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**Applying a “One Health” approach to accelerate agrifood systems
transformation in the Pacific region**

Executive Summary

One Health is a holistic concept that recognizes the fundamental interconnections between the health of people, animals (terrestrial and aquatic), plants and the environment. While the formal application of programmes and policies under the One Health concept may be relatively new, the concept itself is not. In the Pacific Islands region, where traditional practices and culture are deeply intertwined with the natural world, One Health has been, and remains, a way of life.

The Pacific Islands region faces unique challenges affecting human, animal, plant and environmental health due to its vulnerability to the adverse impacts of climate change (such as rising sea levels and salinity, the increased frequency of extreme weather events, and vector-borne diseases), natural disasters, geographic remoteness, limited arable land, increasing population pressures, and small economies. In addition, the region has high rates of non-communicable diseases, straining under-resourced health care systems. This is mainly due to inadequate sources of good-quality and affordable local products, which are substituted by imported ultra-processed foods and cheap offcuts of beef, pork and poultry.

The One Health concept can help address threats to human, animal, plant and environmental health – and the associated food security and nutrition risks – by promoting collaboration, data sharing and, evidence-based decision making and by analysing the effectiveness of government policies to strengthen deficient policies and create new ones. Importantly, the increasing and unregulated use of agrochemicals and antimicrobials in the agrifood sector can be effectively addressed through a One Health approach.

In the Pacific Islands region, animals are important assets, providing food and nutrition, livelihood opportunities, substituting imports and fulfilling cultural obligations. Animal diseases therefore have far-reaching impacts on the health, culture and livelihoods of Pacific Island peoples. In this regard, strengthened biosecurity in the agrifood sector is critical not only to safeguard human health from zoonotic diseases (diseases that can spread from animals to humans), but also to prevent the emergence of antimicrobial resistance and shocks to the economy, as well as to preserve biodiversity and the environment. This applies equally to plant and aquatic pests and diseases and

This and other documents can be consulted at www.fao.org

invasive alien species such as giant African snails and coconut rhinoceros beetles in the crop sector, and vibriosis and ice-ice¹ in the fisheries and aquaculture² sector.

The FAO Strategic Framework 2022-31³ focuses on the *four betters* – *better production, better nutrition, a better environment, and a better life*. – which advance the UN 2030 Agenda for Sustainable Development⁴ and the UN Sustainable Development Goals (SDGs).⁵ The *four betters* target No Poverty (SDG 1), Zero Hunger (SDG 2) and Reduced Inequalities (SDG 10). Adopting a One Health approach can effectively contribute to these SDGs and to Good Health and Well-being (SDG 3), Gender Equality (SDG 5), Clean Water and Sanitation (SDG 6) and Climate Action (SDG 13).

FAO aims to enhance sustainable results by promoting a One Health approach to government agencies responsible for human, animal and plant health, agriculture, the environment, disaster management and climate change, as well as to donors, civil society and the community.

This paper provides an overview of the status of implementation of One Health in Pacific Island Countries (PICs), health challenges facing PIC populations, and opportunities for PICs to better address the challenges through a One Health approach with FAO's technical support.

To provide the impetus for this technical support, guidance from the Thirty-Seventh Session of the FAO Regional Conference for Asia and the Pacific (APRC) is sought on how to accelerate the application of the One Health approach by governments in the Pacific Islands region. Suggested interventions include: strengthening early warning systems and better preparedness for health threats; enhancing health, food safety and food security; preserving livelihoods and developing sustainable alternatives; adapting to climate change impacts and protecting the environment, including preserving and sustainably managing biodiversity; and ensuring adequate resources to contribute to achieving the SDGs.

Guidance requested from the Regional Conference

The APRC is invited to note the benefits of a One Health approach in the design and implementation of policies and programmes by PIC governments with support from FAO. The APRC is also invited to acknowledge the need for PIC government agencies to facilitate engagement with each other as well as with non-government stakeholders (e.g. civil society, development partners and donors) to enhance opportunities to implement a One Health approach to address multisectoral and multifaceted issues and opportunities for the Pacific Islands region, as articulated in the 2050 Strategy for the Blue Pacific Continent.⁶

The APRC is requested to:

- endorse PIC governments' application of the One Health approach to programmes, policy development, legislation, research, partnerships and resource mobilization to accelerate agrifood systems transformation in the Pacific Islands region;
- endorse that PIC governments apply One Health approaches to mitigate threats to their agriculture, forestry, livestock, and fisheries sectors through the establishment of national One Health coordination committees;
- agree that national One Health coordination committees in PICs should develop implementation plans through a whole-of-government approach, as well as through consultation with and inclusion of non-government stakeholders;

¹ A disease of seaweed.

² Agriculture includes crops, livestock, forestry and fisheries sectors.

³ [FAO Strategic Framework 2022-31](#)

⁴ [Transforming Our World: the 2030 Agenda for Sustainable Development](#)

⁵ [UN Sustainable Development Goals](#)

⁶ 2050 Strategy for the Blue Pacific Continent, Pacific Islands Forum Secretariat, 2022
<https://www.forumsec.org/2050strategy/>

- recognize FAO's leadership role in global One Health initiatives that can be contextualized to the Pacific Islands region in line with FAO's Strategic Framework and the *four betters*;
- endorse FAO's role in facilitating the establishment of a Pacific Regional One Health network; and
- recommend that a One Health concept be included in all FAO projects to improve the engagement of relevant ministries and other stakeholders to accelerate agrifood systems transformation in the Pacific Islands region.

Queries on the content of this document may be addressed to:

APRC Secretariat

APRC@fao.org

Introduction

1. The Pacific Islands region faces an existential challenge from the impacts of climate change, which is increasingly affecting the health of Pacific peoples, their environment, and their economies.⁷ Pacific Island Countries (PICs) have an estimated population of 13.5 million people living on thousands of islands with a land area of approximately 800 000 square kilometres dispersed over millions of square kilometres of the Pacific Ocean. The region encompasses a diverse range of ethnicities, cultures, languages and ecosystems. PICs have limited natural resources, narrow-based economies, are remote from major markets, and are vulnerable to external shocks. Agriculture, fishing and tourism form the backbone of many PIC economies.

2. PICs have shown renewed interest in, and support for: agriculture, forestry, livestock and fisheries; innovation in agrifood systems and value chains; and the creation of new domestic market opportunities after the COVID-19 pandemic. The COVID-19 pandemic's disruption of supply chains resulted in challenges in obtaining inputs and commercializing outputs, both as domestic sales and exports of products. As a result, incomes and productivity declined. Results of a study by the Australian Centre for International Agricultural Research published in 2020 highlight the vulnerabilities of agrifood systems in the Pacific Islands region during the COVID-19 pandemic⁸ and showed that not only were the loss of income and production by farmers and fishers evident, but also the disruption in service delivery and reverse migration to rural areas, which increased food demands and resource pressures.

What is One Health

3. One Health is defined as “an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent. The approach mobilizes multiple sectors, disciplines and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, taking action on climate change, and contributing to sustainable development.”⁹

4. The Quadripartite organizations – FAO, the United Nations Environment Programme, the World Health Organization and the World Organisation for Animal Health – have endorsed a One Health Joint Plan of Action (OH JPA),¹⁰ which aims to prepare the world to be better at preventing, detecting and responding to health threats while improving human, animal, plant and environmental health and their contribution to sustainable development. The OH JPA is a collaborative framework that can be contextualized for use in PICs to support implementation of One Health concepts in the region.

Status of One Health in Pacific Island countries

5. A strategic and planned implementation of a One Health approach in PICs is currently in its infancy. The focus of a One Health approach in PICs has been to tackle antimicrobial resistance (AMR). While a few PICs have national action plans for addressing AMR, these plans lack other aspects of health security such as biosecurity, diagnosis of zoonoses, animal health and welfare, plant and ecosystem health, and food safety.

6. Fiji, Papua New Guinea and Vanuatu have developed national action plans but implementing them has been challenging. Non-governmental organizations have established platforms in Papua New Guinea for sectors to collaboratively implement and advocate addressing AMR through a One Health approach by developing a Frontline Field Epidemiological Training Programme. The Australian Government's Commonwealth Scientific and Industrial Research Organisation has been working with the Fiji and Samoan Governments to enhance the management of AMR. The Pacific Community, through its Public Health Division and Public Health Surveillance Network, has over the

⁷ [Climate Change 2022: Impacts, Adaptation and Vulnerability](#)

⁸ [COVID-19 and food systems in the Indo-Pacific: An assessment of vulnerabilities, impacts and opportunities for action](#)

⁹ One Health definition developed by the One Health High Level Expert Panel, the Quadripartite organization's advisory panel

¹⁰ [One Health Joint Plan of Action \(2022–2026\)](#)

years hosted events to encourage One Health approaches to address AMR in the Pacific Islands region. Veterinary paraprofessional training in the Pacific Islands region incorporates One Health approaches into disease investigations and for surveillance and response activities for transboundary diseases.

7. FAO's work on One Health in the Pacific Islands region is strategically focused on raising awareness of what One Health is and its broader application. FAO has convened several One Health awareness, capacity-enhancing and planning events and transboundary animal disease preparedness and response workshops. FAO has also conducted online training courses on One Health to enhance capacity in PICs. These initiatives have been bolstered by on-the-ground and in-country training to develop technical capacity in the application of a One Health approach to bolster health security.

8. FAO promotes One Health concepts through the adoption of an all-hazards and early warning approach to incorporate major biosecurity threats into national disaster and emergency prevention, preparedness and response plans. FAO, in collaboration with PICs and other Quadripartite members and the Pacific Community, is supporting the implementation of the OH JPA to enhance One Health in the Pacific Islands region.

Challenges to the implementation of One Health

9. Despite the potential benefits of a One Health approach, several challenges remain. The most significant challenge relates to governance, policy and coordination in PICs among the main resource sectors of agriculture and health and environment. Government agencies are often focused on their own work areas within their silos, concentrating only on their respective priorities, programmes and areas of expertise. To be effective, a One Health approach requires a whole-of-government approach with high-level political commitment and structural changes to ensure cross-sectoral collaboration.

10. Another barrier to greater uptake of the One Health approach is limited human, financial and technical resources, and capacity to support One Health initiatives. In many PICs, there is a shortage of trained professionals with the necessary skills and knowledge to implement a One Health approach. This hinders the development of cross-sectoral partnerships and limits the scope and effectiveness of interventions.

11. Most PICs are geographically isolated, making communication and networking, and accessing and sharing information and resources difficult. These issues can limit the effectiveness of regional One Health initiatives and exacerbate existing health inequalities at national levels.

12. Cultural and social factors sometimes challenge formal implementation of a One Health approach in the Pacific Islands region. Traditional beliefs and practices may influence attitudes towards plants, forests, animals and aquatic resources. These must be catered for by enabling Pacific peoples to actively participate in the design and implementation of One Health strategies and interventions to ensure that these activities are culturally appropriate. For example, the cultural importance of pigs conflicted with conventional disease control measures during an outbreak of African swine fever in Papua New Guinea in 2020. This was overcome by using movement control restrictions instead of text-book control measures of destruction and disposal of infected and in-contact pigs.

13. Lastly, funding arrangements – by both governments and donors – can sometimes hinder uniform implementation of a One Health approach. Most funding is subsumed by the health sector, unless there is specific funding support for a disease outbreak that threatens agriculture. However, donors are increasingly putting One Health as a preferred, and sometimes mandated, approach to project funds.

Opportunities to leverage One Health approaches for agrifood systems transformation

14. Despite the challenges outlined above, FAO is well-positioned to provide technical support to PICs to address multisectoral challenges.

15. As noted above, Pacific peoples have a deep understanding of the connections between human and environmental health – in essence, an understanding of the One Health concept. Promoting and

preserving these practices can facilitate One Health implementation, with additional support from current scientific knowledge and technologies. The Pacific Islands region's knowledge and cultural diversity can be harnessed to promote sustainable and community-led approaches to health and agriculture management. The predominance of women and girls in health and education professions, while also strongly involved in subsistence production and marketing, provides opportunities to engage with women, especially with their role as caregivers in the home. Strong social cohesion through families, clans, communities and membership in faith-based institutions can be influential in advocating a One Health approach, particularly with respect to improving behaviour and livelihood choices.

16. Unlike Asia, which has experienced numerous outbreaks of infectious diseases of animal origin (such as highly pathogenic avian, swine influenza and severe acute respiratory syndrome), the Pacific Islands region has limited experience, apart from the COVID-19 pandemic, with tackling serious and immediate health threats requiring enforcement of One Health approaches. Extensive outbreaks of serious zoonotic diseases have not yet occurred in the Pacific Islands region, apart from bovine tuberculosis and brucellosis in Fiji and sporadic outbreaks of leptospirosis in some PICs.

17. However, PICs are regularly experiencing climate change impacts and natural disasters; managing these is a priority for many PICs. As noted above, the Pacific Islands region is highly vulnerable to the impacts of climate change, affecting the health of humans, animals, plants, forests, livestock and aquatic resources. Rising temperatures and sea levels, and extreme weather events, have led to the spread of diseases, pests, vectors and invasive species, which have affected food security, livelihoods and economies and, in some cases, resulted in the displacement of communities. Therefore, climate change and natural disasters are entry points for a One Health approach, since these have elicited inter-agency cooperation with existing governance and policy structures, including funding.

18. Contamination of water supplies affects human, animal, plant, and environmental health. A One Health approach would address the complex interplay between climate change, biosecurity and health by promoting the sustainable use of natural resources, building ecosystem resilience, and implementing adaptation strategies by promoting best practices for resource management. Such actions would reduce reliance on external inputs and strengthen the ability of the agriculture sector to cope with environmental shocks. An example of where a One Health approach can assist with mitigating health impacts caused by flooding is by managing outbreaks of water-borne diseases such as leptospirosis. Further challenges exist, including: provision of clean water and sanitation; provision of nutritious food and associated food preparation and food safety issues; transmission of communicable diseases; and, in some cases, maintenance of law and order. Livestock also need to be relocated, fed and watered, and crops need to be salvaged and rehabilitated. Such situations can be effectively managed by adopting a multi-agency synergistic approach, including governments, communities, civil society and the media.

19. **Disease surveillance, prevention, preparedness and response** are important for the Pacific Islands region, which is home to several zoonotic diseases, such as tuberculosis, brucellosis and leptospirosis. Climate change and increased connectivity due to international trade and travel are some factors that contribute to the spread of diseases. The lack of adequate biosecurity at international and national borders presents threats for agrifood sectors. A One Health approach can help strengthen the capacity of PICs early warning systems to detect, prevent and respond to diseases, pests and invasive alien species. Improved surveillance systems, laboratory networks and communication channels can enable timely detection and response to outbreaks. At present, there is a lack of data on disease prevalence and transmission in the Pacific Islands region, particularly in the livestock subsector, but also in the plant, forestry and fisheries subsectors. This makes it difficult to accurately monitor and track health issues or to detect and respond to emerging health threats in a timely manner. A One Health approach can promote the development of integrated disease surveillance systems. This allows for early warning and response to disease outbreaks, thus reducing the risk of disease transmission and improving health outcomes. Mapping of infected areas can also assist disease control programmes and raise awareness of hotspots to be monitored.

20. **Non-communicable diseases** such as diabetes, cardiovascular disease and cancer are a growing problem in the Pacific Island region, driven in part by lifestyle and dietary changes and choices. All PICs depend heavily on imported food products. Affordability by local communities is a key consideration. Nutritionally deficient animal products (such as lamb flaps and turkey tails) and canned meat and fish are examples. Non-communicable diseases have a significant adverse impact on the health and well-being of Pacific peoples. Import substitution through increased and sustainable livestock, crops and fisheries production can attract consumers to these healthier food choices.

21. **Food and water safety** are also important for PICs due to their dependence on subsistence farming and fishing for their livelihoods and food security. The Pacific Islands region is home to many small-scale food producers who lack the resources to implement good hygiene and food safety practices. This can result in foodborne illnesses affecting human, animal and environmental health. Food safety is the responsibility of all sectors since it involves improved hygiene practices in food production, processing, preservation and preparation. A One Health approach can support sustainable farming, forestry, livestock and fishing practices as well as better food production and preservation techniques that promote food and water safety. Good hygiene practices improve animal and aquatic health, thereby reducing the need for antimicrobials in livestock and aquaculture production. Collaboration between health, agriculture and environmental sectors can also improve the management of agrochemical and antimicrobial use, waste and wastewater, to reduce the risk of waterborne diseases and preserve waterways. The Pacific Islands region has a rich diversity of traditional agrifood systems and cultural practices, and a One Health approach can help to strengthen these local agrifood systems by supporting the production and consumption of traditional foods (e.g. substituting taro for imported potatoes), reducing food waste, promoting alternative uses of food waste (e.g. compost and silage) as well as improving food safety and quality.

22. FAO can support the advancement of a One Health approach by providing policy, legislative and technical assistance to help PICs set national targets and priorities across the agrifood sectors.

Summary

23. A One Health approach recognizes the interconnections between human and environmental health and agriculture. One Health concepts have the potential to significantly accelerate agrifood systems transformation in the Pacific Islands region and contribute to achieving the Sustainable Development Goals. By adopting a One Health approach, PICs can develop strategies that promote early warning of health and other biosecurity threats; promote sustainable farming, forestry, livestock and fisheries practices; strengthen food safety and improve nutrition; and mitigate the risks of climate change.

24. One of the key benefits of a One Health approach is its ability to promote collaboration and coordination among different sectors and disciplines. This collaboration can lead to the development of comprehensive policies, regulations and interventions that address the complex challenges faced by agrifood production systems in the Pacific Islands region. By involving stakeholders from agriculture, public and animal health, the environmental sciences and other relevant fields, a greater holistic, synergistic, integrated and Pacific-appropriate approach can be achieved.

25. Furthermore, a One Health approach can help build resilience in food production systems, which is crucial in the face of the impacts of climate change, natural disasters, and other environmental and economic stressors. By considering the inter-connectedness of humans and the environment that all production sectors depend upon, strategies can be developed to mitigate the impacts of climate change, improve disaster preparedness, and promote sustainable land and aquatic management practices.

26. However, the successful implementation of a One Health approach requires strong political commitment, adequate resources, effective governance structures, and sustained efforts to raise awareness and build capacity. It is therefore essential to engage all relevant stakeholders – from agriculture, public and animal health, the environmental sciences and other relevant fields – to ensure the successful adoption and implementation of a One Health approach. Through effective

collaboration, the possibility to develop strategies that promote the health and well-being of humans, animals and plants, and the environment in the Pacific Islands region can be realized.

27. We are all responsible for One Health.