



The World Bank

Emerging Infectious Diseases Prevention, Preparedness and Response Project (P173746)

Project Information Document (PID)

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**BASIC INFORMATION****A. Basic Project Data**

Country China	Project ID P173746	Project Name Emerging Infectious Diseases Prevention, Preparedness and Response Project	Parent Project ID (if any)
Region EAST ASIA AND PACIFIC	Estimated Appraisal Date 20-May-2020	Estimated Board Date 18-Jun-2020	Practice Area (Lead) Health, Nutrition & Population
Financing Instrument Investment Project Financing	Borrower(s) People's Republic of China	Implementing Agency National Health Commission, Ministry of Agriculture and Rural Affairs, National Forestry and Grassland Administration, Jiangxi Provincial Department of Finance, Hainan Provincial Development Reform Commission	

Proposed Development Objective(s)

The proposed project development objective is to strengthen selected national and provincial systems to pilot a multi-sectoral approach for reducing the risk of zoonotic and other emerging health threats.

Components

Improving risk-based surveillance systems for zoonotic and other emerging health threats
Prevention and control programs targeting priority zoonotic and other emerging health threats
Institutional strengthening and human resources development for One Health
Project management and M&E

The processing of this project is applying the policy requirements exceptions for situations of urgent need of assistance or capacity constraints that are outlined in OP 10.00, paragraph 12.

Yes

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**



Total Project Cost	300.00
Total Financing	300.00
of which IBRD/IDA	300.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	300.00
Environmental and Social Risk Classification	
Substantial	
Decision	

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Emerging infectious diseases (EIDs) with pandemic potential are a major threat to global health security – the prevention, preparedness and response to EIDs in the world's hotspots is thus a global public good.** About 60 percent of all infectious pathogens of humans originate from animals and some 70 to 75 percent of emerging infectious diseases in humans originate in animals. Approximately 2.5 billion zoonotic infections occur in humans every year globally, causing at least 2.2 million human deaths, especially in low-and middle-income countries. The rate of emergence of infectious diseases with zoonotic origin has increased over the past decades. Prominent examples include AIDS, Ebola and Marburg hemorrhagic fevers, Escherichia coli O157 infection, Middle East respiratory syndrome coronavirus (MERS-CoV), and Severe Acute Respiratory Syndrome (SARS).
2. **The economic consequences of zoonotic disease epidemics are significant.** The direct costs of H5N1 highly pathogenic avian influenza (HPAI) outbreaks since its first emergence in Southeast Asia in 2003 have well exceeded \$20 billion. When indirect costs such as losses in other parts of the animal product chain, trade, and tourism are included, these costs multiply. The SARS outbreak in East Asia and Canada led to losses estimated at \$41.5 billion.¹ These costs tend to be higher for the poor and other vulnerable groups.
3. **The global COVID-19 pandemic is a stark reminder of these risks.** So far little is known about the origin of COVID-19, but one plausible hypothesis is that it, too, is of zoonotic origin. While the source of COVID-19 is

¹ World Bank (2012b). People, Pathogens and Our Planet, Volume 2: The Economics of One Health.



unclear, its consequences are all too evident: globally over five million people infected and more than 300,000 deaths, and a global recession deeper than anything seen since the 1930s, as countries around the world have adopted measures to bring the outbreak under control. In China, the rate of new infections has slowed considerably since late February, and restrictions on economic and social life have been gradually lifted. Nonetheless, GDP declined by 6.8 percent in the first quarter and growth in 2020 is likely to decline some 4-5 percent below the pre-crisis trend.

4. The emergence and the spread of infectious diseases have social, economic and environmental causes.

Disease risks are multiplying due to global trends such as booming trade, degradation of ecosystems and biodiversity loss, climate change, and urbanization. They also include the need to produce more food for a rapidly growing global population, increased demand for meat and animal products, and unregulated expansion of livestock farming and wildlife trade and consumption. As a result, domestic animals, humans, and wildlife are pushed into closer and more frequent contact. Crowded, unhealthy conditions create the same flashpoint for diseases in animals as they do in humans. Weak disease surveillance and response systems further compound the problem.

5. In addition to EIDs, there are also global human and animal health risks from anti-microbial resistance (AMR).

AMR is a major cause of concern for human and animal health, and no single action will provide an adequate solution. Resistant bacteria from animals, humans and food can be cross-transmitted and environmental reservoirs are a potentially important source for the mobilization and transfer of resistance genes. The potential economic losses from AMR are significant. They could reach up to 5 percent of GDP for some low-income countries, according to estimates by the World Bank.² Similar to zoonotic diseases, an integrated cross-sectoral approach is needed to address the challenge of AMR.

6. China is a hotspot for EIDs. In the past two decades, China has witnessed the emergence of SARS, HPAI (H5N1 and H7N9), the current COVID-19 outbreak, re-emergence of Schistosomiasis in southern provinces and Brucellosis in northern provinces. Other significant zoonotic pathogens are also present in China and may cause outbreaks in the future. Southern China, in particular, is a well-known high-risk area for emerging zoonotic diseases, due to the combination of high population density, livestock production, wildlife abundance, density of animal production, land-use changes and habitat fragmentation. The COVID-19 crisis has invigorated the policy reform agenda to address the shortcomings in disease surveillance and control revealed by the outbreak. This creates an opportunity to work with China on addressing the causes of repeated EID outbreaks, with a view to mitigating future risks in an interconnected world. While China has moved beyond the initial public health sector response to COVID-19, given the scale of the outbreak in China and the urgency of and global interest in China's reform agenda to address the risk of EIDs, the proposed project has been prepared under emergency procedures.

7. China's livestock industry is one important risk factor for EIDs. Animal production in China is dominated by intensive production systems, accounting for 44.4 percent of pig production, 49.95 percent of dairy cattle rearing, and 65.4 percent of broiler chicken production as of 2016. With rising incomes, consumption patterns are shifting towards an animal protein intensive diet. The consumption growth projections by the World Bank show that China will be consuming 14 percent more pork, 10 percent more milk, and 97 percent more high-value dairy products by 2030.³ The sheer size of the industry plus suboptimal biosafety practices make China particularly vulnerable. In the first half of 2017, a total of 84 animal disease outbreaks were reported with a

² World Bank. 2017. Drug-resistant infectious: A threat to our economic future.

³ World Bank. Demand for Major Agro-food Commodities in China and Implications: A Meta-Analysis Approach. 2017.



mortality rate as high as 24.64 percent. The disease incidence and mortality rates of livestock in China are far higher than those in OECD countries. The increase of AMR among animals which can be transmitted to human through animal food is also a significant concern in China. China has recognized the urgent need to reboot their animal health systems. The Animal Disease Prevention and Control Law is being revised to address the threats of animal related epidemics, as well as biosecurity and zoonotic and epizootic diseases.

8. A second risk factor is increased human and animal exposure to wildlife, driven by habitat fragmentation and loss, wildlife poaching, trade and consumption. China is a mega-biodiverse country, and increased human and domestic animal exposure to wildlife is increasing zoonotic EID risks. For example, in 2017, a bat-originated coronavirus was found to be the cause of a new severe acute diarrheal disease in pigs resulting in the death of over 25,000 piglets in at least five farms in a matter of weeks. Human exposure is increasing due to existing wildlife trade practices. These practices, especially when illegal or unregulated, act as conveyor belts through which animals, and the pathogens they carry, travel around the planet. Illegal wildlife trade, oftentimes carried out irregularly in markets or in unauthorized businesses or e-commerce, make inspection and veterinary controls challenging, and increase EID risks. Natural habitat degradation, biodiversity loss and climate change-induced changes in species occurrence are additional causes of zoonotic EIDs.

9. A third important risk factor are shortcomings in food safety and sanitary practices, along the value chain from production to final consumption. China's agricultural sector, while highly intensive is also largely fragmented, creating challenges for effective supervision and control over agricultural practices. Despite significant progress in recent years in the adoption of a modern regulatory framework, food safety gaps remain in the food value chain, with particular risks in meat and dairy production and commercialization, and aquaculture. For instance, animal husbandry should be practiced in clearly delineated areas to avoid contact with wildlife and prevent the jumping of EIDs from wild to domesticated species through which they might enter the human food chain. Investment and public education are needed, in addition to tighter regulatory oversight and enforcement to improve animal husbandry practices. AMR is an important threat to animal and human health due to excessive anti-microbials use in the meat, dairy and aquaculture industries. Moreover, around three quarters of agricultural produce are still sold in China's wet markets⁴. Around 10 percent of these markets function as both wholesale and retail markets, and some can be quite large. Inadequate sanitary practices and lax enforcement of zoning regulations in these markets increase the exposure of humans to zoonotic diseases. While farmers' markets are common in developed economies they are strictly regulated, and oversight is tight to ensure food safety from field to fork.

Sectoral and Institutional Context

10. Addressing the social, environmental and economic determinants of EIDs calls for multisectoral responses – often referred to as the One Health Approach. Characteristic of this approach is the multi-disciplinary and cross-sectoral collaboration to identify risks of infectious diseases at the animal-human-ecosystem interfaces. It involves the joint mapping of key EID risks and hotspots, the prioritization of surveillance activities based on these identified risks, joint training and inter-disciplinary drills to improve response capacity, and overall inter-sectoral policy coordination to make adjustments based on evidence.

⁴ 'Wet markets' in China are community agriculture markets, akin to farmers market elsewhere. They play an important role in marketing fresh farm produce (fruits, roots and vegetables), fresh animal products (meat, eggs and poultry), besides selling dry and packed foods (rice, pulses, oil and processed food items). About one in ten 'wet markets' function as combined wholesale and retail agriculture markets, and some of them specialize in commodities such as fruits, seafood, flowers, tea, etc.



11. China's human and animal health and wildlife protection systems present shortcomings in their ability to effectively identify and control EIDs, making future infectious disease outbreaks likely unless policy actions are taken now. Although significant improvements have been made particularly on public health since the SARS outbreak in 2003, COVID-19 has highlighted the weaknesses of China's approach: (i) a focus on emergency response, rather than prevention, reflected in a lack of resources going into disease surveillance and control; (ii) the root causes for EIDs at the intersection of human and animal health need to be further addressed; (iii) shortcomings in the surveillance of EIDs due to limited incentives to record and report new infectious diseases, and weaknesses in public disclosure; and (iv) significant differences in capacity across provinces and lack of capacity at the local level leading to surveillance, detection and reporting gaps. In addition, there are shortcomings in the legislative basis and in multi-sector coordination to address the root causes of EIDs outside the human health system. Putting together, China lacks an integrated framework for addressing the risk of EIDs. While initial steps were taken to build such a framework following the emergence of the Highly Pathogenic Avian Influenza (H5N1) in the mid-2000s, some critical steps have been delayed, calling for urgent action.

12. The COVID-19 crisis has triggered important policy shifts, but risks of inconsistent implementation remain high. The Government has realized the gaps in the current legislation, policies and practices related to EIDs. A legislative reform plan adopted by the National People's Congress Standing Committee includes 16 laws proposed to be enacted or modified in the period 2020–2021 to respond to shortcomings emerged from the COVID-19 outbreak. The table below summarizes the key laws currently under preparation or revision and the proposed modifications that have been reported. These actions are directly relevant to the activities supported by this project. The implementation of this large set of new legislation will take time, as secondary legislation needs to be drafted and enforcement capacity built. In line with China's overall institutional set-up, implementation is largely the responsibility of local governments. Consequently, it is at the local government level that the proposed operation will focus, building capacity and generating evidence to influence the drafting of secondary legislation as well as enforcement practices in the project provinces and beyond.

13. As an immediate step towards improved prevention, the authorities temporarily closed the country's wet markets during the COVID-19 outbreak, given the risks associated with poor sanitary practices. Permanent closure of wet markets is not sustainable given their importance in supporting people's livelihoods. Consequently, following thorough disinfection and the gradual lifting of restrictions on economic activity, wet markets are re-opening. To mitigate the spread of EIDs associated with wet markets, their infrastructure and risk management practices need to be improved.⁵ The project will demonstrate key aspects of this approach, by upgrading selected market infrastructure and facilities, and establishing "healthy marketplaces" and using a hazard analysis and critical control points (HACCP)⁶ approach to meet animal welfare, health, sanitation and food safety standards.

14. The authorities have also issued a decision on "comprehensively prohibiting the illegal trade of wild animals, eliminating the bad habits of wild animal consumption, and protecting the health and safety of the people". This decision banned all trade of terrestrial wildlife for edible purposes, as a precaution to reduce risk of zoonoses. In addition, the Government has committed to and already started the process of amending the

⁵ Markus Walkling-Ribeiro and Limei Cha: Mitigation Strategies for Wet Market Food Safety Hazards to Prevent Coronavirus or Other Pathogen Outbreaks; Guangdong Technion Israel Institute of Technology (GTIIT), China; Technion Israel Institute of Technology (IIT), Israel; March 2020

⁶ HACCP is Hazard Analysis and Critical Control Point. While the full implementation of HACCP as defined by Codex is too complicated to be implemented in the food market setting, the system is useful in raising awareness of food safety hazards (and consequent public health concerns) and of possible risk management measures that might be adopted.



wildlife protection law, which is the main instrument granting protection to rare and endangered species and regulating wildlife trade. Blanket bans on all wildlife trade are unlikely to be sustainable or effective, given the impact on livelihoods and because they overlook the complexity of the wildlife trade. Therefore, options for and trade-offs among different measures will need to be carefully considered. Key challenges in the ongoing legal review process will be defining a new balance between protection and reasonable use of certain species, and better linking wildlife management practices into wider EID prevention initiatives. The project will focus its interventions on reducing EID risks stemming from human exposure to wildlife, by supporting participating provinces in assessing risks and identifying hotspots where human presence or activity overlaps with (high-risk) wildlife. It will aim to strengthening the provinces' ability to minimize the exposure through risk communication, zoning, wildlife rescue centers, targeted support in the ability to report illegal wildlife trade at the identified hotspots adhering to the principles outlined by the CITES⁷ convention, and others.

15. The project will be mainly implemented in the provinces of Hainan⁸ and Jiangxi. These provinces were selected based on their expression of interest for World Bank support and the potential risks they face as EID hotspots in terms of high biodiversity, intensive livestock production, population density and climate conditions. The two provinces are located in Southern China, the area of greater risk for EIDs. Both expressed interest to pilot the One Health approach for improved EID prevention, preparedness and response. Hainan province did so on the basis of a provincial One Health strategy for which it seeks World Bank design and implementation support. Jiangxi is a much larger province and have asked for support to pilot multi-sectoral approaches at the county level, as the basis for scaling up province wide later on. The project experiences will be shared with other provinces and national policy makers for them to consider how to apply these lessons.

16. Located in the far south of China, Hainan is the only tropical island province in China. With a resident population of 9.4 million and a GDP per capita of US\$7,971, Hainan is ranked 16th among China's 31 Provinces, Autonomous Regions and Municipalities by 2019. out of 31 in mainland China by 2019. In 2018, the Central Government of China decided to support the Hainan's effort to further deepen its reform to build an open economy, seeking to develop the island into an important window for China's further opening to the Indian-Pacific region. Because of the anticipated increase in its international exposure, the Hainan authorities have decided to adopt a One Health strategy to effectively deal with the growing risk of EIDs and other emerging health threats. This includes the establishment of a One Health leading group directly under the governor of the province, strengthening research capacity and evidence for One Health approaches, and an action plan focused on addressing AMR, as well as risks of zoonotic diseases in human, and in the meat and aquaculture industry. Hainan province is the leading province in the establishment and institutionalization of One Health practices and its inclusion in the project will serve as a demonstration case for the rest of the country.

17. Jiangxi, with a population of 46 million, is one of the least developed provinces, ranked 24th out of 31 in mainland China in terms of GDP per capita. Jiangxi is part of the Yangtze River Economic Belt regional initiative launched in 2016 as one of the three key growth engines for China's development. It has a large agricultural and livestock sector, accounting for 15 percent of GDP. Rural residents constitute 42.6 percent of its total population. Forestry coverage is the second highest in the country, at over 60 percent. This leads to intense interactions

⁷ Convention on International Trade in Endangered Species of Wild Fauna and Flora, of which China is Party. The project will not be involved in or support direct enforcement of the ban on the consumption of wildlife, but rather, provide targeted support to improve the ability to report illegal wildlife activity in selected hotspot areas, where the presence of this wildlife represents a zoonotic risk to humans or livestock. The activities under 'healthy marketplaces' will also contribute to reducing wildlife exposure to humans.

⁸ The project activities consist of institution building and system strengthening of provincial agencies, and interventions are limited to prefectures/counties on Hainan island only.



between humans engaged in agriculture and forestry and the province's wildlife. Highly pathogenic avian influenza (HPAI) is a persistent threat to poultry, wild birds, humans, and other mammalian animals in the province. In 2018, there was an outbreak caused by the H5N6 strain, an acute infectious disease, at a breeding farm in Jiangxi Province.⁹ Leptospirosis, caused by pathogenic *Leptospira spp*, another widespread zoonosis found in wildlife, animal and human populations is frequently reported in the province.¹⁰ The provincial government is committed to piloting the One Health approach to improve collaboration among agencies responsible for human health, agriculture and livestock development, and forestry and wildlife protection and thus reduce the risk of EIDs, while at the same time strengthening health sector resilience in the wake of the COVID-19 outbreak.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

18. The proposed project development objective is to strengthen selected national and provincial systems to pilot a multi-sectoral approach for reducing the risk of zoonotic and other emerging health threats.

Key Results

- (a) Multi-agency monitoring of zoonoses and other emerging health threats is established, and is generating and communicating information for action in project-supported provinces (yes/no)
- (b) Counties achieving a reduction in the prevalence of selected zoonotic diseases or other health threats as a result of project-supported activities (number)
- (c) Multi-Sectoral Plans prepared and implemented under the project and achieving their performance targets (number)

D. Project Description

Component 1: Improving risk-based surveillance systems for zoonotic and other emerging health threats

19. This component aims at identifying the signs of infectious diseases as well as priority health threats such as AMR in a timely and cost-effective manner. It will strengthen and upgrade key information systems needed to timely detect and monitor the risks of emergence of EIDs and other zoonotic diseases in project provinces, and their integration into suitable platforms, through technical assistance, training, provision of equipment and upgrading selected infrastructure. Importantly, by helping collect data from multiple sources, the component will not only facilitate improved risk management, but also reduce incentives to under-report or cover up notifiable infections, as the performance of each sectoral early warning system can be tested through the use of data from alternative sources. The project focus is on the risk of EIDs. Its scope does not include any analysis or investigation into the sources, and causes of the spread, of COVID-19. The component will support, among others:

- (i) Conducting risk assessments, risk mapping and prioritization of EIDs and health threats. Assessments will be carried out to identify human and animal health risks and priorities (e.g., pathogens, species, location, seasonality) for endemic zoonotic and EIDs in human and livestock, as

⁹ Meng Li, Shengyong Feng, Sanfu Lv, Jing Luo, Jianli Guo, Jianhua Sun & Hongxuan He (2019) Highly pathogenic H5N6 avian influenza virus outbreak in *Pavo cristatus* in Jiangxi Province, China, *Emerging Microbes & Infections*, 8:1, 377-380, DOI: 10.1080/22221751.2019.1586411

¹⁰ Zhang C, Xu J, Zhang T, Qiu H, Li Z, Zhang E, et al. (2019) Genetic characteristics of pathogenic *Leptospira* in wild small animals and livestock in Jiangxi Province, China, 2002–2015. *PLoS Negl Trop Dis* 13(6): e0007513. <https://doi.org/10.1371/journal.pntd.0007513>



well as improve the ability to define geographical areas with higher presence of high-risk wildlife. This will allow for the development of a list of priority EIDs with outbreak potential and other emerging health threats, risk maps of various priority diseases, and hotspots where potential interaction between wildlife, livestock and/or humans can lead to EID outbreaks. The information generated will be used to guide the early warning and surveillance systems, planning for targeted prevention and control measures.

- (ii) Improving or developing the following systems for priority infectious diseases and other emerging health threats: (a) early warning systems, (b) infectious disease reporting systems including event-based surveillance, and (c) disease or health threat specific systems such as periodic serological surveys among human, animal, and wildlife populations as necessary. Disease surveillance systems and related reporting mechanisms will be improved around technical performance and economic efficiency for each sector by using risk-based approaches, automation, big data and artificial intelligence (AI) technology, training of community human and animal health workers, regular supervision, independent technical audits and performance reviews. The project will facilitate peer learning and exchange with other countries with good practices, as applicable. For instance, the project could learn from global good practices such as the Global Public Health Intelligence Network (GPHIN), Pro-MED Mail, etc., in terms of improving disease surveillance and information sharing. Data related to potential early signs of outbreaks (such as sales information on certain medicines, particularly antibiotics and antivirals, or school absenteeism for human health), or weather forecasts, land-use changes and other ecosystem variables in the wildlife sector, will be used to feed into early warning systems.
- (iii) Strengthening and upgrading selected national and provincial laboratory resources and monitoring networks in human, animal and wildlife disease sectors. Support will be provided to: improve the corresponding functionality of CDC at different levels; establish hierarchy and networking of laboratory resources; support the accreditation of animal disease control, animal epidemic control and food safety laboratories; and upgrade and better integrate wildlife epidemic disease monitoring stations. Training and technical assistance will be provided in order to improve quality assurance and biosafety of the laboratory systems.
- (iv) Developing guidelines and protocols for improved information sharing between relevant agencies and their respective information systems. Based on the improvements of each sector on their ability to assess risks and identify hotspots, design and operate warning systems, and upgrade key monitoring networks, mechanisms will be developed for each sector to tailor information products in a format, content and periodicity that is useful to the other sectors.

Component 2: Prevention and control programs targeting priority zoonotic and other emerging health threats

20. This component will support the implementation of selected national or provincial programs aimed at reducing health risks at source. With the provision of technical assistance, equipment and improvements in infrastructure, the component will strengthen initiatives for prevention and control of priority zoonotic diseases and other health threats. The priorities for interventions will be further developed during implementation, and could include, among others:

- (i) Risk communication for behavioral change, e.g. for good health seeking behaviors, good animal husbandry practices, reduced risks of exposure to wildlife, and others. Support will be provided to better communicate behavioral and environmental risks for disease occurrence or outbreaks, development of risk communication tools for influencing food, health, and hygiene behaviors,



campaigns to communicate the risks of human exposure to wildlife, and others. Key frontline staff including family doctors, community health and veterinary workers, and other community organizations will be supported for disseminating behavior and risk management messages. In addition, sessions on public health and health security will be offered to the government officials at the selected schools of public administration, by making reference to global and local good practices and ill practices in handling public health emergencies.

- (ii) Support programs aimed at reducing human exposure to (high-risk) wildlife. These exposure-reduction programs will be carried out with a focus on the identified hotspots, and could include improving the capacity of or building new wildlife rescue centers (to reduce the probability of contact with humans or livestock), programs to decouple or limit the overlap between the presence of high risk wildlife and humans or livestock (for example, through physical barriers, personal protection systems or others to minimize contact), or improving the ability of forestry institutions to identify and report instances of risky wildlife trade to relevant authorities.
- (iii) Demonstration of disease prevention and control measures in agriculture, livestock and aquaculture farms, including AMR using One Health approach. Emphasis in these demonstrations will be placed on tailored farm-specific disease management plans by identifying risk and potential control points for the purpose of disease prevention, management of disease spread and minimizing the usage of pesticides, antibiotics and antimicrobials. Zoning and compartmentalization programs for isolating animal subpopulation with different animal health status and improving the traceability of food and animal products will also be piloted, as necessary. The project will finance TA support for improving province/county biosecurity plans, cross border transmission prevention programs, activities to address veterinary procedures and administration gaps, capacity building programs; risk communication tools and implementation assessments.
- (iv) Upgrading market and trade infrastructure and facilities. The project will adapt the Hazard Analysis and Critical Control Points (HACCP) approach for (i) piloting ‘healthy marketplaces’ practices through upgrade of local wet markets (community agriculture markets), and (ii) design of cross border inspection and quarantine infrastructure and facilities for trade in plant and animal products at the proposed freeport at Hainan. The interventions in the healthy marketplaces will entail market zoning and facility upgrades for reducing human-animal interactions and avoiding cross contamination, making improvements in food hygiene, water and sanitation utilities and enforcing weekly closures for cleaning and disinfection of marketplaces. Support will also be provided for promoting good animal health and animal welfare practices, deploying digital technologies for better animal disease and food safety surveillance, and undertaking systematic risk communication campaigns involving regulators, market operators, vendors, handlers and consumers.
- (v) The project will support infection control measures to prevent the spread of infections in healthcare settings, as a part of an overall strategy for reduction of AMR. Support will include (a) strengthening surveillance on hospital acquired infections; (b) capacity building on hospital infection control through training and peer learning; (c) in the selected counties, setting up quality and infection control committees, promoting universal precaution practices and clinical audit; and (d) prevention of misuse of antibiotics and promotion of universal precaution practices.

Component 3: Institutional strengthening and human resources development for One Health

21. This component will provide technical assistance and training to strengthen prevention and preparedness systems, extend targeted support to inform specific policies and guidelines, and facilitate coordination and joint approaches to EIDs. These actions will support the establishment of policies, plans, institutions, human resource



capacities and regulation system for implementing a One Health approach, with a focus on the participating provinces and relevant national-level agencies. The project will support the following:

3.1 Institutional Strengthening

- (i) Generate evidence to facilitate the development or revision of policies, plans, notices and guidelines related to emerging health threats including infectious disease prevention and control, animal disease, and human exposure to (high-risk) animals and wildlife. On-demand support will provide technical knowledge and international good practices to inform the technical preparation of policy instruments. Initial candidates include: guidelines for animal disease-related risk assessments including those for zoonotic diseases; pandemic preparedness plans; guidelines related to wildlife protection, wildlife management, and human exposure to high-risk wildlife; reduced use of pesticides and antimicrobial resistance.
- (ii) Technical assistance will be provided for piloting One Health governance and regulatory systems to strengthen One Health implementation. Spearheading implementation of One Health, the project in Hainan will support the establishment of cross sectoral coordination mechanisms, including establishment of a One Health council, a One Health promotion bureau, a One Health management leading group, and a governance committee. The project's support will be focused on the application of the new framework to regulation and supervision of the Hainan free port. The port will encourage cross-border flows in goods and services including animal and plant products, and people including health professionals. These flows carry health risks emanating from the cross-border spread of infectious disease. Jiangxi has less elaborate institutional reform plans, and activities there will focus more on using evidence to inform a review of the provincial institutional framework.
- (iii) Institutional assessments to identify prevention, preparedness and response gaps, to strengthen the system of CDCs and animal disease control centers. The project intends to support the development of One Health Network to institutionalize One Health practices in participating provinces. The One Health network will comprise universities, academic institutes, CDCs, and centers for animal disease control and wildlife health agencies. They will bring together the expertise on epidemiology, medicine, infectious control, biology, ecology, environmental and wildlife health, entomology and veterinary medicine for supporting project initiatives.
- (iv) Strengthen the animal and wildlife systems and make connections with human health sector by facilitating preparation and implementation of Multi-Sectoral Plans (MSPs) at province level and in selected counties targeting specific zoonotic diseases or other public health threats. The coordinated multisectoral response will be led by the provincial or county governments. At least two of the agencies responsible for human health, animal health, wildlife health and other relevant sectors will agree to jointly prepare the MSP. The plans will comprise sector-specific activities as well as joint activities supported by the One Health network, such as joint capacity building on multi-sectoral approaches, joint risk assessment and risk mapping (to identify hotspots), etc. based on the analytical inputs received from the individual sectors. It will contain performance indicators and adaptive mechanisms to improve along the way.
- (v) Partnerships and collaborations. In addition, the project will establish formal collaboration with universities, academic or research institutions to establish 'centers of excellence' for furthering scientific knowledge, applied research and medical and veterinary graduate education in priority One Health themes. Partnerships and twinning arrangements will be established with global institutions. Periodic events will be organized by these centers to exchange knowledge, scientific advancements and review of evidence generated from project implementation to enrich the policy



dialogue. The project will finance capacity building activities such as training, seminars, conferences for promotion of One Health; action/operational research, assessments and studies; small equipment and other operating cost for One Health networks.

3.2 Human resources development

22. Human resources development. An assessment of existing training needs will be carried out, and a plan will be prepared both to strengthen skills of the current workforce and to build capacity of the future workforce. The project will support strengthening of combined clinical and public health training using a range of capacity building programs including building a cadre of senior professional trainers, initiating changes in medical and veterinary training curriculum to include public and veterinary health training and graduate trainings in veterinary epidemiology, public health and dual MD MPH programs. Likewise, support will also be provided for upgrading the design and delivery of high-quality field veterinary epidemiology training programs (FVETPs) through e-learning and distance education options for reaching animal health workers at the grassroots. On the job training in One Health-related disciplines will be delivered to front line human health, animal health and environment staff to strengthen skills and mainstream inter-sectoral coordination. A variety of trainings related to EIDs, zoonotic diseases, One Health approaches, joint field epidemiological assessments, and others will be provided.

Component 4: Project management and M&E

4.1. Project management

23. Activities to be supported under this sub-component include (a) operating cost for the coordination needed for project implementation; (b) fulfilling fiduciary and environmental and social responsibility by the project management offices and implementation units in health, agriculture and forest and grassland sectors; and (c) timely reporting on the progress and results of project activities.

4.2. Monitoring and evaluation

24. The project will support (a) after action reviews; (b) systematic review of lessons learnt; (c) qualitative and quantitative research surveys on inter alia the performance and cost effectiveness of the health emergency response system in line with International Health Regulations and of the new risk-based disease surveillance programs; (d) development of national innovation marketplaces and case study competitions; and (e) benchmarking programs to international standards and good practices. Mid-Term Review and Final Evaluation reports will be produced during implementation.

Legal Operational Policies

Triggered?

Projects on International Waterways OP 7.50	No
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Projects in Disputed Areas OP 7.60	No
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Summary of Assessment of Environmental and Social Risks and Impacts

25. **Environment.** Through the coordinated interventions on the improvements of human, animal and environmental health to strengthen health system preparedness to reduce future EIDs risk in China, the project



is anticipated to have overall positive environmental and social benefits. The project will be implemented at the national level and in two provinces (Hainan and Jiangxi). The physical activities to be supported include facility improvements for small-scale infrastructure (e.g., wet markets, testing laboratories, wildlife disease monitoring and surveillance stations, and some limited facilities for animal isolating, zoning and compartmentalizing). While most of these activities will take place within existing footprints, some new small-scale surveillance stations will be built. In all cases, the negative environmental impacts directly associated with construction activities will be minor and readily mitigated. The project's Environmental and Social (E&S) management procedures described below include measures to exclude activities with high E&S risks, including those which could involve risks to critical natural habitats, cultural sites or large-scale land acquisition or resettlement. The Hazard Analysis and Critical Control Points (HACCP) approach will be used to pilot the 'healthy marketplaces' concept in selected wet markets (community agriculture markets) by (i) ensuring market zoning and facility upgrades; (ii) enforcing regulations against any trading of illegal products; (iii) making improvements in food hygiene, water and sanitation utilities; (iv) enforcing weekly closures for cleaning and disinfection; (v) promoting good animal health and welfare practices; (vi) deploying digital technologies for better animal disease and food safety surveillance; and (vii) undertaking systematic risk communication campaigns. The negative E&S impacts during implementation will be limited, site-specific and mitigated through the design and implementation of appropriate measures. Bank supervision will include a review of compliance with existing legal provisions and relevant Environment and Social Standards (ESSs). The results of this will be used to document lessons for informing policy development and as a flag for prompt reporting of incidents that represent risks for community exposure to communicable diseases.

26. The main environmental risks associated with the project are the: (i) Occupational Health and Safety (OHS) issues related to testing and handling of supplies and the possibility that they are inadequately implemented by lab technicians; (ii) environmental pollution and community health and safety issues related to the handling, transportation and disposal of limited hazardous waste and the management of wet markets; and (iii) potential downstream E&S implications of technical assistance activities under the project, such as from review, research work or investigations to support needed policy and legislation improvement for EIDs prevention and control. Management of these risks has been incorporated into the project design through focused project activities, including targeted training and better equipping of health workforce, community and animal health workers and wildlife protection workers. Considering the main E&S risks associated with the project, the complexity of project design and the uncertainty of specific project activities by appraisal, the environmental risks for the project are deemed substantial.

27. To mitigate these risks, the National Health Commission (NHC), Ministry of Agriculture and Rural Affairs (MARA), National Forestry and Grassland Administration (NFGA), as well as the Hainan and Jiangxi Provincial Governments, have committed to preparing and implementing during project implementation specific project due diligence procedures. These include Environmental and Social Management Frameworks (ESMFs), three at the national level (one for each implementing ministry) and one for each of the two project provinces. The ESMFs – which will be reviewed by the World Bank prior to implementation – will include the E&S screening criteria to exclude activities with high E&S risks and outline the specific E&S issues and necessary mitigation measures associated with all project activities at national and provincial levels. All project ESMFs will be developed with reference to the international good practice currently available, including relevant WHO technical guidance, World Bank Environmental, Health and Safety (EHS) Guidelines and other Good International Industry Practices. A capacity assessment will be undertaken during ESMF preparation to inform more specific capacity building plans for inclusion in the national and provincial ESMFs. In line with the requirements of respective ESMFs, Environmental and Social Management Plans (ESMPs) will be prepared during project implementation as needed,



based on the results of E&S screening. ESMPs would be prepared and implemented by the PIUs with World Bank oversight. The ESMFs should be prepared, consulted, disclosed and adopted before any project disbursement under respective ministries and provinces, and thereafter implemented throughout project implementation. Until the ESMFs are approved, the Project will apply the applicable WHO standards in a manner consistent with ESS1. Only activities screened for E&S risks, and with the ESMP completed, consulted and disclosed in the relevant jurisdiction (national or relevant province) will be carried out. The project's Environmental and Social Commitment Plan (ESCP) documents the key measures and actions needed to avoid, minimize, reduce or mitigate anticipated E&S risks and impacts of the project over a specified timeframe. The ESCP has been agreed at negotiations, after which the Borrower commits not to carry out any activities or take any actions in relation to the project until the relevant plans, measures or actions have been completed in accordance with the ESCP. The ESMFs will be premised on China's existing national and provincial legislative framework related to, among others, public health, agriculture and wildlife. Changes to this framework (as described in the ESMFs) will be discussed from time to time between the Bank and Project Implementing Entities to determine whether they require changes to the respective ESMFs, including the safeguards instruments for the Project objectives to be met in an environmentally and socially sustainable manner. Social: Although the land acquisition and displacement risks are considered low, the broader social risks are considered Substantial.

28. Social. The project will not support large scale construction or rehabilitation works requiring significant amounts additional land or physical displacement. The project will seek to avoid land acquisition and physical displacement. If additional land is required land already under government ownership will be favored. The key social risk is that disadvantaged, vulnerable and high-risk social groups may be excluded from project benefits. Full societal inclusion is not only fundamental to improved social development outcomes, but given the nature of EIDs, if parts of society (by geography, ethnicity income, gender, identification or any other measure) are excluded, the overall efficacy of the engagement will be compromised. ESMFs at the national and provincial level and subsequent sub-project ESMPs (as needed) to be prepared by each PMO/PIU will include social assessments proportionate the issues at the respective level (National or Provincial and also targeted to the relevant sectors) and will identify and define specific requirements of vulnerable groups. Without being exhaustive, these groups are likely to include ethnic minority communities, the elderly and other groups, the needs of whom require specific project focus. Individual and community rights will be carefully protected, especially for ethnic minorities or other vulnerable groups identified during the social assessment process. The project will be implemented to ensure citizens inform decision making, so that their rights are respected, and any negative social and economic impact of the community intervention measures are minimized.

29. To manage these issues and to set appropriate management criteria, during the preparation of the ESMFs, adequate preparedness actions will be developed to ensure disadvantaged and vulnerable groups are informed and able to access project benefits. The ESMFs will remain dynamic documents to take into account the relevance of the domestic legal framework on the management of the environment and social risks of the project, and hence they will be reviewed periodically to assess whether changes to the domestic legal framework could materially negatively impact the achievement of the project objectives. Social assessments will address specific needs of ethnic minority communities, including through the development of ethnic minority development plan(s), if required under ESS 7.

30. The preliminary Stakeholder Engagement Plan (SEP) prepared during project preparation will be updated and used to provide guidance to each of the participating PIUs/Provinces, which will prepare their separate SEPs. A project level Grievance Redress Mechanism (GRM) will be designed to address the stakeholders and project risks for each PMO/PIU, designed to assist to resolve complaints and grievances in a timely, effective and efficient



manner that satisfies all parties will be included in each updated SEP. The GRM will be designed to ensure it includes effective community feedback and accountability mechanisms.

31. Potential downstream implications of technical assistance (TA) activities under the project such as reviews, research or investigations which aim to support proposed policy and legislation improvement for prevention and control of priority zoonotic diseases and other health risks will also be managed through TORs for these activities to be cleared by the Bank.

E. Implementation

32. **Project Steering Group at the National Level.** A Steering Group will be established at the national level. It will be responsible for overall project direction and coordination, and will facilitate project review and policy dialogue. The Steering Group will consist of representatives of the National Development and Reform Commission, Ministry of Finance, National Health Commission, Ministry of Agriculture and Rural Affairs, National Forestry and Grassland Administration, and two project provinces. An office within the Ministry of Finance will provide support to the Steering Group including coordinating meetings and serving as a liaison among group members. The Steering Group will meet semi-annually to be informed of the project implementation progress, provide guidance on the overall direction of the project and facilitate project review and policy dialogue based on emerging evidence from project implementation. More specifically, its responsibilities are to: (i) provide guidance on emerging issues in project implementation; (ii) promote exchange of project experiences in the project provinces and/or nationwide; (iii) convey the project Mid-Term Review, and the project final evaluation reports to the World Bank; (iv) review and agree on key policy reviews and analytical work to be undertaken by NHC, MARA, NFGA, and the project provinces ; (v) share the project results and policy suggestions with relevant government agencies; (vi) facilitate exchange with other relevant agencies; and (vii) oversee the organization of and participate in high-level project seminars/workshops.

33. **Project Management Offices at the National Level.** NHC, MARA, and NFGA will be the implementation agencies for the project activities at the national level. A Project Management Office (PMO) in each ministry will be set up. The PMOs will be responsible for overall coordination, reporting, implementation, management, monitoring and evaluation of project activities at the national level. Key staff in the PMO will include Project Director, Project Coordinator, Safeguards Specialist, Lead Technical Specialist, and Monitoring and Evaluation Officer.

34. **Project Implementation Units (PIUs) at the National Level.** A PIU within each sectoral ministry will act as an executing agency with the responsibility of day-to-day operation of the project. The PIUs will manage project procurement, including signing of contracts, project designated account, financial management, safeguards, monitoring and evaluation. The PIUs will also be responsible for the preparation of annual workplans, the procurement plan, and the financial reports, organization of the trainings and seminars, coordination and arrangement for the Bank's supervision missions, and drafting of communications with the Bank.

35. **Technical Expert Group.** Technical expert groups will be set up at the national level and provinces to provide technical expertise to the implementation agencies. The experts could be contracted as consultants using the loan funding. These experts will support the implementation agencies at national and provincial levels.

36. **Coordination arrangements at the provincial level.** In project provinces, project preparation has been coordinated by the Department of Finance (DOF) and the Department of Development and Reforms (DRC) in



close cooperation with the provincial Health Commission, the Department of Agriculture and Rural Affairs, and the Department of Wildlife. The provincial DOF and DRC are expected to continue to coordinate aspects pertaining to Project implementation as part of their functional responsibilities working together with the 3 sectoral departments.

37. **Project Management in Hainan Province.** A PMO will be set up in the provincial DRC. The PMO will be responsible for implementation, overall coordination, consolidated reporting, and monitoring and evaluation of the project activities, coordination and arrangement for the Bank's supervision missions, and drafting of communications with the Bank. A PIU will be set up in each of the sectoral departments which will be implementing project activities. The PIUs will be responsible for the day-to-day operation of the project. The PIUs will manage project procurement, financial management, safeguards, monitoring and evaluation. The PIUs will also be responsible for the preparation of the annual workplan, the procurement plan, and the financial reports, organization of the trainings and seminars. Any additional implementation structures at the provincial, municipal or county level may be set up based on the needs during the project implementation period and prior agreement with the Bank.

38. **Project Management in Jiangxi Province.** A PMO will be set up in each of the three sectoral departments - health, agriculture, and forestry – at the provincial level. The PMOs will be responsible for the coordination, reporting, management, implementation, and monitoring and evaluation of their respective activities specified in the Annual Work Plans. The PMO within the provincial Health Commission will also be responsible for overall coordination, consolidated reporting, and monitoring and evaluation of the activities under the project. Any additional implementation structures at the provincial, municipal or county level may be set up based on the needs during the project implementation period and the Bank's prior agreement.

39. The detailed responsibilities and arrangements under the national, provincial, municipal and county level will be further developed and included in the Project Operations Manual, which will need to be acceptable to the Bank and prepared prior to effectiveness.

40. **The project has been prepared by a multi-sectoral task team, with technical expertise from across the World Bank's Practice Groups and Management Units.** It includes three Task Team Leaders, who are experts in epidemiology, biodiversity management, and livestock and food safety management, respectively. The team also includes specialists in public health, health economics, agribusiness, animal health, social protection and jobs, education, implementation, procurement, financial management, environmental and social standards, legal, communications, and knowledge management. As with project preparation, implementation support by the World Bank will be coordinated jointly through the Task Team Leaders, to ensure integration of activities, joint evaluation and reporting, and integrated discussions with the government project management and implementation teams at the national and provincial levels.

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