

# PRACTICAL ACTIONS TO OPERATIONALIZE THE ONE HEALTH APPROACH IN THE ASIAN DEVELOPMENT BANK

*Najibullah Habib, Jane Parry, Rikard Elfving, and Bruce Dunn*

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# Practical Actions to Operationalize the One Health Approach in the Asian Development Bank

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## ABBREVIATIONS

ACGF	- ASEAN Catalytic Green Finance
ADB	- Asian Development Bank
AMR	- antimicrobial resistance
ASEAN	- Association of Southeast Asian Nations
COVID-19	- coronavirus disease
DMC	- developing member country
FAO	- Food and Agriculture Organization of the United Nations
GMS	- Greater Mekong Subregion
NGO	- nongovernment organization
OECD	- Organisation for Economic Co-operation and Development
OIE	- World Organisation for Animal Health
PRC	- People's Republic of China
SARS	- severe acute respiratory syndrome
SDG	- Sustainable Development Goal
UN	- United Nations
UNEP	- UN Environment Programme
WHO	- World Health Organization



## EXECUTIVE SUMMARY

One Health is an approach to human, animal, plant, and ecological health challenges that starts from a simple premise: these are all interconnected, and their solution demands communication, coordination, and collaboration across multiple sectors, disciplines, and levels of government. Using One Health as a framework is key to post-coronavirus disease (COVID-19) green economic recovery, reaching the Sustainable Development Goals, and global health security. The One Health concept is rapidly gaining traction in the development space and in developing member countries (DMCs) of the Asian Development Bank (ADB). The big-picture issues that One Health is particularly aligned with are highly relevant to the Asia and Pacific region, including zoonotic diseases, antimicrobial resistance, food security, ecological security, pollution and health, and climate change. One Health aligns with ADB's Strategy 2030 and supports its operational priorities, as well as its aspirations to be a convener of partnerships and essential knowledge solutions provider to DMCs. One Health has the potential to be transformational for the work of international development organizations like ADB—which could be achieved by putting together a cross-sectoral strategy, financial commitment to One Health projects, and active engagement with DMCs and development partners to work together on One Health initiatives.



## INTRODUCTION

This paper explains the concept of One Health, its alignment with Strategy 2030 of the Asian Development Bank (ADB), and its strong relevance to addressing complex development challenges. The objective is to encourage the use of a One Health framework by policy makers and international development organizations.

The coronavirus disease (COVID-19) pandemic has dramatically illustrated the interconnection of humans, animals, and the ecosystem we share. Scientists have long warned that the extent of human pressure on ecosystems is unsustainable and is unlocking serious risks to the environment and to human and animal health.<sup>1</sup> It is also creating a triple planetary emergency in terms of climate, biodiversity, and pollution.<sup>2</sup> Although a novel disease, COVID-19 is just the latest in a long line of human diseases that have made the leap from an animal source: two thirds of all communicable diseases are zoonoses. The accelerating encroachment of human habitation not only increases the risk of diseases spreading from animal hosts to humans. It also puts an ever-greater strain on the natural environment through reduction of biodiversity, pollution, and habitat degradation on land, in freshwater systems, and at sea.

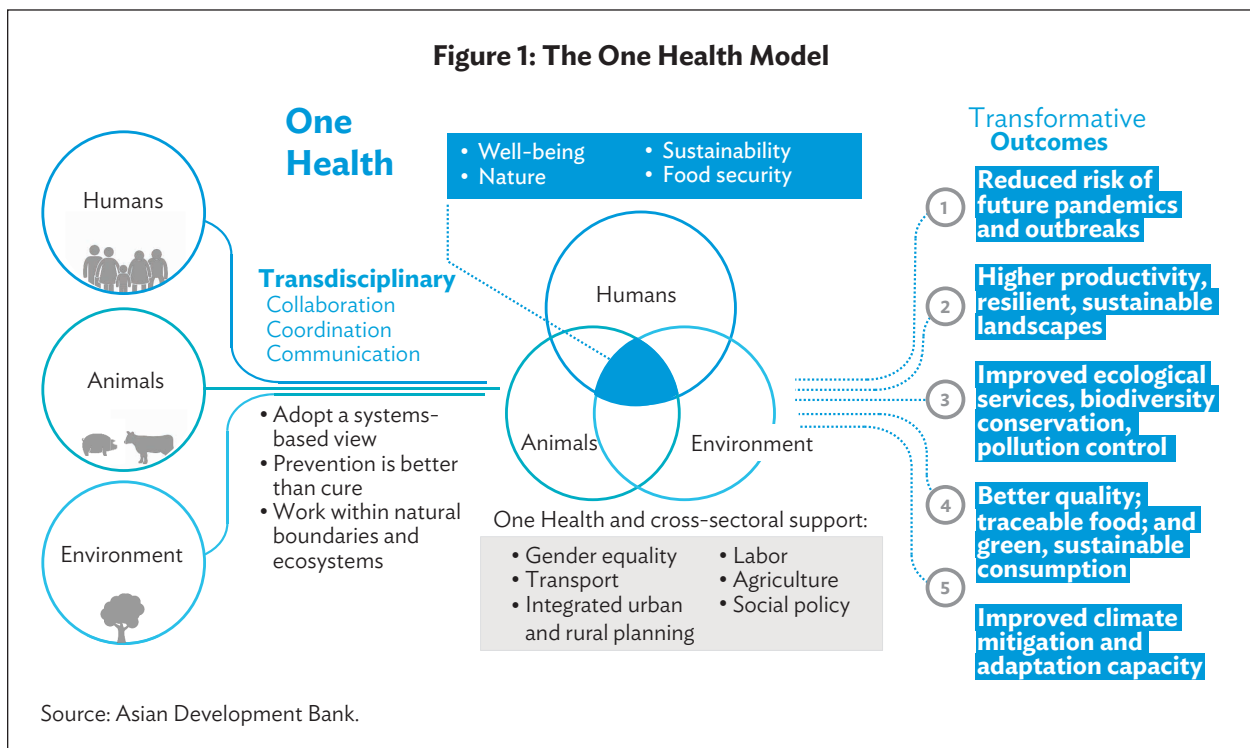
Unprecedented weather events and natural disasters have been signals—loud and clear—that we are amid a climate crisis that—left unchecked—poses an existential threat. Natural disasters have increased fivefold over the past 5 decades, according to a report from the World Meteorological Organization of the United Nations (UN), driven largely by global warming.<sup>3</sup> Similarly, the UN Intergovernmental Panel on Climate Change starkly laid out the magnitude of the climate crisis.<sup>4</sup> It called for strong, rapid, and sustained reductions in greenhouse gas emissions that even then will only mitigate the damage already done.

Development challenges of this magnitude that cut across human, animal, and ecological health can only be solved with a concerted effort that transcends sectoral and jurisdictional boundaries, and embodies regional cooperation and integration. This need for cross-sectoral cooperation has been widely recognized in ADB.

# I. WHAT IS ONE HEALTH?

## A. One Health is a Framework for Understanding the Interconnectedness of Development Problems

One Health is an approach to human, animal, plant, and ecological health challenges that starts from a simple premise: these are all interconnected, and their solution demands communication, coordination, and collaboration across multiple sectors, disciplines, and levels of government. The essence of One Health is interdependence (Figure 1).<sup>5</sup> While the interests of human, animal, agricultural, and ecological sectors may seem at times to be in conflict, the reality is the needs of one are impossible to address in a sustainable way without considering the needs of the others. The simplest way to express the aspirations of One Health is: a healthy ecosystem, healthy community, and healthy people with sustainable livelihoods.



One Health is defined by the convergence of major forces affecting our world. These include changing human demographics, climate change, food insecurity, systems of plant and animal production, and global disease threats.<sup>6</sup> It is an approach that is collaborative, multisectoral, and transdisciplinary. It can work at all levels—local, regional, national, and global—with a common goal: optimal health outcomes for people, animals, plants, and their shared environment.<sup>7</sup> One Health is an idea whose time has come, due to a confluence of social and environmental needs, and enabling technological advances, and has a clear set of principles (Figure 2). However, it is not a new idea and has links back to traditional knowledge and nature-based medicines.

### The Origins of One Health

In the late 1880s, Rudolph Virchow (known as the founder of pathology and of social medicine) coined the term “zoonosis” with which we are now all too familiar. Together with Canadian physician William Osler, Virchow advocated for veterinary and human medicine to be under a single set of practices, a concept they called One Medicine. The pair were ahead of their time because it was not until the 1960s that the concept of One Medicine took off, and morphed into the One Health concept that we know today, integrating many other disciplines beyond human and veterinary medicine, such as environmental science, agriculture, and ecology.

By the early 2000s, there was enough momentum behind the idea of One Health that a conference in New York in 2004 held by the Wildlife Conservation Society brought together experts from multiple disciplines, who agreed on 12 principles to help frame the interconnection between animal, human, and ecological health. The Manhattan Principles were then updated in 2019 to become The Berlin Principles (Figure 2).

In 2008, a number of United Nations (UN) agencies, including the Food and Agriculture Organization, the World Organisation for Animal Health, and the World Health Organization, together with the World Bank, developed a Joint Strategic Framework in Response to the Evolving Risk of Emerging and Re-Emerging Infectious Diseases. The same year, representatives from more than 120 countries and 26 international and regional organizations endorsed a new strategy for fighting avian influenza and other infectious diseases, based on the framework, and focusing on infectious disease control at the intersection of animals, humans, and ecosystems.<sup>a</sup>

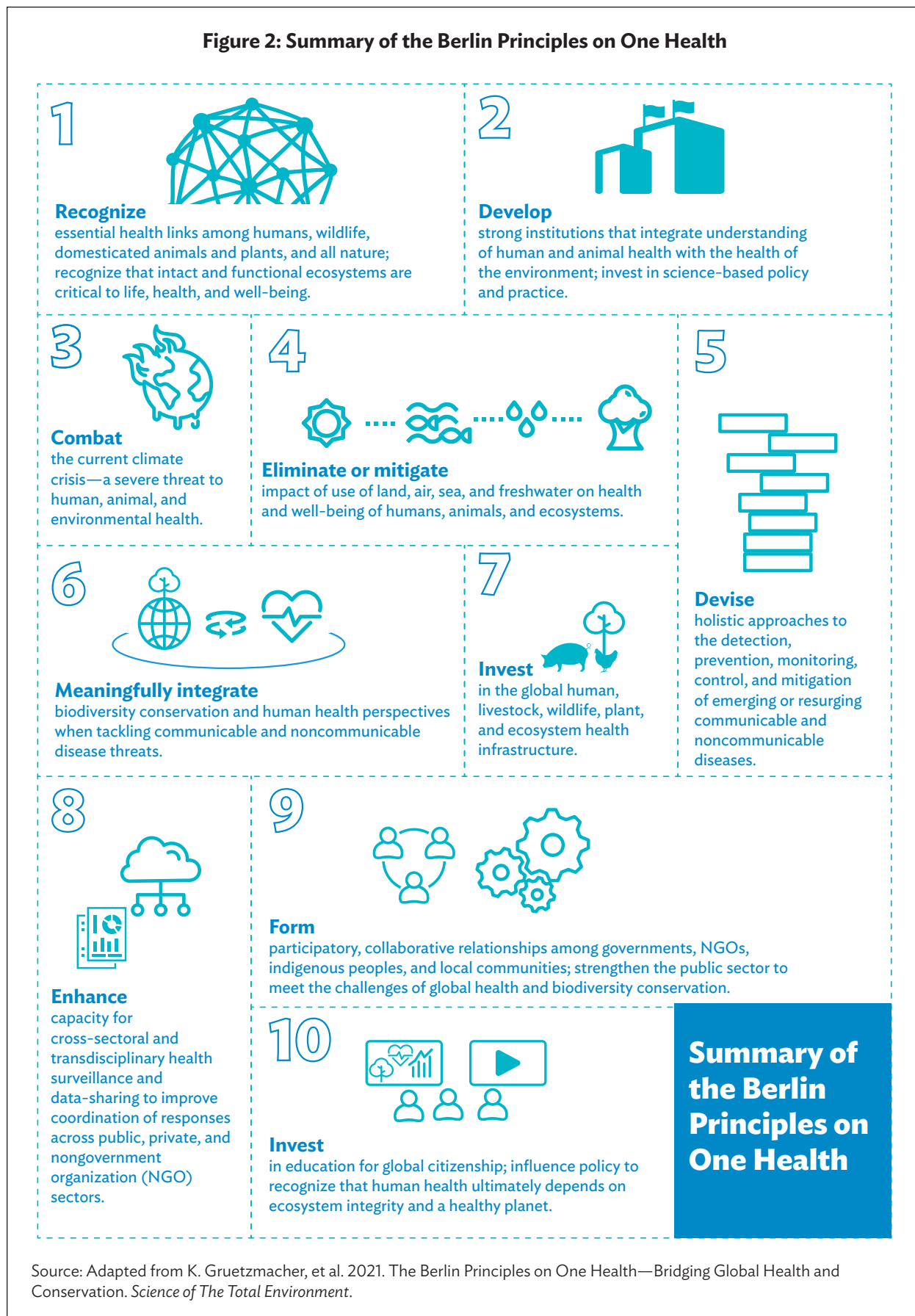
One Health was subsequently taken up by governments, UN agencies, and development banks, in the form of policies, plans, and operational frameworks, but the focus was often on human health and the interface with animal health, with the majority of its proponents and experts drawn from public health and veterinary science. The reality is these issues cannot be addressed without due attention to ecological aspects of One Health.<sup>b</sup>

<sup>a</sup> Centers for Disease Control and Prevention. One Health.

<sup>b</sup> J. Zinsstag et al. 2012. Convergence of Ecohealth and One Health. *EcoHealth*. 9:371–373.

Source: Asian Development Bank.

**Figure 2: Summary of the Berlin Principles on One Health**

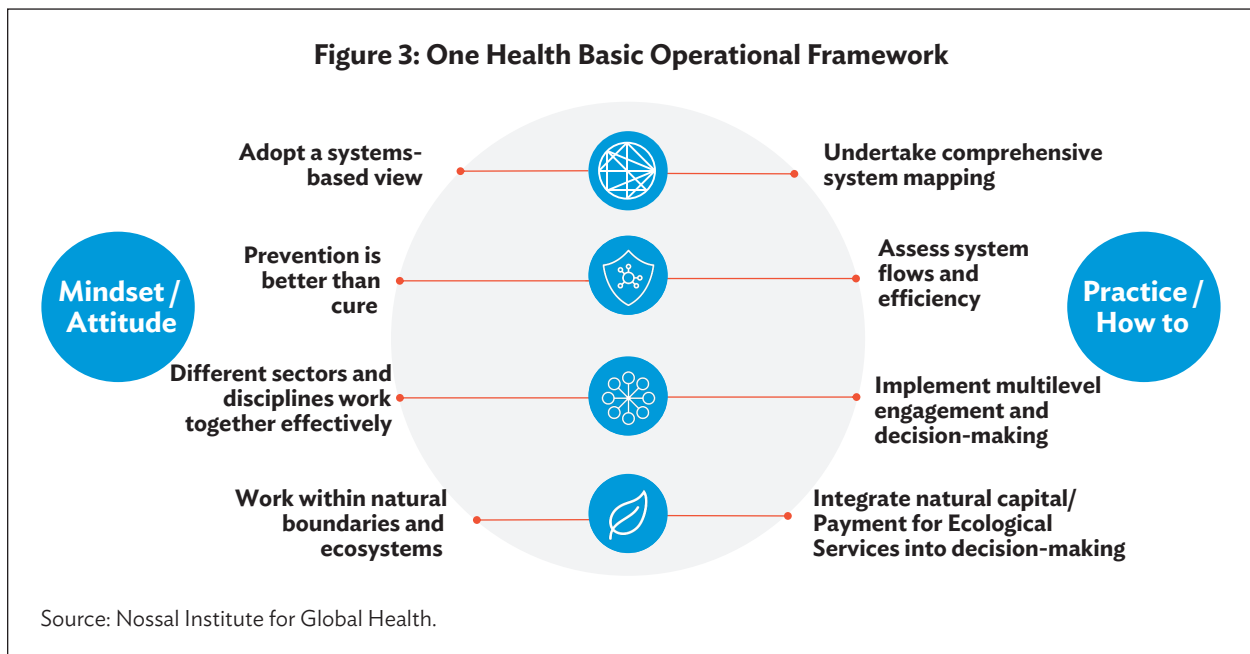


Source: Adapted from K. Gruetzmacher, et al. 2021. The Berlin Principles on One Health—Bridging Global Health and Conservation. *Science of The Total Environment*.

## B. One Health Promotes Systems Thinking

Taking a One Health approach means seeking synergies linking cause-and-effect relationships between nature, people, and our economic activities. One Health is both a theoretical approach to understanding the interrelationships between human, animal, and ecological health; and a practical framework. This framework can be applied to an activity, program, or project so that stakeholders are better informed about potential benefits and risks, and are better equipped to address them. Using One Health as a basic operational framework (Figure 3) enables us to conceptualize human, animal, and ecological health together and to come up with development solutions based on harmony among the three, rather than pitting the interests of one against the others.

Beyond its technical function, One Health also advocates for a change of mindset, encouraging people to take a broader, systems-based approach to problem-solving. By integrating knowledge from different disciplines, One Health opens options for novel and innovative starting points, and it is a way of identifying more efficient and equitable interventions to achieve greater outcomes than are possible when working in a single sector.<sup>8</sup>



Undoubtedly, One Health has its challenges: collaboration and integration are not easy, and the benefits of taking a One Health approach may require a longer time frame to measure success. Stakeholders often need to go upstream from presenting the problem they are trying to solve because this is where sustainable, long-term solutions are found. Although the One Health concept has existed for some time, until recently, its use has been hampered by a lack of financing for research and development that links it with tangible projects. There was a lack of tools, methodologies, and leadership to drive the agenda forward. Implementing One Health projects remains complex because it invariably entails collaboration among multiple parties and requires creating incentives for collaboration. However, the problems we face are complex, and using a One Health framework enables us to better understand the synergies between different efforts to address human, animal, and ecological health issues. It also provides a mechanism for us to better understand the ways in which these issues can be antagonistic too, and therefore, it equips us to mitigate the risk of addressing one area (e.g., a threat to human health, like avian influenza) at the expense of another (e.g., the mass culling of domestic poultry).

## 1. One Health and COVID-19

To understand the value of such a systems-thinking framework, one only needs to look at the COVID-19 pandemic. It has put pressure on human communities in many ways, not just within the health systems that have been overwhelmed by the cases of the disease itself. It has also severely disrupted supply chains, especially for food. COVID-19 has interrupted education for children all over the world. It has in many countries massively reduced, and at times even frozen, the movement of goods and people across borders. The cost has been huge. A May 2020 report by ADB put the potential economic impact on Asia and the Pacific at an estimated \$1.7 trillion (6.2% of regional gross domestic product) under a 3-month containment scenario and \$2.5 trillion (9.3% of regional gross domestic product) under a 6-month containment scenario.<sup>9</sup> The region is already well beyond such short-term containment time frames.

COVID-19 has given us pause for thought about our relationship with nature, and has injected much-needed impetus to calls for green economic recovery, nature-based solutions, and truly sustainable development.<sup>10</sup> One Health can help incorporate all these aspects into our process of post-COVID-19 recovery.

## 2. The Next Pandemic and Beyond

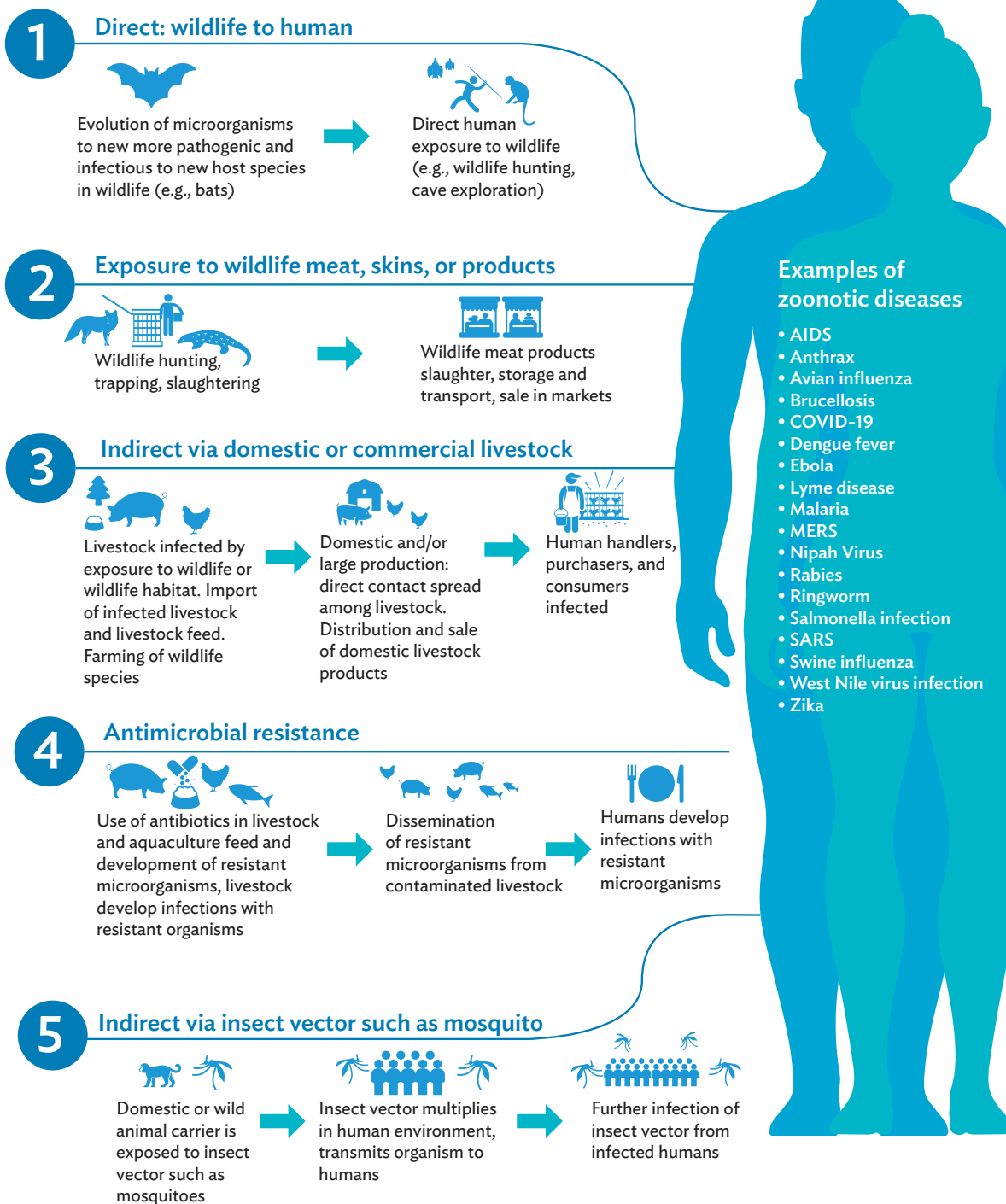
Beyond COVID-19, one of the most obvious ways in which One Health can be useful is in future pandemic prevention, considering the multiple pathways through which microorganisms in wildlife can directly or indirectly impact human health (Figure 4).

However, the scope of One Health to promote systems thinking is far wider than pandemic prevention. Even only looking at human health, One Health addresses other pressing issues too, including antimicrobial resistance, food safety, food security, vector-borne diseases, environmental contamination, and other health threats shared by people, animals, and the environment.

One Health is concerned with diseases of animal origin that are not only a major threat to human health, but also imperil the health of animals.<sup>11</sup> Moreover, One Health is concerned with our use, stewardship, and protection of the natural environment, the grave threats posed by environmental degradation and climate change, and how actions for protecting human health and food supply can affect ecological conditions. One Health's practical applications for a systems-thinking approach can be found in almost every sector.



**Figure 4: Pathways for Impact of Wildlife on Human Health**



AIDS = acquired immunodeficiency syndrome, COVID-19 = coronavirus disease, MERS = Middle East respiratory syndrome, SARS = severe acute respiratory syndrome.

Source: Nossal Institute for Global Health.

## **C. One Health is Key to Post-COVID-19 Green Economic Recovery, Reaching the Sustainable Development Goals, and Global Health Security**

### **1. One Health and Post-COVID-19 Green Economic Recovery**

Although One Health's origins lie in the professions and scientific expertise of public health, livestock, wildlife, and animal diseases, its reach is extending, and the benefits of a One Health approach are being seen in broader terms as a green development solution or tool. The COVID-19 crisis is an important step toward the value of One Health being more broadly understood,<sup>12</sup> and post-COVID-19 pandemic recovery is a significant driver behind increased interest in this approach.<sup>13</sup> One Health is a green development solution that can support “building back better” as economies and the region emerge from COVID-19 and seek to create a sustainable, equitable future.

A 2020 report by the New Nature Economy project and published by the World Economic Forum points to a “nature-first” approach as a jobs-first solution.<sup>14</sup> Nature-positive solutions range from large-scale to local level. Large-scale solutions, for example, involve effective spatial planning to identify areas for human development that locate infrastructure in ways that minimize damage to endangered species and primary ecosystems. Local-level solutions could be improving drainage initiatives that reduce habitat for disease vectors while creating better water quality and sanitation, and reducing flood risk.

One Health can reveal multiple benefits that will improve, for example, agricultural practices while also addressing the health of farmers. In urban settings too, a One Health approach can be used to, for instance, address the need for green space, good ecology, a clean environment, and improved sanitation and drinking water in a coordinated way. Taking a One Health approach can lead to initiatives that improve health and quality of life for all, such as water-absorbing landscapes, and “sponge” cities and towns.<sup>15</sup> It can influence the creation of green supply chains, clean air, water, soil, and reduction of flood risks.

### **2. One Health and the Sustainable Development Goals**

Gains in human development have often come at an unrecognized and high price for ecosystems. We have now reached a tipping point whereby ecosystem degradation and deterioration in biodiversity threaten to reverse the human health gains of the last century.<sup>16</sup> These antagonisms also exist between the Sustainable Development Goals (SDGs), for example, between SDG 3: good health and wellbeing, and SDG 8: decent work and economic growth.<sup>17</sup>

One Health offers a way to address this by taking a multidisciplinary and transdisciplinary approaches. The need for transdisciplinary collaboration is essential for success by 2030, including incorporation of One Health into most or all of the SDGs.<sup>18</sup> The Lancet One Health Commission notes that the SDGs “in themselves can be understood as embodying a One Health strategy aimed at healthy people living on a perpetually habitable planet.”<sup>19</sup> One Health offers a framework to break down the silos between human, animal, plant, and ecosystem health, and support efforts to reach the targets of the SDGs in all these domains.

### **3. One Health and the Global Health Security Agenda**

In Asia and the Pacific, emerging and reemerging infectious diseases, growing antimicrobial resistance, and the health impacts of climate change and frequent natural disasters pose threats to regional health security.<sup>20</sup> The movement of people across borders, both as workers and as tourists, has been seriously affected by the COVID-19 pandemic. The negative impact on this movement will continue unless good One Health approaches are included in the post-COVID-19 recovery process. Reducing the risks to health security, including future pandemics, relies on both transboundary cooperation and

cross-sectoral support on issues such transport, urban planning, labor, environment, agriculture, and social policy.<sup>21</sup> Both the global and regional health security agendas can benefit from taking a One Health approach.<sup>22</sup> Moreover, future pandemic prevention and preparedness rely on the creation of regional and global public goods such as containing antimicrobial resistance, and building stronger and more inclusive national health and delivery systems.<sup>23</sup>






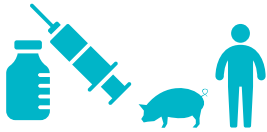

#### **D. One Health is Gaining Momentum**

The One Health concept and its value is gaining traction in the development space (Figure 5). For example, the World Bank published its One Health operational framework in 2018,<sup>24</sup> and now has over \$1.5 billion invested in One Health operations, including livestock and agriculture projects that include One Health approaches.<sup>25</sup> Food Systems 2030, a new World Bank Multi Donor Trust Fund intends to utilize \$1 billion by 2030 to support the creation of sustainable food systems and promote new agriculture and food models that simultaneously improve the health of people, planet, and economies.<sup>26</sup>

The United States Agency for International Development (USAID) has extended its long-standing involvement in the field of global pandemic threat prevention<sup>27</sup> to take a One Health approach to connect the dots between human health and the environment.<sup>28</sup> Within the United Nations (UN) system, collaboration on One Health is also expanding. In late 2020, the UN Environment Programme joined other UN agencies, including the Food and Agriculture Organization (FAO), the World Organisation for Animal Health (OIE), and the World Health Organization (WHO) to form the One Health High-Level Expert Council. The agencies agreed to strengthen their collaboration, building on existing FAO, OIE, and WHO tripartite cooperation, to address risks at the human–animal–environment interface and have a joint secretariat.<sup>29</sup>

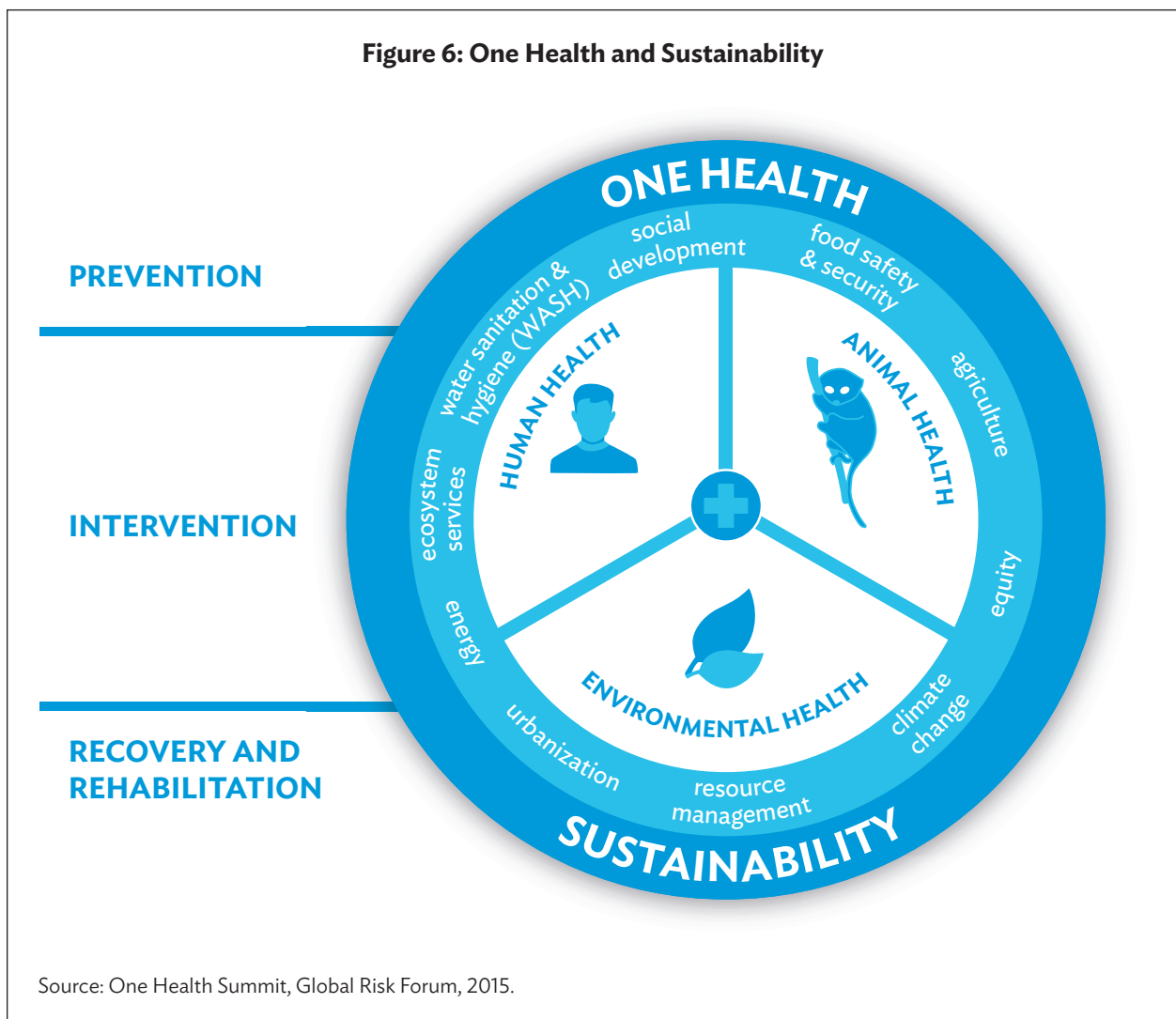
In June 2021, the Group of Seven (G7) nations, included One Health in the final communiqué of its summit, with acknowledgment of the importance of “improving integration, by strengthening a “One Health” approach across all aspects of pandemic prevention and preparedness, recognizing the critical links between human and animal health and the environment.”<sup>30</sup> Meanwhile, in the region, the Association of Southeast Asian Nations (ASEAN) has taken up One Health, with the Leaders’ Declaration on Antimicrobial Resistance (AMR): Combating AMR through One Health Approach in 2017.<sup>31</sup>

Figure 5: Public Health Examples of One Health in Action

<p><b>Ecological countermeasures for Lyme disease</b> <span style="float: right;">(A)</span></p>  <p>Japanese barberry increases Lyme disease risk by supporting pathogen vectors (ticks) and hosts (mice). Lyme disease risk is mitigated by Japanese barberry eradication and native plant restoration. Low Lyme disease risk facilitates outdoor recreation, benefiting human health and the economy.</p>	<p><b>Living safely with bats</b> <span style="float: right;">(B)</span></p>  <p>Teams working with the Ebola Host Project in West Africa identified a need to provide behavior change strategies as they relate to Ebola and living safely with bats following the discovery of a new Ebola virus in bats in Sierra Leone.</p>	<p><b>Crowdsourcing to report and respond to zoonotic diseases</b> <span style="float: right;">(C)</span></p>  <p>In Thailand, farmers, local health volunteers, and human and animal health officers are using mobile technology to report zoonotic diseases that pose a serious threat to the health of people and animals.</p>
<p><b>One Health approach to rabies control in India</b> <span style="float: right;">(D)</span></p>  <p>The Indian state of Tamil Nadu has pioneered a One Health committee to address the challenge of rabies in dogs and humans. In the State of Sikkim, good engagement with local communities led to controlling dog population, helped to control rabies but also addressed dogfighting and other concerns.</p>	<p><b>Integrating livelihood and forest protection in Cambodia and Nepal</b> <span style="float: right;">(E)</span></p>  <p>The Healthy People, Healthy Forest project in Cambodia used a systems based integrated approach to get better health outcomes along with better environmental outcomes. Community Forestry User Groups in Nepal reduced native forest deforestation and acute respiratory infections by focusing on improved cookstoves that use less wood and produce less smoke.</p>	<p><b>Human and animal vaccination delivery to remote nomadic communities in Chad</b> <span style="float: right;">(F)</span></p>  <p>A joint human–livestock vaccination campaign resulted in a 15% cost reduction in operational costs compared with separate vaccination campaigns, in addition to benefits from increased vaccination of humans.</p>
<p><b>Schistosomiasis control in the People's Republic of China</b> <span style="float: right;">(G)</span></p>  <p>A new mitigation program for schistosomiasis integrated case detection and morbidity control in humans, molluscicide treatment, health education, surveillance, and environmental management and livestock control initiatives. The integrated program created a net benefit for society of \$6.20 per \$1 invested.</p>	<p>Sources:</p> <p>A: J. Reaser et al. 2020. Ecological Countermeasures for Pandemic Prevention: When Ecological Restoration Is a Human Health Imperative. <i>EcoEvoRxiv</i>. (6 Dec.). <a href="https://ecoevorxiv.org/bthsm/">https://ecoevorxiv.org/bthsm/</a>.</p> <p>B: PREDICT Consortium. 2020. <i>Advancing Global Health Security at the Frontiers of Disease Emergence</i>. Davis, CA: One Health Institute, University of California. <a href="https://ohi.vetmed.ucdavis.edu/sites/g/files/dgvnsk5251/files/inline-files/PREDICT%20LEGACY%20-%20FINAL%20FOR%20WEB_0.pdf">https://ohi.vetmed.ucdavis.edu/sites/g/files/dgvnsk5251/files/inline-files/PREDICT%20LEGACY%20-%20FINAL%20FOR%20WEB_0.pdf</a>.</p> <p>C: Centers for Disease Control and Prevention. 2018. <i>Crowdsourcing to Report and Respond to Zoonotic Diseases</i>. <a href="https://www.cdc.gov/onehealth/in-action/crowdsourcing.html">https://www.cdc.gov/onehealth/in-action/crowdsourcing.html</a>.</p> <p>D: M.C. Fitzpatrick et al. 2016. One Health Approach to Cost-Effective Rabies Control in India. <i>Proc Natl Acad Sci</i>. 113(51). pp. 14574–14581. <a href="https://www.pnas.org/content/113/51/14574/tab-article-info">https://www.pnas.org/content/113/51/14574/tab-article-info</a>;</p> <p>H. Byrnes et al. 2017. Eliminating Dog-Mediated Rabies in Sikkim, India: A 10-Year Pathway to Success for the SARAH Program. <i>Frontiers in Veterinary Science</i>. 4(28). <a href="https://www.frontiersin.org/articles/10.3389/fvets.2017.00028/full#:~:text=A%20third%20of%20the%20world,of%20dog%2Dmediated%20rabies%20elimination">https://www.frontiersin.org/articles/10.3389/fvets.2017.00028/full#:~:text=A%20third%20of%20the%20world,of%20dog%2Dmediated%20rabies%20elimination</a>.</p> <p>E: L. D'Agnes. 2009. <i>The Population, Health and Environment (PHE) Pathway to Livelihoods Improvement: Lessons and Best Practices from Nepal</i>. Nepal: USAID; V. S. Rao. 2008. <i>Health and Conservation in the Cardamoms in Cambodia: Lessons from the CI-CARE Partnership</i>. Cambodia: Conservation International. <a href="https://toolkits.knowledgesuccess.org/sites/default/files/Nepal_PHE_Report_October%202009.pdf">https://toolkits.knowledgesuccess.org/sites/default/files/Nepal_PHE_Report_October%202009.pdf</a>.</p> <p>F: E. Schelling, M. Bechir, M.A. Ahmed, et al. 2007. Human and Animal Vaccination Delivery to Remote Nomadic Families in Chad. <i>Emerging Infectious Disease</i>. 13 (3). pp. 373–379.</p> <p>G: X.-N. Zhou et al. 2005. An Economic Evaluation of the National Schistosomiasis Control Programme in China from 1992 to 2000. <i>Acta Tropica</i>. 96: 255–265.</p>	

## II. WHY DOES ONE HEALTH MATTER TO ADB AND ITS DEVELOPING MEMBER COUNTRIES?

As Asia and the Pacific has evolved and changed, so too has ADB, along with the development issues it seeks to address. Guided by Strategy 2030, ADB is committed to working with developing member country (DMC) governments toward a prosperous, inclusive, resilient, and sustainable Asia and the Pacific.<sup>32</sup> ADB's operations abide by three principles: a country-focused approach, promotion of innovative technology, and delivering integrated solutions. The One Health approach is supportive of all three principles. Inside a framework for a green recovery, One Health can provide the basis for integrating protection and restoration of ecosystems, preservation of human and animal health, and provision of long-term economic benefits (Figure 6).



## **A. One Health Can Help Tackle Some of the Biggest Threats to Development in Asia and the Pacific**

The big-picture issues that One Health is particularly aligned with are highly relevant to Asia and the Pacific, including zoonotic diseases, antimicrobial resistance, food security, ecology and environmental degradation, and climate change. Tackling these issues is also an important part of improving the quality of development.

### **1. Communicable Disease Threats to Human Health**

Long before COVID-19, many other zoonotic diseases have emerged from the region with devastating results. The Asian highly pathogenic avian influenza A (H5N1) virus led to the mass culling of poultry flocks and human infections and deaths. The 2003 SARS outbreak infected an estimated 8,000 people and killed 800, and at the same time devastated the Asia and Pacific region's tourism and aviation sectors.<sup>33</sup>

Antimicrobial resistance, resulting from overuse and misuse of antibiotics in humans and their widespread use as a medication and growth promoter in livestock rearing and aquaculture, poses a major threat to both human and animal health in the region.<sup>34</sup> A 2019 report to the UN warned that drug-resistant diseases could cause 10 million deaths each year by 2050, and by 2030, antimicrobial resistance could force up to 24 million people into extreme poverty.<sup>35</sup> Asia and the Pacific are projected to account for 4.73 million antimicrobial-resistant-related deaths by 2050.<sup>36</sup>

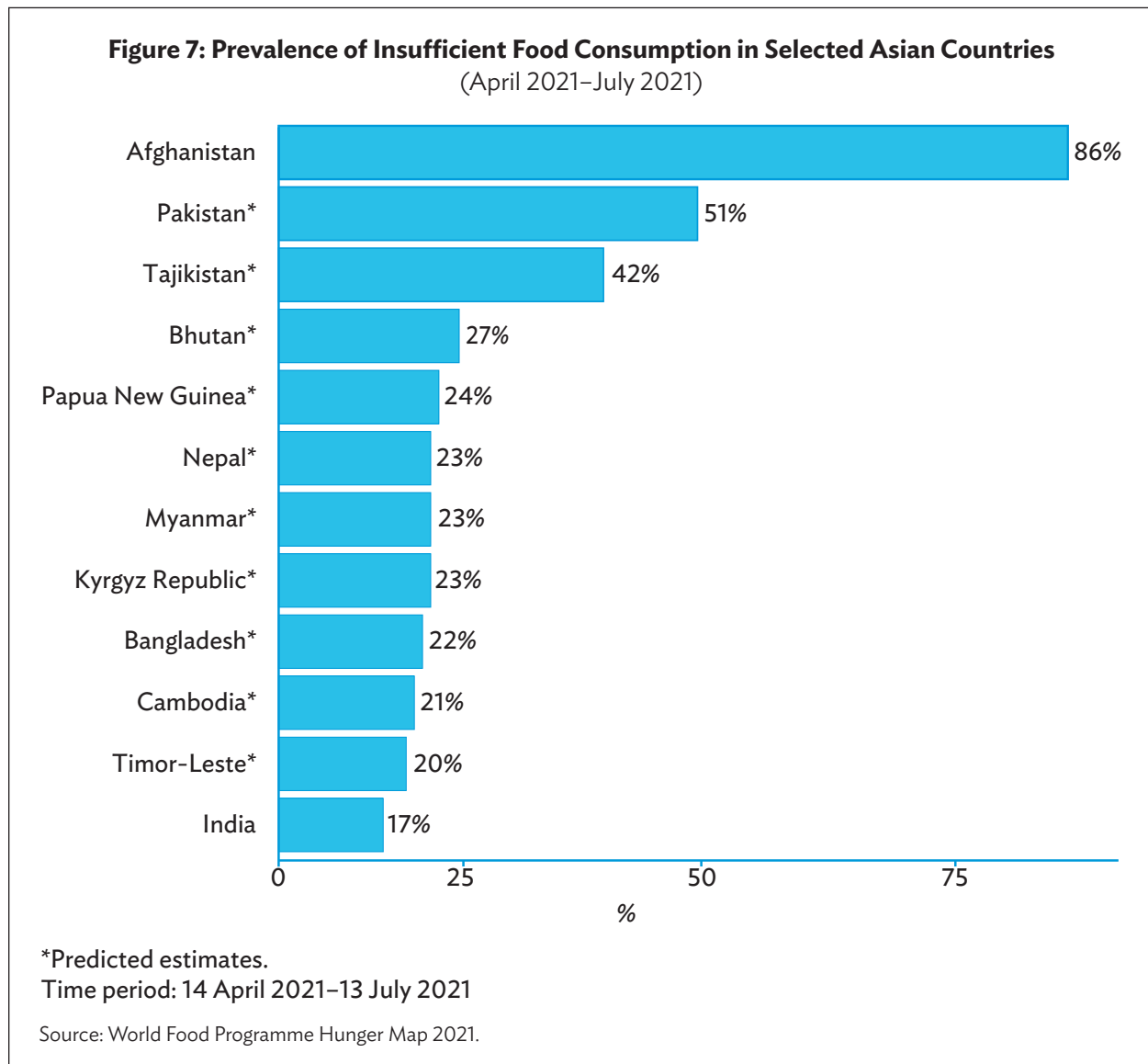
### **2. Food Security**

Although more food is being produced than ever before, in 2020, approximately 2.4 billion people around the world, including many in Asia, lacked regular access to sufficient, safe, and nutritious food (Figure 7). An estimated 720 million to 811 million people in the world faced hunger,<sup>37</sup> while overweight and obesity affect an even greater number.<sup>38</sup> Food security is key to addressing these issues.<sup>39</sup> The concomitant concern for food safety, according to FAO, is one of the most pressing issues in Asia and the Pacific that a One Health approach can help to address.<sup>40</sup>

A report by the Organisation for Economic Co-operation and Development (OECD) described a triple challenge facing countries' food systems: providing food security and nutrition for a growing population, providing livelihoods for hundreds of millions of people involved in farming and along the food chain, and contributing to environmental sustainability.<sup>41</sup> The report highlights how agricultural policies globally tend to use measures that compromise the long-term sustainability of food production for shorter-term gains, through incentives for overproduction and overuse of inputs, which have negative environmental effects. To make use of the synergies and manage the trade-offs of this triple challenge, policy making will benefit from a food systems approach, and green supply chains are part of the answer.

The COVID-19 pandemic has put even greater pressure on the food supply chain, either directly or indirectly, via policy levers that were pulled to control it. It has been especially disruptive to agri-food supply chains and the smallholder livelihoods that are dependent upon them. The pandemic is estimated to have stripped a decade's worth of income gains in low- and middle-income countries, affecting both agriculture production and food security.<sup>42</sup>

In the past, other zoonotic diseases have wreaked havoc on animal husbandry in the region. The 1998–1999 Nipah virus outbreak in Malaysia caused the near-collapse of the country's billion-dollar pig-farming industry, as well as 265 cases of acute encephalitis with 105 deaths in people who contracted the infection from close contact with infected pigs.<sup>43</sup> Similarly, Nipah virus outbreaks in Kerala in 2018 (which caused 17 deaths),<sup>44</sup> and more recently underscore the ongoing high risk this disease poses to



human health.<sup>45</sup> During 2019–2020, a massive outbreak of African Swine Fever resulted in the culling of more than half of the pig population in the People’s Republic of China (PRC) and over 20% in Viet Nam, and subsequently led to outbreaks in eight other countries in the region, including Indonesia and the Philippines. Resulting economic losses to the region were huge: in the PRC alone, the estimated direct economic losses were \$141 billion.<sup>46</sup>

Together with climate change and pollution, illegal and unregulated fishing are decimating fish stocks, and unless immediate action is taken, commercially exploitable fish stocks are expected to disappear by 2048.<sup>47</sup> The world’s food system is one of the leading culprits of deforestation, along the entire supply chain from farming to the grocery store. Meat consumption is increasing globally, but the rate of increase in Asia far outstrips the global trend. According to the FAO, the average annual meat consumption is expected to increase from 26 kilograms (kg) in 2015–2017, to 26.7 kg in 2027. This trend is reflected in meat production: half of the world’s top 10 meat producers are in Asia, and the PRC’s meat production is on track to be more than double that of the United States by 2027.<sup>48</sup> This in turn has implications for land and water use, through grain production to meet demand from feedlot animal husbandry.

### 3. Pollution

In Asia and the Pacific, almost every person is exposed to unhealthy levels of air pollution: 92% of the region's population, according to the UN Environment Programme (UNEP).<sup>49</sup> Air pollution leads to more than 4 million premature deaths, with women, children, the elderly, and those with limited access to health care being the most affected. Air pollution has made people more susceptible to COVID-19.<sup>50</sup>

Marine pollution is also a significant threat, notably from marine plastics. Eight of the 10 rivers transporting most of the plastics into the sea worldwide are in the region.<sup>51</sup> Similarly, industrial activities, mining, agriculture and livestock, and consumer lifestyles are all key drivers of soil and water pollution.<sup>52</sup> Irrigation, agroplastics, and the use of pesticides, fertilizers, and antibiotics and other livestock drugs are all key soil pollution drivers associated with agriculture.<sup>53</sup> Arsenic-contaminated water has resulted in soils, notably rice paddies, accumulating relatively high concentrations of arsenic.

### 4. Climate Change

Rising sea levels and increasing ocean temperatures, as well as heat waves and longer, more intense droughts are a threat to food security, fresh water supplies, and wildlife.<sup>54</sup> Increasing sea temperatures acidify oceans, affecting fish populations. Every forest fire not only destroys the habitat of wildlife—it also reduces the ability of the natural habitat to absorb carbon dioxide, a major source of climate change-related pollution. The agriculture sector is responsible for approximately a quarter of greenhouse gas emissions, but the sector also accounts for almost half of the solutions to global climate goals, according to the FAO.<sup>55</sup> Livestock will be affected by the impact of climate change due to changing patterns of infectious diseases, increased exposure to heat, contaminants and extreme weather, and changes in access to the natural resources they need for daily living, the OIE notes.<sup>56</sup>

According to WHO, between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from malnutrition, malaria, diarrhea, and heat stress. The transmission seasons and geographical range of vector-borne diseases such as malaria, dengue, and schistosomiasis are altered by climate change, making them harder to eliminate or control.<sup>57</sup> While climate change affects everyone, people living in small island developing states and other coastal regions, megacities, and mountainous and polar regions are particularly vulnerable, WHO says, with children particularly at risk.

ADB has emphasized that unchecked disasters and unabated climate change put the region at extreme risk of undoing its economic and social development gains.<sup>58</sup> Tackling climate change is one of the ADB's operational priorities under Strategy 2030.<sup>59</sup>

## B. One Health Aligns with Strategy 2030 and Supports its Operational Priorities

ADB's Strategy 2030 charts a course for the bank to work toward a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, and to respond effectively to the region's changing needs. Strategy 2030 is a call to action for ADB projects to take cross-sectoral and cross-thematic approach. One Health is relevant to every single operational priority under Strategy 2030 (Figure 8), but disaster risk mitigation and strengthening institutions and governance are particularly strong examples. In addition,



it is a valuable tool toward achieving the cross-cutting targets related to gender equality and climate change mitigation of Strategy 2030: at least 75% of committed operations promoting gender equality, and 75% supporting climate change mitigation and adaptation, to reach \$100 billion of operations from 2019 to 2030. One Health also adds momentum to the One ADB principle because it is inherently cross-sectoral and cross-departmental.

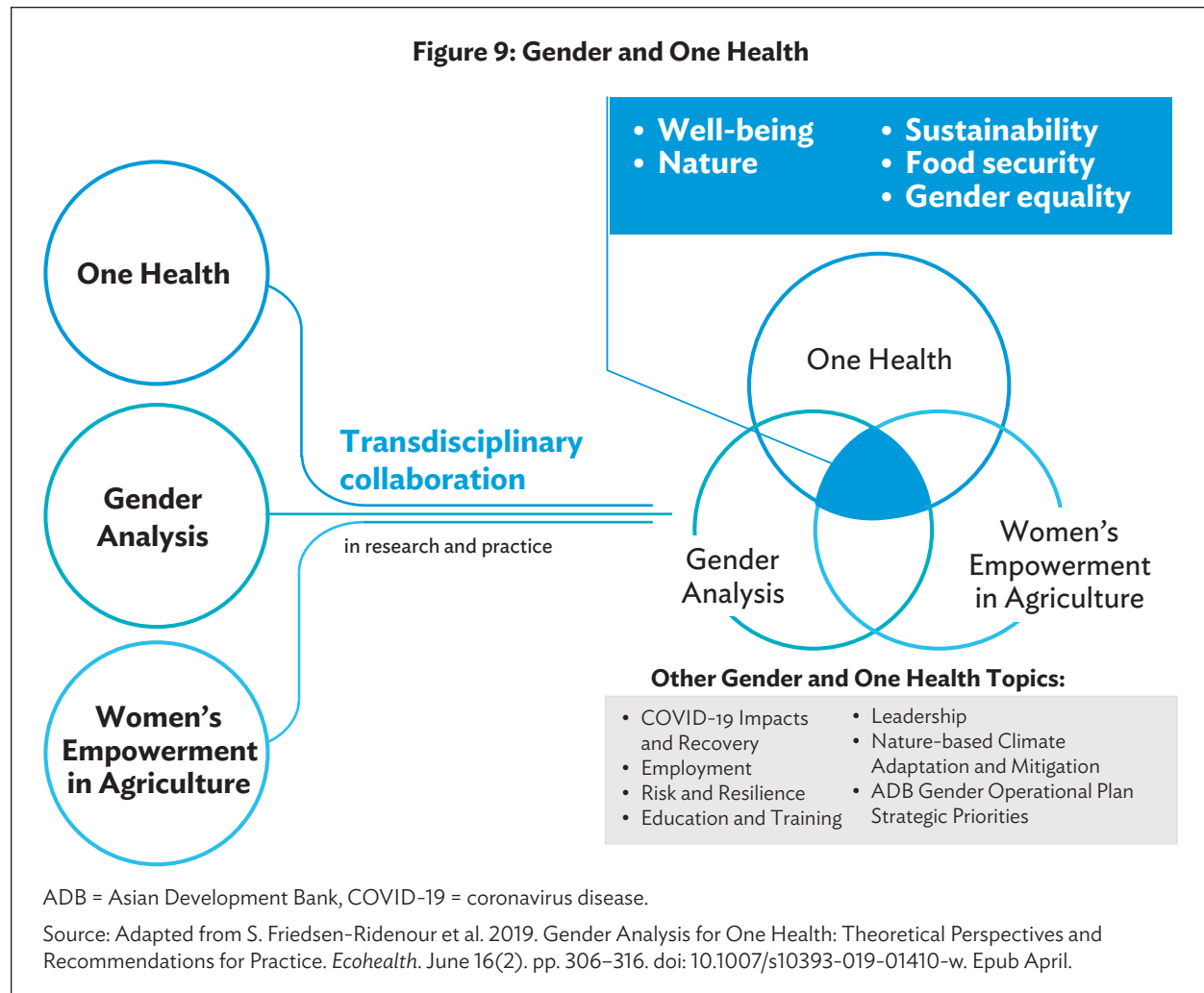


### 1. Gender

Strategy 2030 continues ADB’s established commitment to accelerating progress in gender equality. The original framework for One Health has little to say about gender specifically, but its relationship to gender is not difficult to find (Figure 9). The Global Environment Facility (the largest multilateral trust fund focused on enabling developing countries to invest in nature) notes that “women’s roles give them significant influence over direct and indirect pressures on environmental systems and resources.”<sup>60</sup>

Despite women farming and producing most of the world’s food supply, they are grossly underrepresented in land ownership, owning less than 20% of the world’s land, and lacking in land ownership rights in dozens of countries, including in Asia and the Pacific. Women account for half the region’s agricultural workforce, and have a significant role in food gathering, which puts them in proximity to wildlife. They are also heavily represented in food processing industries. At the community and family level, women are typically responsible for family nutrition and food preparation, a key component of children’s health.

One of the problems when trying to understand the relationship between gender and human, animal, and ecological health, is the lack of data. ADB, by collecting sex-disaggregated data, is helping policy makers to better understand these linkages. In turn, One Health supports the adoption of a systems approach, akin to the approach needed to ensure gender equality through ADB’s work, whereby applying a gender lens has been mainstreamed in ADB projects.



## 2. Governance

Health security governance is another area that could be strengthened with a One Health approach to influence policy change at the country level, be that in better utilization of existing legislation that promotes a One Health approach or working with countries to build on their existing efforts. In the Greater Mekong Subregion (GMS), for example, country consultations by the Nossal Institute for Global Health found that most GMS countries have some form of national One Health coordination mechanism, which take different forms but cover similar areas. In some countries, One Health is coordinated by an extant One Health committee or working group, whereas other nations have a One Health plan that may not be permanently supported by a management group.<sup>61</sup>

Adoption of One Health encourages integration of institutions across sectors, especially public, animal, and ecosystem health, and at different levels—from local, subnational, and national; and harmonization of laws and regulations governing different sectors.<sup>62</sup> Beyond this, there is also a need for strategic leadership and networking, investments in monitoring and evaluation, and interdisciplinary training and education.

## **C. The Seeds of One Health Are Already Germinating in ADB**

### **1. One Health and ADB's Developing Member Countries**

Some of ADB's DMCs are already exploring One Health to address their development challenges. For example, an ADB scoping study of the One Health capacity of South Asia and South Asia Subregional Economic Cooperation (SASEC) program countries found that there is high-level support for One Health to tackle zoonoses, antimicrobial resistance, and other health issues.<sup>63</sup> The Government of Nepal has also used a One Health approach to tackle antimicrobial resistance, highly pathogenic avian influenza, and rabies.<sup>64</sup>

Several countries have national action plans for issues that must be tackled cross-sectorally, such as zoonoses and antimicrobial resistance (endnote 21). In the GMS, all country governments have officially adopted the concept of One Health, to varying degrees. One Health activities include cross-sectoral disease outbreak response, such as cross-sectoral teams of medical and veterinary field epidemiologists; and information sharing and joint capacity development and training. Some GMS countries have also established technical collaborations, such as One Health University networks and the One Health Partnership in Viet Nam. GMS One Health systems and policies largely focus on the human health and animal health sectors, and the detection and management of specific zoonoses, and there has been little to no attention to the other potential benefits of One Health, such as improved wildlife management, conservation of biodiversity, maintenance of ecosystem services, or improved livestock production.

By its nature, a One Health approach breaks down the artificial barriers among human, animal, and ecological health. It enables multisectoral and multiagency collaboration and joint projects because it gives a shared language for those who want to solve development problems in a holistic way. One Health also offers a shared language and understanding with other agencies, such as FAO, OIE, UNEP, WHO, and other development banks and partner agencies. It taps into the many national and regional existing One Health and health security networks in the region, too, such as the Viet Nam One Health Partnership for Zoonoses<sup>65</sup> and the Mekong Basin Disease Surveillance Network.<sup>66</sup>

### **2. One Health in the Greater Mekong Subregion**

One Health is prioritized in both the GMS Program's Long-Term Strategic Framework 2030<sup>67</sup> and the GMS Health Cooperation Strategy.<sup>68</sup> Support for the health sector under the strategic framework is structured in three pillars: health security as a regional public good, addressing the impact of labor mobility and strengthening border health systems, and building human capacity in the regional context. The framework's first pillar entails strengthening the core capacities of national health systems, upgrading cross-border cooperation instruments, and developing a One Health response that takes a unified view of animal and human diseases and their interactions. This shows that One Health approaches can be embedded in regional cooperation and integration initiatives to complement national efforts.

Regional public goods feature strongly in the GMS health agenda, with a focus on communicable diseases through cross-border surveillance, information exchange, implementation of international regulations and norms, and pandemic preparedness. Global and regional pandemic threats are well-recognized in the GMS, which is a global hotspot for the transmission of emerging, reemerging, and epidemic-prone diseases, particularly zoonoses. The cross-border spread of disease is a serious regional health challenge in the GMS. For these reasons, the GMS framework can benefit from a One Health approach.

Through a technical assistance project, ADB is also supporting the response to COVID-19 in the PRC and GMS, and regional cooperation to implement One Health responses to public threats.<sup>69</sup> Deliverables include regional networking and capacity building, technical support networks, outbreak reviews, and recommendations (GMS and the PRC); and a One Health business case and governance.

### 3. Addressing the Illegal Wildlife Trade in the Philippines

Another example of One Health in action is addressing the Philippines' involvement in the illegal wildlife trade. Globally, trade in illegal wildlife is estimated to be worth between \$10 billion and \$23 billion a year, making wildlife crime the fourth most lucrative illegal business after narcotics, human trafficking, and arms. The Philippines is a consumer, source, and transit point for this trade, threatening endemic species populations, economic development, and biodiversity.<sup>70</sup> The value of illegal wildlife trade in the Philippines is estimated to be approximately \$1 billion, including the market value of wildlife and its resources, their ecological role and value, damage to habitats incurred during poaching, and loss in potential ecotourism revenues. ADB, together with the Global Environment Facility, the World Bank, and other donors are partnering to strengthen the Philippines' legal framework, developing a long-term capacity building program, developing a demand reduction campaign, and piloting new tools to detect and fight the trade on ports, digital media, and local communities.

At the project level, there are numerous examples of ADB projects that have either a direct or indirect One Health connection, and which demonstrate the growing trends toward cross-sectoral projects and regional cooperation and integration (see table below).

#### Selected ADB Projects with One Health Elements

Project Name	Value (\$ million)	Objectives
Strengthening Regional Health Cooperation in the Greater Mekong Subregion (GMS)  <a href="https://www.adb.org/projects/51151-001/main">https://www.adb.org/projects/51151-001/main</a>	4.00	Address the need for improved GMS regional health cooperation; provide a platform for a more coherent policy environment at both national and regional levels, which is supportive of cross-border collaboration and targeting vulnerable populations.
Protecting and Investing in Natural Capital in Asia and the Pacific: Combating Environmental Organized Crime in the Philippines  <a href="https://www.adb.org/projects/50159-001/main">https://www.adb.org/projects/50159-001/main</a>	4.98 (whole regional technical assistance)	Address wildlife crime in the Philippines through legal and institutional reforms, build capacity throughout the full enforcement chain, and reduce demand for illegal wildlife and wildlife parts.
South Asian Association for Regional Cooperation Food Security through Control of Transboundary Animal Diseases  <a href="https://www.adb.org/projects/47019-001/main">https://www.adb.org/projects/47019-001/main</a>	2.00	Foster regional cooperation among South Asian Association for Regional Cooperation countries, improve food security in the region, and facilitate regional and international trade in livestock and livestock products. Use the One Health approach to address high-impact diseases, involving both the animal and human health sectors.
Asia Pacific Health Observatory  <a href="https://www.adb.org/projects/44149-012/main#project-overview">https://www.adb.org/projects/44149-012/main#project-overview</a>	0.70	Collect and disseminate health-related information and good practices that will help governments adopt new health policies and reforms based on evidence.
Strengthening Regional Response to Malaria and Other Communicable Diseases in Asia and the Pacific  <a href="https://www.adb.org/projects/47278-001/main">https://www.adb.org/projects/47278-001/main</a>	4.58	Support the establishment and capacity building of the Asia Pacific Leaders Malaria Alliance to fight the emergence of drug-resistant malaria in parts of GMS.

*continued on next page*

Table continued

Project Name	Value (\$ million)	Objectives
Results for Malaria Elimination and Control of Communicable Disease Threats in Asia and the Pacific  <a href="https://www.adb.org/projects/48001-001/main">https://www.adb.org/projects/48001-001/main</a>	12.00	Address upstream health system challenges related to combating malaria, especially drug-resistant malaria, in the GMS. Build on the Asian Development Bank's comparative strengths in facilitating regional cooperation and integration, mobilizing financing, engaging in policy dialogue with ministries of finance to increase and sustain their own public expenditure, and engaging the private sector.
Malaria and Communicable Diseases Control in the Greater Mekong Subregion  <a href="https://www.adb.org/projects/48446-001/main">https://www.adb.org/projects/48446-001/main</a>	4.50	Eliminate malaria across Cambodia by 2025, and the Lao People's Democratic Republic and Myanmar by 2030. Strengthen the national malaria and communicable diseases control programs and coordination within GMS.
Mongolia: Regional Upgrades of Sanitary and Phytosanitary Measures for Trade Project  <a href="https://www.adb.org/projects/46315-001/main">https://www.adb.org/projects/46315-001/main</a>	15.00	Support the improvement of sanitary and phytosanitary (SPS) measures in Mongolia in compliance with the World Trade Organization Agreement on the Application of SPS measures.
Cambodia: Greater Mekong Subregion Cross-Border Livestock Health and Value Chains Improvement Project (proposed)  <a href="https://www.adb.org/projects/53240-003/main">https://www.adb.org/projects/53240-003/main</a>	12.00 (grant) 50.00 (loan)	Reduce transboundary animal diseases, food safety, and zoonotic disease risks and strengthen livestock value chains and coronavirus disease (COVID-19) responses through investments in infrastructure, capacity building, and policy support.
Greater Mekong Subregion Health Security Project  <a href="https://www.adb.org/projects/48118-002/main#project-overview">https://www.adb.org/projects/48118-002/main#project-overview</a>	8.00 (grant) 167.00 (loans)	Build on previous and ongoing interventions focusing on communicable disease control to strengthen GMS public health security.
Mongolia: Aimags and Soums Green Regional Development Investment Program (proposed)  <a href="https://www.adb.org/projects/49430-005/main">https://www.adb.org/projects/49430-005/main</a>	173.00	Promote green territorial development and urban-rural linkages where liveable human settlements become anchors of green agribusinesses that promote sustainable, resilient, and high carbon sequestration in Mongolia's rangeland.

Source: Asian Development Bank (compiled by authors).

### **III. HOW TO INTEGRATE AND PROMOTE A ONE HEALTH APPROACH**

As illustrated by some of the emerging ADB projects with a One Health element, its principles can be applied at the project level, but this will only produce incremental results. If the One Health is adopted more widely, and further upstream from the project level, it has the potential to have transformational impact for DMCs.

Many of the issues that One Health seeks to address are unpredictable (such as emerging infectious diseases), and as such it is not possible to generate a simple business case for such investments. Moreover, in the face of the threats to sustainability and prosperity that the region faces, the question is not whether we can, for example, afford to prevent another pandemic. Rather, the question is: what is the best way to mitigate the risk of another pandemic? The business case for One Health should incorporate both economic principles and qualitative factors. This is already being done under ADB TA 51151-001: Strengthening Regional Health Cooperation in the GMS, which includes a qualitative business case for One Health. The relevant economic principles are efficiencies in resource allocation, public goods and externalities, economies of scope and joint production, distributional considerations, and incentive compatibility. Taken together with the relevant qualitative factors, the business case is even stronger (Figure 10).

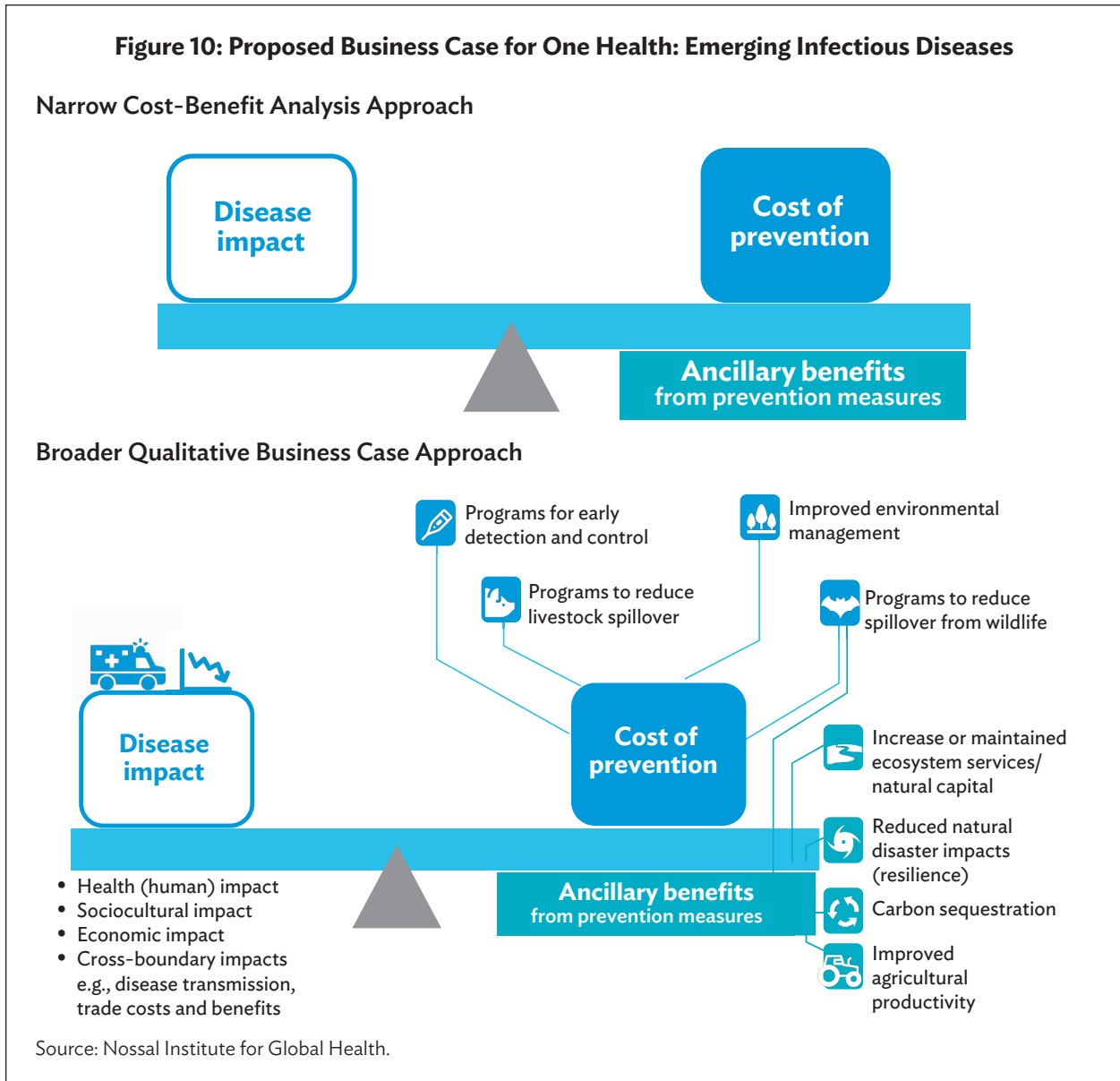
#### **Four Areas of Investment Where One Health Can Be Transformational**

##### **A. Sustainable Land and Water Use for Food Security**

One of the pressing issues that international development organizations like ADB needs to address is how to work on the relationship between agriculture and conservation when there is such high population density, particularly in rural areas, and high demand for food and livelihoods. Water pollution, clean water, and overuse of antibiotics and other chemicals are all important considerations. International development organizations have a role to play in transforming the food system and finding new ways to develop rural agriculture and One Health offers a framework for this. Arguably, much of Strategy 2030's operational priorities (and the SDGs), can be achieved through the agriculture sector, but investments in this sector are often overlooked because they lack the glamor of more technological projects. One Health helps to explain the crucial role of investment in sustainable agriculture practices to long-term prosperity and security. This in turn also increases scope for engagement with the private sector, in areas such as livestock rearing and aquaculture biosecurity, or rational use of animal medicinal products such as vaccines to reduce reliance on antibiotics.

##### **B. Biodiversity Conservation for Climate Change Resilience and Human Health**

The World Economic Forum now ranks biodiversity loss as a top-five risk to the global economy and the 2020 Global Biodiversity Framework proposes an expansion of conservation areas to 30% of the earth's surface by 2030.<sup>71</sup> Economic analysis by the World Economic Forum found that even only looking at forests, "targeting 30% target had an avoided-loss value of \$170 billion–\$534 billion per year by 2050, largely reflecting the benefit of avoiding the flooding, climate change, soil loss and coastal storm-surge damage that occur when natural vegetation is removed."<sup>72</sup>



While the COVID-19 pandemic has raised awareness of wildlife spillover, ADB and other development partners can help country decision-makers make the direct connection with human health and promote the concept of ecosystem protection and restoration as a development investment, not as a cost. One Health helps make the case for environmental protection as a longer-term investment. It provides a framework to understand the economic cost of ecosystem degradation, including the health costs to people affected. For example, One Health reframes the restoration of natural habitats, not as land that is no longer available for development, but instead as an essential component of sustainable supplies of clean water and fresh air and many other ecological services.

**C. Health**

ADB’s new operational plan for health, currently under development, will set the bank’s priorities for its work with DMCs to improve population health. Pandemic prevention and preparedness and antimicrobial

resistance are two obvious areas where a One Health approach can be deployed, but these are not the only areas where it matters. Both food security and food quality have a direct burden on health, and on DMCs' efforts to combat both undernutrition and obesity.

The impact of the COVID-19 pandemic on food security in the region has shown the importance of adopting an integrated, cross-sectoral approach to nutrition security, with more targeted investment to enhance accessibility to healthy and nutritious food and sustainable food production, as well as greater capacity to manage food safety risks and livestock biosecurity.<sup>73</sup> In addition, vector-borne diseases such as malaria and schistosomiasis, as well as air and water pollution and environmental contamination are pressing health issues in the region that One Health is particularly well-suited to address.

## **D. Inclusion of Nature-Based Climate Solutions within Projects and Green Financing**

Nature-based solutions—better managing ecosystems to remove carbon dioxide from the atmosphere by, for example, restoring and maintaining carbon-rich forests—are getting increasing attention throughout the development community. One way to promote nature-based solutions is to help create the conditions for the private sector and for agriculture producers to be involved.

Traditionally, support to rural areas relied on farm subsidies for intensive agriculture. For this to change, the regulatory framework needs to be changed to move away from such subsidies, to paying people to look after nature and to make these investments more bankable and attractive. ADB has innovative models to engage in that process, as follows:

### **1. ADB Natural Capital Lab**

The ADB Natural Capital Lab regional digital platform will serve as a test bed to integrate nature-positive solutions in project design and implementation, leveraging additional financial resources for nature-positive recovery in Asia and the Pacific. One of the key outcomes of the lab will be not only rethinking investment and types of projects at ADB and increasing investments in natural capacity and One Health, beyond biodiversity and ecosystems, but also integrating the human health impact. The Natural Capital Lab is an important step toward helping governments value the concept of the ecosystem and justify tangible measures to protect it.

### **2. ASEAN Catalytic Green Finance Facility**

The ASEAN Catalytic Green Finance facility—the region's first regional green catalytic fund—was launched in 2019 to accelerate green infrastructure investments in Southeast Asia from both public and private sectors. The facility is an innovation under the ASEAN Infrastructure Fund dedicated to helping governments create bankable green infrastructure projects. The facility operates in three ways: project origination, project funding, and policy knowledge and support. It has already pooled bilateral aid funding and ADB funding, in \$13.1 million worth of technical assistance and \$1.45 billion in cofinancing commitments (Figure 11).



**Figure 11: ASEAN Catalytic Green Finance Facility**

**CHALLENGE**

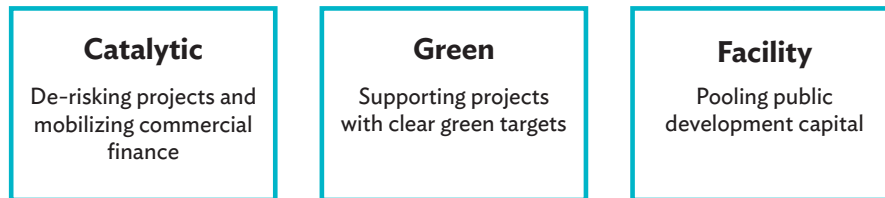
Developing countries in Southeast Asia need to scale up green infrastructure investments to achieve the Sustainable Development Goals and address climate change challenges



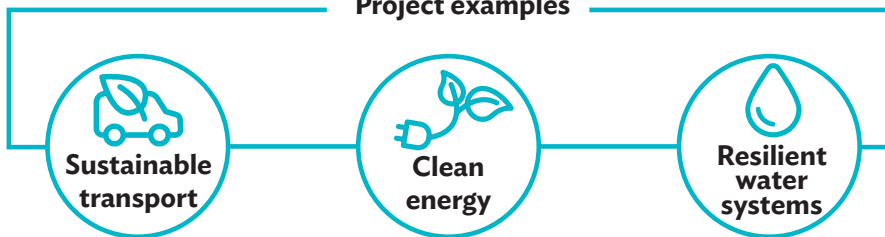
**SOLUTION**

A facility under the ASEAN Infrastructure Fund (AIF) dedicated to helping ASEAN governments create bankable green infrastructure projects

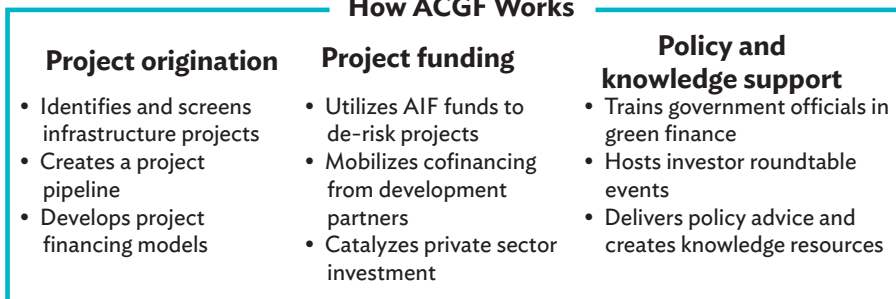
**ASEAN Catalytic Green Finance Facility (ACGF)**



**Project examples**



**How ACGF Works**



ASEAN = Association of Southeast Asian Nations.

Source: Asian Development Bank. 2020. *ADB's Faces of Innovation*. Manila.

## LOOKING AHEAD

Only a holistic, concerted approach can hope to address cross-regional issues such as climate change, disaster resilience, and prevention of the next zoonotic pandemic, while maintaining and improving the health and well-being of all species and ecosystems. Different sectors, institutions, and governments need to work together using a One Health approach to achieve our common goals.

ADB has a clear role to play as a knowledge solutions broker. It can help countries assess the economic burden of, for example, zoonotic diseases, antimicrobial resistance; and assess the costs and benefits of institutionalizing a One Health approach to tackle them. ADB can work with countries to address issues of fragmented resources and siloed government structures stand in the way of taking a One Health approach. Through financing and technical assistance, ADB can support countries to improve their capacity, governance, and human capital to fully embrace the One Health approach.

Moreover, One Health aligns well with the mission of “One ADB,” a key principle for increasing ADB’s flexibility to respond to a more diverse and complex external environment by deploying teams across departmental lines.<sup>74</sup> A One ADB approach would be perfect to deploy when going forward on One Health operations. However, the transformative potential of One Health is applicable not just to ADB. The lessons that hold for ADB are also valuable to its development partners and other stakeholders.

### Recommendations for Next Steps for One Health

1. For an organization to adopt a One Health approach, it is essential to establish formal cross-sector and cross-thematic working groups and then provide resources to develop actions and workplans to share knowledge and ideas, and learn about existing One Health frameworks, tools, and resources. It is also important to engage with existing communities of practice (e.g., health, regional cooperation and integration, trade facilitation working groups) to leverage existing arrangements and promote transformational investments.
2. For funding agencies, it is necessary to identify financing for One Health project technical assistance, and seek out opportunities for cross-cutting loans and projects with a One Health orientation. One way ADB can help in this is to use its convening power to bring governments, the private sector, and development partners together for One Health initiatives.
3. Think about how to continuously engage with country counterparts to mainstream One Health considerations into the planning and design of projects. For example, ensure that infrastructure projects avoid encroachment on natural ecosystems; rethink tourism focusing on environmental sustainability and local communities’ needs; and put biodiversity and ecosystem health, human health, and animal health at the forefront of development agendas.

## APPENDIX: ONE HEALTH TOOLS

### **Taking a Multisectoral, One Health Approach: A Tripartite Guide to Addressing Zoonotic Diseases in Countries**

**Date of publication:** 2019

**Format:** book, 166 pages

**Produced by:** Food and Agriculture Organization of the United Nations (FAO), World Organisation for Animal Health (OIE), and World Health Organization (WHO)

#### **What is it about?**

A detailed guide to the concept of One Health from the perspective of the three United Nations agencies at the forefront of the One Health drive. The guide provides countries with operational guidance and tools for implementing a multisectoral, One Health approach to address zoonotic diseases and other shared health threats at the human–animal–environment interface. It also has useful example frameworks and indicators for monitoring and evaluation of One Health activities.

#### **How can I use it?**

This guide's primary target audience is country-level managers, at any administrative level, of governmental responses to zoonotic disease threats. This includes the ministries responsible for human health, animal health, wildlife, and the environment. This guide can be used to understand the concept of One Health from the country perspective, and how it can be implemented at country level.

### **World Bank Operational Framework for Strengthening Human, Animal, and Environmental Public Health Systems at their Interface<sup>75</sup>**

**Date of publication:** 2018

**Format:** book, 152 pages

**Produced by:** World Bank, EcoHealth Alliance

#### **What is it about?**

A deeply researched, comprehensive, and highly detailed publication, this book lays out the strategic context and rationale for a One Health operational framework, presents the value case for investing in One Health, and provides an inventory of tools for policy, governance, and technical and institutional aspects of One Health. It also contains technical guidance for operationalizing One Health, including stakeholder mapping, resources, communication, technical infrastructure, and governance.

#### **How can I use it?**

As a reference tool for all aspects of operationalizing One Health.

### **Operational Framework for Building Climate Resilient Health Systems<sup>76</sup>**

**Date of publication:** 2015

**Format:** book, 54 pages

**Produced by:** World Health Organization

#### **What is it about?**

Guidance on how the health sector can address health risks associated with climate change. It is based on global, regional, and national policy mandates to protect population health; and a rapidly emerging body of practical experience in building health resilience to climate change. It lays out 10 key components that can help anticipate, prevent, prepare for, and manage climate-related health risks.

**How can I use it?**

The primary target audience is public health professionals and health managers, but it is also useful for decision-makers in other sectors, such as nutrition, water and sanitation, and emergency management; and for international development agencies to focus investments and country support for public health, health system strengthening, and climate change adaptation.

**Prevent, Prepare and Respond: Economics of One Health to Confront Disease Threats**

**Date of publication:** 2017

**Format:** Workshop report, 28 pages

**Produced by:** EcoHealth Alliance, Network for Evaluation of One Health

**What is it about?**

This report presents the proceedings of a workshop held at the World Bank in Washington, DC, 30 January–2 February 2017. The workshop convened experts in animal and human health, ecology, economics, data science, and policy to examine country decision support to guide investments that can help operationalize One Health for both local and global good.

It spells out a basic methodology of One Health economic evaluation: question framing, costing of the impact, option assessment, and measuring efficacy and feedback. It presents both qualitative and quantitative frameworks and system mapping tools that can be used to identify links between sectors in terms of drivers, information flow, and consequences (emphasizing social and cultural context).

**How can I use it?**

In addition to illustrative examples of the One Health economic evaluation methodology, it also has templates that users can adopt to design their own evaluation of One Health investments.

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## **Practical Actions to Operationalize the One Health Approach in the Asian Development Bank**

The One Health approach has the potential to transform the work of international development organizations including the Asian Development Bank (ADB). This working paper explains the concept of One Health and how it aligns with ADB's Strategy 2030. It also elaborates on how One Health can be instrumental in ADB's efforts to support recovery from the coronavirus disease (COVID-19) pandemic in the Asia and Pacific region, along with other development issues including antimicrobial resistance, food security, ecological security, biodiversity, human health, and climate change.

### **About the Asian Development Bank**

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members —49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

