

DISCUSSION PAPER

▶ **THE ONE HEALTH APPROACH AND FOOD SYSTEM TRANSFORMATION: A CONTRIBUTION BY THE INTERAMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE (IICA)**

1. INTRODUCTION

The emergence and re-emergence of human diseases, increased public concerns about food safety and the fear of potential pandemics have raised attention with respect to the close interaction between human health, animal health and environment. This has led to the development of the One Health concept which seeks to address health issues holistically. One Health refers to an interdisciplinary approach to minimizing harm and maximizing benefits from the co-management of human, animal and environmental health. This approach is aimed at developing more efficient and effective strategies to address health issues at the human-animal-environment interface. The World Health Organization (WHO) puts it more succinctly by defining One Health as 'the collaborative effort of multiple disciplines, working locally, nationally and globally, to attain optimal health for people, animals and the environment.'

The One Health approach to identifying the root causes of inter-sectoral issues requires input and intervention by multidisciplinary teams. The complexity of the



issue necessitates a collaborative approach among professionals from multiple disciplines for the design of effective interventions.

Governments, scientists and international organizations recognize the increased need for interdisciplinary collaboration to prevent and control zoonoses. Not only physicians and veterinarians are needed, but also wildlife specialists, environmentalists, economists and other professionals from the social sciences, thus to that end the One Health Approach (OHA) was adopted (Gibs, 2014).

The approach was launched in 2004 and over the following ten years there has been declarations, seminars and activities introducing the term One World-One Health. Examples include- One Health Initiative-www.onehealthinitiative.com (2006), the joint strategic framework and tripartite concept note (2008 and 2010) from OIE, FAO and WHO.

The value of One Health to the Millennium Development Goals (MDG) and the Sustainable Development Goals have been highlighted (Villamil, 2010; De Menequi et al, 2011; RIMSA, 2016; Sinclair, 2019).

The COVID-19 Pandemic has highlighted the importance of inter-sectoral work and the OHA. Therefore at the Regional Meeting of the Americas of the OIE (2020) and Regional Organizations such as CVP, SGCAN have incorporated the One Health approach in their future planning. IICA through the Agricultural Health and Food Safety (AHFS) Program has supported the OHA for some years; specifically through its technical cooperation programme and promotion for territorial approach (Diaz, Medina, Trelles, 2010).

This paper seeks to enrich the OHA discussion and the potential role of this approaching transforming and improving the food systems of the Americas. The paper also highlights the role of OHA in promoting food safety along the food value chain, preventing both animal and human diseases, and increasing efficiency of agricultural health systems.

2. THE ONE HEALTH APPROACH: CONTRIBUTION TO FOOD SAFETY TRANSFORMATION

Due to growing demands, countries need to improve their investments and incorporation of knowledge in agri-food production systems both to increase productivity and to incorporate an integrated vision of health problems through the implementation on the One Health Approach. It is necessary to establish practices that guarantee the safety and the quality in the food, considering many different types of agricultural production. Variability in agricultural systems caused by climate change continues to challenge the technical capacity of AHFS services. Increased frequency and severity of pests and diseases outbreaks causes emerging challenges and emergencies that generate profound impacts on production, economy, and development. As such, countries require greater investments, as well as the strengthening of technical and institutional capacities to address these needs.

McDermott and Grace (2012) advocate for agriculture systems adaptation to improve human health. Agriculture-associated diseases concept is postulated as any disease related to agri-food value chain. Thus, they argued that those diseases can be linked to "agriculture inputs, primary agricultural production, post-harvest processing and handling along marketing chains, or even final preparation by the consumer. The category also includes diseases influenced by ecosystem change for food production and those associated with incursion of agroecosystems into natural ecosystems" Lerner and Berg (2015) stated that the OHA has three levels: individual level, population level and ecosystem level, and advocate for more practical actions. Currently, OHA is being promoted to address issues of food safety, food security, antimicrobial resistance, climate change and the human-animal bond (Gibbs, 2014).

The Covid-19 pandemic has raised fears about potential pandemics and has resulted in researchers and international organizations updating guidelines towards the implementation of OHA to face zoonotic diseases (FAO, OIE, WHO, 2019) and to have a wider view including the environment and trade (UNEP & ILRI, 2020).

Human and animal diseases, and plant pests constrain the efficiency of food systems, increase production costs due to control and prevention measures taken for those diseases and pests, reduce productivity of agriculture workers, and increase public health costs for treating and preventing agriculture diseases to humans. Moreover they have the potential to reduce the safety and quality of food, impact the environment and be non-tariff barriers to trade.

Including an OHA into the transformation of food systems will produce positive effects in human and animal wellbeing, and the environment health as a whole. In order to protect Global Health, it is necessary to examine the agricultural systems, more specifically the operations of value chains and their effects on ecosystems.

ACTION TRACK	POTENTIAL ACTIONS FROM THE OHA
<p>1: Ensure access to safe and nutritious food for all</p> <p>Animal diseases and plant pests reduce productivity and can affect food safety and quality. Moreover, zoonotic diseases may pose a significant threat to public health. Develop One Health pilot plans, in conjunction with successful animal health campaigns, (Public –Private model) based on Silos(local health systems)</p>	<ul style="list-style-type: none"> • Designing effective zoonosis prevention and control programs to reduce the impact of zoonotic diseases on public health. • Integrating food safety measures throughout the value chain and the whole food system. • Improving animal and crop production systems in order to protect ecosystems and the environment. • Use the successful PP (public private) models of the Silos(local health systems), as the successful FMD and Brucellosis eradication campaigns in the south cone of the Americas, develop One Health pilot plans.
<p>2: Shift to sustainable consumption patterns</p> <p>The OHA increases awareness about the interrelationship between animal health, human health and the environment. Perception of consumers and consumer demand for sustainably produced food will contribute to a rethink and redesign of food systems.</p>	<ul style="list-style-type: none"> • Promoting the establishment of a food safety culture, along the food value chain, in which all consumers have access to healthy food. • Supporting countries in the development of sustainable food systems policies that contribute to the adoption of the tenets of OHA. • Developing communication and awareness strategies and dialogue platforms to promote the one health approach and its benefits.
<p>3: Boost nature-positive production</p> <p>OHA includes consideration of the environment and environmental health. It encourages food systems to reduce environmental impacts, therefore promoting the one health goal.</p>	<ul style="list-style-type: none"> • Promoting nature-positive production systems enhancing global health • Improving soil and water management in production systems (both crop and livestock) to prevent water-associated diseases. • Supporting environmental and ecosystems protection, therefore reducing potential disease spillover from wildlife to animals and humans.

4: Advance equitable livelihoods

The application of the OHA serves as a tool for improved rural well-being conditions through the reduction of diseases in the human, animal and environment interface, thus, improvements resulting from the OHA usage will contribute to tackling poverty and inequality. Moreover, improving animal health at the level of production systems and value chain is critical for sustainable livelihoods (Stringer, 2014).

- Promoting the development of One Health policies and strategies in communities and rural territories.
- Promoting good practices and health programs geared to rural workers to prevent human diseases.

5: Build resilience to vulnerabilities, shocks and stress

The OHA is an efficient way to both protect food systems and prevent and respond to crises such as pandemics and their effects on food systems. The promotion of an integrated vision of human and animal health, and of their relationship with the environment in communities and territories could improve resilience in food systems. The application of an OHA in response to risk management and preventive interventions will contribute to build resilience to health and environmental shocks.

- Promoting the use of integrated approaches by countries and agricultural producers to increase productivity and address health problems.
- Establishing sustainable integrated, risk-based agricultural health and food safety policies and regulations based on the OHA.
- Achieving a higher level of integration and cooperation among the various components/pillars of an agricultural and public health system for improved coordination under the “One Health” concept.
- Implementing comprehensive zoonotic control programs
- Promoting environmental and production systems protection with a sustainable and long-term approach
- Supporting intergovernmental work and partnerships with private sector.

3. A CALL TO ACTION

Demands around the development of food systems strategies to ensure the safety of products will increase as countries continue to develop and markets continue to seek new suppliers to meet the growing demand for safe food. In that sense, public and private stakeholders along with the academia will need to work together to promote the development of the following actions.

- **Implementation of effective coordination mechanisms:** The interdependence that exists between agriculture and the environment is well-known for this reason, it is urgent to strengthen the integration of the agricultural health and food services with institutional systems responsible for promoting sustainable and socially responsible agricultural production, as well as to develop an integrated vision of these dimensions of agricultural development.

- **Execute One Health pilot plans as a joint action.** Add human and environmental health components to the existent models of animal health of the south cone of the Americas. These have been proven to be successes, have high popularity, legitimacy and transparency in the rural community for the last 30 years and are self-sustaining.

- **Promote the establishment of a food safety culture, along the food value chain, in which all consumers have access to healthy food.**

- **Implementation of the One Health Concept into the family farming and associative production schemes and strategies in communities and rural territories to prevent public health issues in those communities**

- **Effective implementation of international standards in the framework of the OHA to promote fair, transparent rules based on scientific evidence are the basis for functioning national and international markets. Support the implementation of agricultural health and food safety control programs based on preventive approach and integrated management of human, animal and environmental health.**

5.

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POTENTIAL PARTNERS FOR DIALOGUE.

Tripartite agreement in OHA.

- OIE – Luis Barcos and HQ (Paris)
- FAO – Andres Gonzalez (RLC) – Katinka De Balogh (Veterinary Public Health official) – Bangkok
- WHO- PAHO- Baldomero Molina (PANAFTOSA).

Regional bodies.

- OIRSA – Abelardo De Gracia
- CAN – Macalliste Taffur
- CVP – Secretario Técnico (en transición).
- CAHFSA - – Gavin Peters (Animal health Specialist)
- CARPHA – Caribbean Public Health Agency CaribVET – Caribbean Animal Health Network

Other stakeholders.

- OHLAIC.ORG <https://ohlaic.org/es>
- SAPUVETNETIII <https://www.sapuvetnet.org>
- Funding agencies (IDB-WB-CAF)
- Environmental agencies
- Society delegates
- Producers association of animal products

Academia (Ohio State University, University of West Indies - T&T campus (Prof. Christopher Oura, SAPUVET network, etc.)



IICA – Instituto Interamericano de Cooperación para la Agricultura
Organismo del Sistema Interamericano especializado en desarrollo
agropecuario y rural.
