universality that invokes consequences for global or regional health.

The word universality, of Latin origin, derives from the root term university or *universitas*. *Universitas* is made up of two terms: *uni*, which means ‘one’ or ‘unique’ and *diversitas*, which means diversity, so in this context it means ‘a whole, the universe, the world’. Turning to the term in the noun, universality is the joining of *universus* (whole, entire, total) with the suffix ‘*alidade*’ (which is used to indicate a quality or condition). Therefore, the word invokes the condition that all the diverse differences (*diversitas*) form a single total, within the same universe (18). To put it more bluntly, everything that is different and diverse is found in a 'single' universe.

Whitehead and Tansley realized that the single environment - here understood as ‘universe, university, universality’ - is common to all interfaces: human, animal and environmental. Human or animal diseases, water contamination, air pollution, however diverse the causes, have no barriers, they are all within the same universe. And within that universe are humans, animals and the environment.

The results and consequences of human (ethical) actions, environmental, social and economic issues, the conservation of natural resources and the protection of biodiversity are important to everyone, combining deep ecology, social ecology, conservatism and humanism into a single vision of a new ecological order, involving nature, humans and animals (19).

Both Whitehead and Tansley confirm the vision of a whole that must be considered in global and universal health, in an evolutionary, dynamic and procedural way. The vision drawn from the thinking of Whitehead and Tansley addresses the same three interfaces considered by One Health⁹, human, animal and environmental (including plants, rocks, rivers and seas, etc.).

Thinking about the concepts and theories proposed by Whitehead and Tansley, it seems feasible to conceptualize One Health as an area of medical and environmental sciences, which is in a constant process of evolution and modification, studying actions and measures with a focus on environmental universality (global or regional), analyzing the consequences, predicting and mitigating events that can, in an integrative, interrelated and multisectoral way, balance or unbalance the health of people, animals and the environment¹⁰.

The thoughts of Whitehead and Tansley form the basis for understanding the ecosystem and the process composed of events that binds it together.

⁹ In this context, Delduque *et al.* (5) state that “the totalizing view of life, in a way, breaks Cartesian paradigms to expose that human health can never be seen in isolation, disregarding what surrounds it”.

¹⁰ This statement is the result of the understanding raised by the authors in this research.

Whitehead proposes that reality is made up of interconnected events or occurrences, constantly evolving and interacting, forming processes that are interconnected and integrated. Nature is a continuous and passing process, sensitive, complex and fluid, in other words, in a constant process of evolution, always unfolding in the face of events and occurrences. If Whitehead's perspective is used, the One Health approach can be considered a dynamic and relational process, where humans, animals and the environment are in constant interaction, where each health event is interconnected by relationships and processes, forming a whole.

The cohesion of an existential whole can be based on the term ecosystem, introduced by Tansley when he described how the community made up of organisms and the environment function as an ecological unit - a complex whole that governs the relationships between them. From Tansley's perspective, the central idea of One Health can be aligned with the ecosystem concept, since health cannot be analyzed in isolation in individuals, but necessarily through the complex interactions between humans, animals and the environment, bringing mutual implications to the whole system.

Sen and Bobbio: thoughts for understanding development and the rights on which One Health depends

In 1988, Sen began to discuss “The concept of development”, relating it to the economy in a general and broad way (13). The search for economic development and the improvement of living conditions are scored and considered (along with other factors) in the formation of the Gross Domestic Product (GDP) of developing and developed countries. GDP measures the amount of resources that make human well-being possible, but the measure of development is more than that.

Thinking of a way to improve the performance of the measurement not achieved by GDP, in 1990, Sen, together with the Pakistani economist Mahbub ul Haq, created the Human Development Index (HDI)¹¹ to evaluate the human development (of a dignified life) of countries in a more comprehensive way than just by economic growth. It argues that the accumulation of development to guarantee freedoms is not generated by the wealth model (14).

In 1999, in “Development as Freedom”, Sen outlined the idea that it is necessary to integrate institutions between the economic, social and political spheres in order to define development as a process of expanding individual freedoms aimed at improving people's lives (14). The scarcity of income hinders the development of a people, a society and a country, but, above income, the way in which institutions are governed and how they act is what will shape the evolution of the development process.

Economic needs are related to political freedoms and political freedoms are related to democracy. Development requires democracy, with ethical action by the state and effective guarantees of human rights. The constant presence of these characteristics is what will enable economic growth, accompanied by development (in this sense, development as a human right) (14).

The right to development is the sum of several fundamental rights that enable individuals and communities to improve their well-being (20,21). The integration function finds support in other sectors, other policies and other rights in order to be structured (20). Like other human rights, development invokes unity, indivisibility and interdependence (20,21) as the fundamental focus of

¹¹ The HDI is used by the United Nations Development Program (UNDP) to analyze the factors that can influence a country's development.

human well-being, social justice and equity, all encompassed in the surrounding environment. So, too, is the One Health proposal.

Bobbio, in his 1986 work “State, Government and Society”, analyzes the structures and functions of the state and how government and civil society relate to institutions - how they influence and are influenced in the creation of legal norms before the executive power (15). The influence and interaction between society, government and the state is mutual, and is of primary relevance for political debate and for supporting (or not) state power.

In 1990, in “The Age of Rights”, Bobbio argued that the creation of new human rights occurs in response to the needs and challenges imposed on society, which must be pursued and desired by society. The heterogeneous variable of the creation of rights is based on the fact that what seems to be “fundamental in one historical era and in a given civilization is not fundamental in other eras and other cultures” (16). Bobbio also proposes opening up the term “human rights”, since the rigid conception is vague and does not encompass this historical variable to which rights are related, and thus questions whether fundamental rights are only extended to men.

Above the evolutionary concept of human rights, Bobbio invokes the need to put them into practice and protect them concretely, not from a philosophical point of view (16), but above all from a political point of view - considering the “problems of the state as a legal order and as a sovereign power” - through the guarantees generated by democracy (15) in collective and diffuse decisions, supported by norms that give content and value, legal security and social justice (15,16).

The creation of civil and political rights, social rights and diffuse or collective rights (such as the right to a healthy environment and the right to development) is necessary to achieve democracy and peace (16). However, legal recognition is only the first stage, which must be preceded by a guarantee that the rights will be realized.

The dynamics of a continuous process are therefore necessary in the development and creation of rights (which are not and should not be static) so that they reflect the evolution of society and its needs. Both Sen and Bobbio talk about social foundations, human rights and freedoms, opportunities, democracy and peace.

There seems to be a perception that human rights are not the only fundamental rights, but that all fundamental rights are desirable and affect human beings. On this premise, the fundamental rights of men affect and extend to the rights of animals, plants and the environment.

The interdependence and interrelationship of the One Health approach is based on the structure of human rights (22,23)^{12:13}. The approach, not yet recognized as a right, can be thought of as a means of promoting the right to human health, animal health (24)¹⁴ and the right to a balanced environment (25)¹⁵ - both fundamental human rights and considered to be encompassed by the right to development (26)¹⁶. Because of their fundamental nature, human rights are indivisible and interdependent. In this respect, the right to development - followed by ethics and democracy, social justice and equity (27)¹⁷

¹² It is interesting to read the International Covenant on Economic, Social and Cultural Rights, of December 1966, of the United Nations (UN).

¹³ It is interesting to read the Universal Declaration of Human Rights of December 1948 by the United Nations (UN).

¹⁴ It is interesting to read the Universal Declaration of Animal Rights of September 1978 by the International League for Animal Rights.

¹⁵ It is interesting to read the document *The human right to a clean, healthy and sustainable environment* of July 2022, by the United Nations (UN).

¹⁶ It is interesting to read the United Nations (UN) Declaration on the Right to Development of December 1986.

¹⁷ For Sen *et al.* (27), in a work not directly addressed for the basis of this study, health figures prominently alongside equity because it is the central aspect of social justice itself.

- is a condition for achieving human dignity and well-being, encompassed as interdependent with the right to a natural, balanced and sustainable environment.

Drawing on the thoughts of Sen and Bobbio, it seems sensible to think of One Health not only as a guiding approach, but also as a new human right to be considered, based on indicative data (28)¹⁸, uniting the natural and the moral¹⁹, so that they can link laws and public policies (5)²⁰ that erase inequities - social, environmental, economic and political (29)²¹ - and support health in an integrative way across the three interfaces: human-animal-environment. In the expectation of creating a new right and a new (but old) way of knowing, the right to One Health is envisioned²².

Sen and Bobbio's thoughts are the basis for understanding development, justice, rights and ethics.

The search for justice and balance in development that generates rights and freedoms focuses on Sen's idea that institutions will be perfect when they remove inequities and incorporate cooperative blends to improve people's lives in individual, collective and environmental contexts. From this perspective, the One Health approach can be considered a means of achieving development through the interrelation of mechanisms, systems and institutions focused on promoting the health and well-being of all forms of life. Bobbio's vision considers fundamental rights, democracy and peace, in an ethical way, to ensure rights, especially a right to nature, respecting it and not exploiting it, in the joint search for guarantees for peaceful coexistence between human beings, animals and the environment.

The concepts presented and the thoughts developed invoke two fields of knowledge: the medical sciences, when dealing with human and animal health; the environmental sciences, when dealing with a balanced and healthy environment. Together, the medical sciences and the environmental sciences induce a necessary interdependence, interrelationship and integration so that new policies can be taken in context and new rights created.

Final considerations

The One Health approach is based on the holistic and integrated assertion that human, animal and environmental health are interconnected. This interconnection suggests the integration of public policies aimed at health or, as the World Health Organization suggests, that all policies consider health measures focused on demands and solutions whose interconnection and sectoral interrelationship seems inevitable.

The authors studied emphasize the interconnectedness of behaviors, environments and sectors, and the complexity of the relationships between humans, animals and the environment. Transposing their thinking to the One Health approach, one sees not only a strategy and practical orientation, but

¹⁸ For Abud *et al.* (28), the indicative health data that make up the indicators of Sustainable Development Goal number 3 (SDG3) involve measurement by "multiple epidemiological and statistical sources and collection methodologies with a multidisciplinary or multidimensional approach" and the Indicators and Basic Data for Health (IDB) are based on the "health conditions of a population, whether it is a determinant of health, an outcome, an intervention, monitoring or trends". Both are designed with the interrelationships between human health and other health determinants in mind.

¹⁹ In the understanding proposed by the authors of this research, natural law, which comes from *jusnaturalism* and is structured in law or legal foundation, and moral law, which comes from planetary justice and social justice and is structured in what is ethical, fair and correct, are united.

²⁰ For Delduque *et al.* (5), "governments must develop policy frameworks that integrate the principles of one health into national health systems, emphasizing the importance of intersectoral partnerships, research funding and capacity-building efforts".

²¹ (29), considering that an ecologically balanced environment is essential to a healthy quality of life and well-being, and that public health is a state obligation, social, political and economic measures aimed at reducing the risk of disease and other illnesses must be effectively combated so that the state can defend and preserve the environment (and everything in it) for present and future generations.

²² This statement is the result of the understanding raised by the authors in this research.

also a new and renewed vision based on an ancient perception that recognized the interconnection of all forms of life in cohesion.

Uniting ecological visions with continuous development processes, prioritizing democracy and guarantees of rights, allows us to deduce that One Health links ethical justice, environmental justice and social justice to human development in order to guarantee the health and well-being of living beings and the planet itself. Having the right to health can mean having the right to a healthy environment, guaranteeing a standard of good quality of life for all three interfaces.

Financing

Work carried out with the support of the Coordination for the Improvement of Higher Education Personnel - Brazil (CAPES) - Funding Code 001.

Conflict of interest

The authors declare that there is no conflict of interest.

Authors' contribution

Abud CO contributed to the conception/design of the article, data analysis and interpretation, writing the article, critically reviewing its content and approving the final version. Gorisch P contributed to critiquing its content and approving the final version. Souza LP de contributed to critiquing its content and approving the final version.

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How to cite

Abud CO, Gorisch P, Souza LP de. Whitehead, Tansley, Sen, Bobbio and the One Health approach. Cadernos Ibero-Americanos de Direito Sanitário. 2024 jan./mar.;13(1):23-33

<https://doi.org/10.17566/ciads.v13i1.1227>

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