



**Pan American  
Health  
Organization**



**World  
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REGIONAL OFFICE FOR THE Americas

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## **INTER AMERICAN MINISTERIAL MEETING ON HEALTH AND AGRICULTURE “One Health and the Sustainable Development Goals”**

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### **FUTURE TRENDS IN VETERINARY PUBLIC HEALTH TECHNICAL COOPERATION WITHIN THE ONE HEALTH AND THE SUSTAINABLE DEVELOPMENT GOALS**

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#### **INTRODUCTION**

In the last decades, food safety, emerging and re-emerging zoonosis, and environmental risks have become a topic of global importance. Within this context, cooperation programs and strategies have been incorporated and developed for the continental eradication of foot-and-mouth disease, the elimination of human rabies transmitted by dogs in the Americas, the control of bovine tuberculosis and brucellosis, the elimination of hydatid disease from the countries of the Southern Cone, and other neglected zoonosis related to poverty. Likewise, a major boost is given to the reinforcement of public and animal health services.

In this historic process, PAHO cooperation in Veterinary Public Health (VPH), from the very beginning, has been in line with the “One Health” concept, contributing to the improvement of the population’s health by means of significant achievements attained in the human health-animal health-environment interface, which are translated into intersectoral and interinstitutional working synergies which are indispensable to increase and join efforts in order to attain the health goals currently included in the 2030 Agenda for Sustainable Development.

#### **THE LINKS BETWEEN HEALTH AND AGRICULTURE**

The agriculture and health sectors are closely related. Agriculture is essential for health: it produces food for urban population consumption and is the main source of livelihood of agricultural workers who mostly work and live in rural areas. At the same time, agriculture is associated with health issues related to malnutrition, undernourishment, foodborne diseases (FBDs), zoonosis and several occupational diseases. Therefore, for instance, it is quite clear that the use of antimicrobial agents in food animals translates into the selection and spreading of resistant bacteria, which may lead to treatment failure, increased or longer hospitalizations, and prolonged illness, compared with infections by susceptible bacteria.

Likewise, health is essential for agriculture: human health problems or attitudes derived from perceiving the risk of food contamination have a negative impact on work performance, food demand, income and productivity, all of them converging in a progressive spiral of declining health and living conditions of the population.

In the dynamics of the health-agriculture link, the countries of Latin America and the Caribbean have committed, at the highest political level, to fight hunger and malnutrition and, therefore, to improve the health and quality of life of the population. In this challenge, the agricultural sector has dabbled in large-scale food production and intensive production systems with a strong incorporation of technology to satisfy a regional and international demand and a constantly growing population, mainly living in urban areas.

However, agricultural and livestock production is constantly subject to risks such as those coming from climate change, natural disasters, ecosystem and wildlife degradation, pests and diseases of plants and animals, instability of prices and markets, among others.

Several recent global events have demonstrated the importance of zoonosis, as a result of the interrelationship between humans and animals, since almost two thirds of all human pathogens are of zoonotic origin and zoonosis account for more than 75% of emerging infectious diseases, which in most cases have wildlife as reservoirs, or are transmitted by vectors or food.

The emergence and re-emergence of diseases affecting animal health add to this concern, with the resulting social and economic impact for producers and consumers, either due to losses in food production or changes in the ecosystem.

The emergence and re-emergence of foot-and-mouth disease at the beginning of the last decade in some countries of South America such as Argentina, Brazil, Paraguay, Uruguay, as well as the plans for the prevention of bovine spongiform encephalitis (BSE) and global and national emergency plans before the threat of an avian influenza pandemic can be cited as examples

## **THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT**

The Brundtland Report, prepared in 1987 by the United Nations (UN) World Commission on Environment and Development (WCED), was the first to incorporate the concept of sustainable development, which is defined as “the development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. This concept, ratified in different international meetings, is a continuity of the Millennium Development Goals (2000-2015) when the General Assembly of the United Nations approved the 2030 Agenda for Sustainable Development in September 2015.

The Agenda offers the vision of a fairer, more prosperous, pacific and sustainable world, continues and extend the Millennium Development Goals (MDGs) agreed by the countries in 2000 and provides for a Plan of Action that includes 17 goals and 169 targets (SDGs).

## SUSTAINABLE DEVELOPMENT GOALS (SDGS)

<b>Goal 1</b>	End poverty in all its forms everywhere
<b>Goal 2</b>	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
<b>Goal 3</b>	Ensure healthy life and promote well-being for all at all ages
<b>Goal 4</b>	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
<b>Goal 5</b>	Achieve gender equality and empower all women and girls
<b>Goal 6</b>	Ensure availability and sustainable management of water and sanitation for all
<b>Goal 7</b>	Ensure access to affordable, reliable, sustainable and modern energy for all
<b>Goal 8</b>	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
<b>Goal 9</b>	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
<b>Goal 10</b>	Reduce inequality within and among countries
<b>Goal 11</b>	Make cities and human settlements inclusive, safe, resilient and sustainable
<b>Goal 12</b>	Ensure sustainable consumption and production patterns
<b>Goal 13</b>	Take urgent action to combat climate change and its impacts
<b>Goal 14</b>	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
<b>Goal 15</b>	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
<b>Goal 16</b>	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
<b>Goal 17</b>	Strengthen the means of implementation and revitalize the global partnership for sustainable development

## VETERINARY PUBLIC HEALTH AND THE SUSTAINABLE DEVELOPMENT GOALS – THEIR CONTRIBUTION

The analysis of the SDGs allows to observe that VPH contributes, directly or indirectly, to most of them, particularly those relating to end poverty in all its forms, (SDG 1), end hunger, achieve food security and improve nutrition and promote sustainable agriculture (SDG 2), ensure healthy lives and promote well-being for all at all ages (SDG 3) and take urgent action to combat climate change and its impacts (SDG 13).

In response to the global commitment to sustainable development and at the request of the member countries, PAHO elaborated the document “Preparing the Region of the Americas to Achieve the Sustainable Development Goal on Health”, which particularly focuses on SDG 3. Two of the nine targets and one of the four means of implementing such goal have a direct relationship with three of the technical cooperation components of the PAHO/VPH/PANAFTOSA Program:

- Zoonosis and emerging infectious diseases
- Food safety, foodborne diseases, integrated surveillance of antimicrobial resistance
- Eradication of Foot-and-Mouth disease and strengthening of veterinary services

A fourth technical cooperation component, cutting across the above, relates to the strengthening of governance at regional, national, subnational and local levels in the field of the previous components.

## INTEGRATION OF HEALTH COOPERATION AND THE SUSTAINABLE DEVELOPMENT GOALS 2016-2020 PERIOD

GOAL 3: Ensure healthy lives and promote well-being for all at all ages			
SDG: Targets	Rationale	PAHO: Expected results	VPH Cooperation
<b>Target 3.3</b> By 2030: end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases.	Eliminating several neglected infectious diseases of the region is within reach; this achievement will benefit present and future generations	<b>IR (Intermediate Result) 1.4</b> - Increase the country capacity to develop and implement comprehensive plans, programs or strategies for the surveillance, prevention, control, or elimination of neglected, tropical or zoonotic diseases.	Zoonosis and emerging infectious diseases. Vector control. Food safety, foodborne diseases, integrated surveillance of antimicrobial resistance.
<b>Target 3.9</b> By 2030: substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil contamination	Intersectoral action to control soil contamination in order to prevent negative results for health and productivity loss that affects food safety.	<b>IR 3.5</b> - Reduce environmental and occupational threats for health.	Food safety, foodborne diseases, integrated surveillance of antimicrobial resistance.
<b>Means of implementation 3.d</b> – Strengthen the capacity of all countries, particularly developing countries, for early warning, risk reduction and management of national and global health risks.	Most disasters can be prevented or resulting damages can be reduced through preparedness, surveillance and planning.	<b>9</b> - Prevent deaths, illnesses and disabilities resulting from emergency situations. <b>IR 5.1</b> - All countries have minimal core warning and response capacities for all types of risks foreseen in the International Health Regulations (2005) <b>IR 5.2</b> - Increase country recovery capacity and preparedness to mount a rapid, predictable and effective response in case of major epidemics and pandemics. <b>IR 5.5</b> - All countries respond adequately to threats and emergencies with public health consequences	Zoonosis and emerging infectious diseases. Food safety, foodborne diseases, integrated surveillance of antimicrobial resistance. Eradication of Foot-and-Mouth Disease and strengthening veterinary services and border security (IHR).

Source: PAHO/WHO. *Preparing the Region of the Americas to Achieve the Sustainable Development Goal on Health*

The achievement of the targets and expected results of this VPH technical cooperation will contribute directly to the well-being and health of the population (SDG 3). Its scope will invariably depend on the intersectoral and inter-institutional work since activities include a broad field that goes beyond the health sector.

For instance, zoonosis and food safety control in most cases begins with the research of health determinants that leads to the joint work with national (Ministries) and local (Municipalities) entities in activities to control environmental contamination from inadequate solid waste disposal and waste from slaughtering and food processing premises, contamination of public places due to the uncontrolled presence of companion animals, the proliferation – under these circumstances – of vectors and synanthropic animals carrying zoonosis, and ongoing and integrated surveillance to interference in and/or destruction of wild ecosystems and inadequate use of wastewater and pesticide residues in the entire production chain: agriculture, livestock and industry.

Of the same importance is VPH intervention in the occurrence of natural disasters, focusing the main interventions towards the implementation of food safety measures (water and food safety), food inspection, storage, and secure supply, response to foodborne illness outbreaks, vector and rodent control, consumer education and information.

The abovementioned cooperation actions contribute, additionally, to other SDGs. The following are some examples:

<p><b>SDG 1.</b> End poverty in all its forms everywhere.</p>	<ul style="list-style-type: none"> <li>• The occurrence of neglected zoonosis is directly related to poverty. Their elimination or reduction contributes to reducing major economic spending both from government and the civil society</li> <li>• Advancements in the continental eradication of foot-and-mouth disease, as well as other pathologies affecting animal health and production, translate into the elimination of direct and indirect economic losses caused by disease, as well as by eventual sanitary restrictions to national and international trade of animals, animal products and byproducts</li> </ul>
<p><b>SDG 2.</b> End hunger, achieve food security and improved nutrition and promote sustainable agriculture.</p>	<ul style="list-style-type: none"> <li>• Control, elimination and eradication and advanced control of diseases like foot-and-mouth disease, brucellosis, tuberculosis, hydatid disease, trichinosis and rabies in animal species of economic interest have a positive impact on animal health by improving production and productivity levels of milk and meat, and contribute to food security.</li> <li>• The promotion of prudent and responsible use of antimicrobial agents in terrestrial and aquatic animals by observing national and international rules, contributes to protect consumers' health and to ensure fair commercial practices</li> </ul>
<p><b>SDG 13.</b> Take urgent action to combat climate change and its impacts.</p>	<ul style="list-style-type: none"> <li>• The surveillance of wild animals and zoonotic reservoirs enable to alert about their adaptation to climate change, wider dissemination of pathogenic agents and the modification of behavioral patterns of diseases.</li> </ul>

These examples show that health is not only a cause but also the consequence of an array of complex political, social and economic policies and the solution does not rely exclusively on the health sector but on the work and contribution of other sectors.

## ONE HEALTH AND THE SUSTAINABLE DEVELOPMENT

Inherent to the relationship between the VPH cooperation process and the SDGs, underlies the concept of “One Health”, conceived as the “governance of intersectoral, inter-programmatic and interdisciplinary efforts necessary to promote and protect the health status of people, animals and the environment”.

Within this context, the “Tripartite agreement FAO, OIE and WHO: sharing responsibilities and coordinating worldwide activities to address the health risks at the human-animal-ecosystem interface” of April 2010 is extremely important for the interagency synergy and articulation of VPH technical cooperation.

Within the scope of the Tripartite Agreement, and in its function as Veterinary Public Health Collaborating Center of the OIE, PANAFTOSA subscribes and promotes the leadership of health-agriculture-environment partnerships, according to the PAHO/WHO “Plan of Action of Health in all policies” which encourages a comprehensive response of governmental policies and highlights the importance of promoting and integrating health in all sector, including agriculture and livestock, education, work, environment, economy, household and transportation.

## **ONE HEALTH – STRATEGIC PARTNERSHIPS**

Intersectoral and multi-institutional instances are inherent to One Health, and they comprise a key reference and support platform of cooperation. This cooperation platform is integrated by:

- RIMSA: Inter-American Ministerial Meeting on Health and Agriculture
- COHEFA: Meeting of the Hemispheric Committee on Foot-and-Mouth Disease Eradication
- GIEFA: Inter American Group for the Eradication of Foot-and-Mouth Disease
- COSALFA: South American Commission for the Fight Against Foot-and-Mouth Disease
- REDIPRA: Meeting of Rabies Directors of the Americas
- COPAIA: Pan American Commission on Food Safety
- INFAL: Inter-American Network of Food Analysis Laboratories
- GFN: Global Foodborne Infections Network
- PulseNet for Latin America and the Caribbean: The Molecular Subtyping Network for Foodborne Bacterial Disease Surveillance

## **GOVERNANCE IN THE HEALTH-AGRICULTURE INTERFACE**

Governance between institutions and players of the health-agriculture-environment interface constitutes a transversal axis of VPH cooperation. The priority given to good governance is explained, among other reasons, by the occurrence, in recent years, of emerging diseases at global level, most of them of zoonotic origin, which have demonstrated the limitations of early detection and rapid response systems of the countries.

Although emerging zoonosis are generally a major concern for donors and decision-makers, endemic zoonosis, including neglected zoonosis, remain the main cause of disease burden for vulnerable groups of the population living in poverty and extreme poverty conditions.

Emergency situations of this kind have made the countries to establish response mechanisms built on intersectoral and inter-institutional work, with the active participation of organizations of the civil society. Nevertheless, experience shows that the required trust between institutions and the community for efficient intersectoral governance cannot be spontaneously generated. It should fall within and respond to intervention programs developed within a participatory and systematic planning process with all sectors and institutions involved, guaranteeing an efficient, robust and sustainable institutional framework consistent with the challenges and opportunities of “One Health” and the SDGs.

The exchange of health-related information is a key element for the governance of the health-agriculture-environment interface. For this purpose, it exists a global legal basis that rules the notification of diseases that have a high impact on public health (IHR) and animal health (Terrestrial Animal and Aquatic Animals Health Codes of the OIE). In addition, an “Operational Framework for good governance at the human-animal interface: Bridging WHO and OIE tools for the assessment of national capacities” was developed, exploring governance synergies between human health - animal health, and assessing the links and complementarities between the Performance of the Veterinary Services (PVS) evaluation tool of the OIE and the Monitoring Framework established by WHO.

Within this context, the RIMSA is the institutional platform that provides strategic management and follow-up of the progress on the good intersectoral governance at the health-agriculture-environment interface in the Region of the Americas.

## CONCLUSIONS

- From its origin, PAHO cooperation in VPH regarding zoonosis, food safety, antimicrobial resistance, and eradication of foot-and-mouth disease, falls within the intersectoral and inter-institutional health-agriculture articulation.
- The health-agriculture interface represents the scenario of top-level political commitments, related to combating poverty, hunger, and malnutrition, and improving the population's health and quality of life.
- The 2030 Agenda for Sustainable Development enables to align priorities of VPH cooperation with the Sustainable Development Goals (SDG), which propose total eradication of social, productive and health issues.
- The vision and historic exercise of "One Health" underlying VPH cooperation, as well as the priority assigned to the "Governance" of institutions and organizations of the health-agriculture interface, ensure and facilitate intersectoral and inter-institutional work, necessary to fulfill health and sustainable development goals and targets.
- From this perspective, the Inter American Ministerial Meeting on Health and Agriculture (RIMSA) - is considered a valid institutional platform to offer strategic management and follow up of the advances of the good intersectoral governance of the risks of the health-agriculture interface in the Region.

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