Original Research Article

Research on the Security and Protection System of Biological Resources from the Perspective of National Security

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Abstract: In 2014, General Secretary Xi Jinping put forward the concept of "overall national security concept", which is another great innovation of China's socialist theoretical system. Based on the impact of the COVID-19 epidemic on the comprehensive national security interests, combined with the actual situation of the expansion of national security factors and the threat to national security interests, this paper explores the problems in the national security system exposed by the epidemic in order to improve the public security management system and epidemic prevention and control system represented by biological resources and public health security in China.

Keywords: Epidemic prevention and control; Overall national security concept; Biological resources;

Public safety management.

1. Introduction

The national security system is an effective part of the modernization of the national governance system and governance capacity. Under the guidance of the Thought on socialism with Chinese characteristics, the previous national governance system and capacity focused on the construction of the socialist system and the economic system. The Party and the state improved all aspects of the governance system and made outstanding achievements, reflecting the superiority of the socialist system. The Party and the government have also paid full attention to the importance of improving the social governance system of co-construction, co-governance and sharing, maintaining social stability and safeguarding national security, adhering to and developing the "Maple Bridge experience" in the new era, and improving the national security system will be an important content of the future national governance system.

2. The Impact of the COVID-19 Epidemic on the Country's Comprehensive Security Interests

Creativity, knowledge, and organization change over time, but it doesn't eliminate the fact that humans are vulnerable to parasites. The infectious disease that predates humanity will always exist and continue to accompany humanity, because it has been one of the fundamental parameters and determinants of human history to date.

2.1 The Threat of the COVID-19 Epidemic to the Overall Interests of National Security

Traditional single-source security threats only affect a certain national security interest, while public health emergencies such as emerging and re-emerging infectious diseases threaten the country's comprehensive security interests, which include economic, social, political, biological and many other contents. It is also more influential and destructive than any other.

First of all, the impact of COVID-19 on the economy is obvious. At the microeconomic level, the epidemic will directly increase the expenditure of individuals, households, enterprises and even countries on medical

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treatment or prevention, and reduce consumption, income and savings. At the macroeconomic level, the global COVID-19 pandemic will directly affect the import and export trade between countries due to international embargoes, hinder foreign investment, and even lead to an international boycott of one or more products, ultimately affecting the gross national product.

Second, from a social and political perspective, the pandemic poses a clear threat to the well-being and health of citizens. The epidemic undermines the prosperity and effective governance of countries, increasing the instability of national order and the cost to countries of maintaining their territorial integrity. On the other hand, in response to complex public health events such as the novel coronavirus and SARS, the media has polluted the source of information, interpreted uncertain and contradictory information unfairly, and over-hyped and spread public anxiety will also increase the risk of public opinion.

Finally, epidemic prevention and control threatens China's diplomatic security. The COVID-19 epidemic has exposed the unilateralist thinking of some countries, which not only creates international disputes, but also endangers and hinders international cooperation and assistance in humanitarian and public health. They even hope to smear China without any evidence or precedent and rules under international law regarding the origin of infectious diseases, in an attempt to contain China's development and disrupt the world order. These hegemonic acts threaten the existence of the basic value of independence and equality of China as a sovereign state and the peaceful diplomatic line, and also affect China's international political environment and national interests.

2.2 Expansion of the Scope of National Comprehensive Security Elements

Security governance entities routinely deal with common threats to national interests, such as wars and international disputes. Traditional notions of national security focus more on external security, homeland security, and self-security, ignoring the greatest source of human suffering and death: the threat from emerging and re-emerging infectious diseases (ERIDs). While infectious diseases do not threaten the survival of humanity, they can certainly threaten the prosperity and stability of the social and political structures of nations.

First of all, public safety caused by emerging and re-emerging infectious diseases poses a great threat to national security, whether internationally or domestically, in any country. Since the beginning of the new millennium, the equilibrium coexistence between humans and microbes has been disrupted. Human actions or human-environment interactions, such as urbanization, increased population density, and environmental destruction, accelerate microbial changes and the creation of new pathogens. Population migration/travel, ease of transportation, and frequent global trade make it only a few months for pandemic viruses to spread to every corner of the world, and the transmission cycle of infectious diseases is gradually shrinking. Pathogenic microorganisms and parasites have developed resistance in the process of continuous evolution, which has led to the resurgence of diseases that were once effectively prevented. The World Health Organization (WHO) "2007 World Health Report - Building a Secure Future" pointed out that while the speed of infectious disease transmission is accelerating, the frequency of occurrence is becoming increasingly obvious, since the 1970s, the emergence of new diseases at an unprecedented rate, reaching one or more per year, the last five years by the WHO confirmed the outbreak of more than 1,100 cases.

Secondly, the spread of the new coronavirus (2019-nCoV) has also aroused unprecedented public attention to biosecurity (including bioinformation security), and the management of human genetic resources is an important measure to ensure national security and racial security. Biotechnology, infectious diseases, biological weapons, bioterrorism, biological laboratories, biological resources, and biological diversity are the main contents affecting biosecurity, which will not only affect the national scientific and technological security, but also directly lead to the threat of bioterrorism. The security of bioinformation data, such as biotechnological data, biometric authentication data, human genetic resources and bioinformation data, such as bioinformation data, is equally important for the State and for individual citizens. In addition, biological information data also has important research and development value and bioethical significance, is an important strategic resource of the

country, is the basis of future genetic resource analysis and mining, biological innovation technology and development and utilization, and plays a pivotal role in the fields of energy, food, environment and health.

On March 2, 2020, General Secretary Xi Jinping stated in his speech on the work of scientific research on epidemic prevention and control: Major infectious diseases and biosecurity risks are major risks and challenges related to national security and development and the overall stability of society. Biosecurity should be regarded as an important part of the overall national security, combining peacetime and wartime, prevention and emergency response, scientific research and treatment and prevention and control, and strengthening the system and capacity building of epidemic prevention and control and public health scientific research." Since then, biosecurity has been formally incorporated into the national security system.

2.3 Emerging and Re-emerging Infectious Diseases Threaten Global Common Security

The pursuit of public health security and biosecurity is not only the internal security and interests of a country, but also the common interests pursued by all countries in the world. As President Xi Jinpin said in his keynote speech at the Shanghai World Expo Center on May 21, 2014, We should actively advocate the Asian security concept of common security, comprehensive security, cooperative security and sustainable security, innovate security concepts, build a new architecture for regional security cooperation, and strive to find a path of Asian security that is jointly built, shared and win-win. The Chinese government's timely and efficient response to the COVID-19 epidemic has demonstrated its image as a major country. We can clearly see that the governance capacity of international public health will directly affect the international reputation and influence of a country. We need not only to deal with the epidemic itself, but also to explore diversified ways of international cooperation and international responsibility to cope with the complicated international relations.

3. The Inspiration and Reflection of the New Coronavirus Epidemic on the National Security Legal System

3.1 Problems Existing in the Biological Resources Security and Protection System

3.1.1 Incomplete Legal Norms Related to the Protection of Biological Resources

There are currently 98 normative documents related to biosafety in China. However, the only legal documents directly regulating the use of biological resources are the Regulations of the People's Republic of China on the Management of Human Genetic Resources, the Patent Law, the Regulations on the Safety Management of agricultural Genetically modified Organisms (Decree No. 687 of The State Council), the Measures for the safety Management of Genetic Engineering (Decree No. 17 of the State Science and Technology Commission), and the General Office of the Ministry of Science and Technology on the implementation of the collection and collection of human genetic resources Notice on Administrative Permits for Collection, Sale, Export and Exit (State Science and Technology Office [2015] No. 46), Measures for the Declaration and Registration of Important Genetic Families and Human Genetic Resources in Specific Regions (Interim), and international instruments to which China has acceded to the Convention on Biological Diversity and the Nagoya Protocol.

First of all, the legislation on the protection of biological resources lacks planning, comprehensiveness and coordination. For example, in terms of civil rights, there is a lack of provisions on the ownership of personal biometric authentication data and genetic information, and the state's ownership of biogenetic materials and information. In terms of administrative management, for activities such as collection, preservation, utilization and external provision of biological resources, as well as the protection of genetic resources and the management and supervision of gene technology, there is a lack of operable laws and supporting regulations, which cannot meet the current requirements of biological resources and biosafety protection in China. It is worth noting that the relevant departments have recognized the above problems, and on April 30, 2020, the Standing Committee of the National People's Congress published the Biosafety Law (Second reading draft) for comments, and carried

out comprehensive legislation on biosafety protection at the legal level.

Secondly, there are still many deficiencies in the legal norms of biological resources protection. China's "Regulations on the Management of Human Genetic Resources of the People's Republic of China", which came into effect on July 1, 2019, protects genetic materials and information of genetic materials such as human genomes and genes, and its effectiveness level is too low. Laws and regulations on the management, regulation and protection of non-human biological resources are still blank in China. Although China signed and joined the Convention on Biological Diversity in 1993, its content involves the protection and utilization of biological resources, but it is mostly provisions of principle and lacks the chapter of legal responsibility that can be effectively applied.

3.1.2 Lack of Normative Documents Makes Accountability More Difficult

With the development of biotechnology and the increasing international cooperation in the research and development of new drugs, a large amount of bioinformatics data and human genetic resources have been collected and collected through the application of biodetection, gene manipulation, synthetic biotechnology and omics technologies. As a result, illegal collection, collection, utilization, trading, export and exit of biological information resources in the process of sequencing, identification, editing, storage and antibody preparation have also followed, and the gap in laws and regulations has increased the difficulty of biological resource protection and accountability. For example, a large number of biopiracy phenomenon, China only "Patent Law" proposed the source disclosure system of genetic resources, but it is only a principle provision, the specific disclosure of the degree, scope, review and other content is not more detailed provisions, it is difficult to effectively prevent the leakage of genetic resources information. Informed consent forgery, irregular or beyond the scope of informed use of human genetic resources, and sending genetic data abroad without notification and approval are also rarely punished because of imperfect laws and regulations.

Secondly, due to the lack of normative documents, the number of administrative supervision, civil litigation and criminal punishment involving the use and protection of human genetic resources and biological resources is also small. In terms of administrative punishment, on September 7, 2015, the Ministry of Science and Technology issued the first Administrative Punishment Decision concerning human genetic resources (Guoke Penalty [2015] No. 1). Shenzhen BGI Science and Technology Service Co., LTD., Huashan Hospital affiliated to Fudan University and the University of Oxford carried out human genetic resources research in China without permission. Bgi transferred part of China's human genetic resources information from the Internet without permission. On October 24, 2018, the official website of the Ministry of Science and Technology published for the first time on the official website six information disclosures of illegal collection, collection, trading, export and exit of human genetic resources in violation of the Interim Measures for the Management of Human Genetic Resources. In terms of civil litigation, the Shangcheng District People's Court of Hangzhou made the first judgment on the application of the Regulations on the Management of Human Genetic Resources of the People's Republic of China in 2019, involving the custody rights of embryos. In terms of criminal punishment, because the biosecurity charges have not been punished, the relevant penalties only involve the protection of wild animals and the spread of infectious diseases. However, the draft Amendment (XI) to the Criminal Law, published on June 28, 2020, added three new types of crimes involving biosecurity: crimes of illegally engaging in human gene editing and cloning embryos; Crimes that seriously endanger the security of national human genetic resources; Illegal disposal of invasive alien species.

3.1.3 Inadequate Set-up of Biological Resource Management Institutions

China lacks a unified biological resources regulation of permanent coordination and discussion body, and some of the Settings are unreasonable. The management of biological resources in China currently consists of three agencies: the China National Commission for Biodiversity Conservation, the Joint Office of National Biosafety Work, and the Ministry of Science and Technology (this does not include departments within various ministries, such as the Biosafety Division under the National Forestry and Grassland Administration). There are

three kinds of rules of procedure: inter-ministerial joint meeting system, multi-department joint office and single department management.

In the management of biological resources, the inter-ministerial joint conference system is currently adopted in our country. The Notice of The General Office of the State Council on Strengthening the Protection and Management of Biological Species Resources (GuoChangfa [2004] No. 25) stipulates that Since the protection and management of biological species resources involves multiple departments and fields, The State Council has decided to establish an inter-ministerial joint conference system for the protection of biological species resources to unify and coordinate the protection and management of national biological species resources. The inter-ministerial joint meeting was led by SEPA and attended by relevant departments of The State Council.

In terms of biodiversity conservation, in 2011, The State Council approved the establishment of the China National Committee for Biodiversity Conservation, composed of 25 departments, to coordinate biodiversity conservation work across the country and guide the "China Action for the United Nations Decade of Biodiversity".

In terms of biosafety, the biosafety coordination mechanism is adopted, and Article 11 of the second review draft of the Biosafety Law published on April 30, 2020 stipulates that "the national biosafety coordination mechanism is composed of the competent departments of health, agriculture and rural areas, science and technology, foreign affairs and relevant military organs of The State Council to analyze and judge the national biosafety situation." To organize, coordinate and urge the promotion of national biosafety related work.

Human genetic resources are managed by the Ministry of Science and Technology. First, the Interim Measures for the Management of Human Genetic Resources promulgated on June 10, 1998 (State Council [1998] 36) stipulates that the administrative department of science and technology under The State Council and the administrative department of health are jointly responsible for the management of human genetic resources throughout the country, and the Office of Human Genetic Resources Management in China is temporarily located in the administrative department of science and technology under The State Council. In 2012, the Decision of The State Council on the sixth Batch of cancellation and adjustment of administrative examination and approval items was adjusted from the Ministry of Science and Technology and the former Ministry of Health to the Ministry of Science and Technology.

To sum up, the above multiple management and rules of procedure are inconsistent, and do not use the overall supervision of biological resources and the protection of public safety. Furthermore, the purpose of the management of human genetic resources by the Ministry of Science and Technology is to facilitate the administration to regulate the use of human genetic resources information and genetic materials from the perspective of biotechnology and scientific research, but, as mentioned above, biological resources involve all aspects of social and economic life, such as safety, economy, agriculture, health, industry, etc. The safety of biological resources is obviously not something that the Ministry of Science and Technology can fully control on its own, and it should be included in the public safety system and supervised by a unified coordination department.

3.2 Ineffective Linkage between Ecological Protection and Epidemic Prevention and Control Systems

3.2.1 Coupling between the Ecological Environment and the Spread of Emerging and Re-emerging Infectious Diseases

First, the negative impact of humans on the ecological environment can significantly change the global distribution of pathogens and their vectors. For example, atmospheric warming affects precipitation and thus surface water distribution, while changes in precipitation and temperature may promote or inhibit the growth of vector populations, thus affecting the distribution of pathogens throughout the region, and may even lead to the recurrence of pathogens that have been controlled or eradicated; Climate warming will increase the proliferation and spread of microorganisms, while pathogens that depend on temperature and humidity to survive and use

them as vectors (such as malaria and dengue fever) may increase the latitude range of their incidence; The decline in global biodiversity affects the global pool of genetic resources and will limit our ability to create new antimicrobials and medicines in the long term.

Second, improper use of wildlife can accelerate the entry of pathogens into human systems. According to the National Medium - and long-term Animal Disease Prevention and Control Plan (2012-2020), 70% of animal diseases can be transmitted to humans, and 75% of new human infectious diseases come from animals or food of animal origin. If the prevention and control of animal diseases are not strengthened, it will seriously endanger public health security. Fragmentation of natural habitats displaces animal populations and forces them to form more connections with large populations of non-immune hosts in cities, increasing the incidence of zoonosis; The habit of overeating wild animals will allow the spread and spread of pathogens in the process of hunting, transporting, raising, killing, storing, processing and eating wild animals.

3.2.2 Laws Related to Ecological Protection should Respond to the Needs of Epidemic Prevention and Control in a Timely Manner

As mentioned above, there is a close correlation between the ecological environment and the spread of new and re-emerging infectious diseases, and the prevention and control of the epidemic should focus on early warning and prevention, which cannot be achieved only by the health department through administrative control, but should be combined with the strength of multiple departments such as entry-exit control, ecological environment, forestry and market supervision. We will continue to prevent and control emerging and re-emerging infectious diseases. At present, epidemic prevention and control are mainly applied to the Law of the People's Republic of China on the Prevention and Control of Infectious Diseases, the Emergency Response Law and the Emergency Regulations on Public Health Emergencies, but the above-mentioned normative documents mainly regulate the functions of relevant departments in the construction and renovation of public health facilities, prevention and vaccination, early warning measures for infectious diseases, and control, medical treatment, supervision and management after the occurrence of epidemics. However, there is no response to issues such as animal epidemics, zoonoses, and the spread of pathogens caused by ecological environment, and the adjustment scope of relevant laws such as the Fisheries Law, the Wildlife Protection Law, the Health and Quarantine Law, and the Biosecurity Law is too narrow, and the enforcement, supervision and inspection are not strong enough.

4. Improvement of the System for Epidemic Prevention and Control under the Perspective of the “Overall National Security Concept”

4.1 Building a Legal System for the Protection of Biological Resources with National Security at its Core

4.1.1 Logical Framework of the Legal Regime for Biological Resources

First, the scope and extension of biological resources are clarified. Biological resources refers to the general term of animals, plants, microbial organisms and various resources composed of biological communities that have direct, indirect or potential economic, scientific and ecological value to human beings, including genes, species and ecosystems. Biological resources should include all organisms and their communities, which is a species concept under the concept of “natural resources”. Biological resources have comprehensive values such as economy, scientific research, safety, ecology and germplasm. The legal system of biological resources should take the connotation and extension of the concept as the logical starting point, clarify the adjustment objects of the documents and the types of biological resources that should be regulated separately in laws, regulations and rules, and distinguish mainly according to the differences in the departments in charge, the means of adjustment and the value to human beings. At present, it includes animals, plants, laboratory organisms, pathogenic microorganisms, dual-use items, biological products, special biological resources and germplasm genetic resources, genes and transgenes, human genetic resources, etc. Due to the particularity of human genetic

resources, China has promulgated special management regulations to regulate them.

Secondly, the effective components of the legal system for the protection of biological resources should be clarified. The construction of biological resources legal system should focus on the essential attributes of the resources to form a coordinated and unified legal system with clear rights and responsibilities. The legal aspect should include all kinds of rights ownership and transfer system of biological resources in civil aspect; The provisions of the criminal law shall affect the control of epidemic situations, the prevention and treatment of infectious diseases, or the protection of national biosecurity and wildlife; The protection law of various organisms and the utilization of species in the field of environmental protection; Administrative departments at all levels and of all types shall implement supervision and licensing systems for animal and plant quarantine, handling of emergency security incidents, entry-exit inspection and quarantine, ethical management, prevention and control of infectious diseases, genetic engineering and transgenic protection and technology control, classification and grading system, supervision and inspection system, risk assessment system, marking system, inventory system, cross-border transfer system, emergency response system, etc. Prior informed consent system, training system, public participation system and legal responsibility. Specific measures and procedural provisions concerning civil, administrative and criminal legal responsibilities, administrative supervision and implementation of biological resources should be clearly defined. Among them, the Biosafety Law should be used as a quasi-basic law for the protection and safety of biological resources, leading other normative documents, and the content of relevant laws, regulations and rules should not violate the basic provisions of the Biosafety Law.

4.1.2 Establishment of a Hierarchical and Sub-sectoral Collaborative Management Mechanism under the Leadership of a Unified Coordinating Body

First of all, the establishment of a unified permanent coordination body, clear the responsibilities of the administrative departments of each department. The functions and powers of the Chinese National Commission for Biodiversity Conservation, the National Joint Office of BioSafety and the Ministry of Science and Technology should be consolidated to avoid multiple management. It is suggested that a unified National Commission for Biological Resources Security and Protection be established under The State Council. Members of the coordination mechanism include the Ministry of Ecology and Environment, the Health Commission, the Ministry of Natural Resources, the Ministry of Emergency Management, the Ministry of Science and Technology, the Ministry of Agriculture and Rural Affairs, the General Administration of Market Supervision, the General Administration of Customs, the Forestry and Grass Bureau, the Central Propaganda Department, the Development and Reform Commission, the Intellectual Property Office and relevant military organs. Each department is responsible for the management of biological resources and safety according to the division of responsibilities. For example, the Ministry of Science and Technology is responsible for the management, approval and supervision of biotechnology research, development and application and biotechnology environment. Departments in charge of agriculture, rural areas, forestry and grassland, and ecological environment are responsible for the control of animal and plant epidemics. The department of natural resources shall be responsible for the administration, examination and approval and supervision of activities such as collection, preservation, utilization and external provision of biological resources; The Health Commission shall be responsible for the administration, examination and approval and supervision of the collection, preservation, utilization and external provision of the emergent infectious diseases and human genetic resources. The General Administration of Customs is responsible for entry-exit inspection and quarantine.

Secondly, a biological resource supervision system shared by multiple departments should be established to strengthen information resource sharing and linkage cooperation between departments. The protection of biological resources involves multiple departments and business processes. A unified biological resources supervision system shared by multiple departments should be established to strengthen the sharing of information resources, so that the early warning, management, use, approval and entry and exit information of biological

resources can be obtained by other departments in a timely manner at the same time, and documents, approval processes and law enforcement dynamics can be quickly transferred among different departments and feedback can be obtained. Achieve timely and effective departmental linkage and collaboration. Information sharing can also effectively ensure the operation of the joint meeting system and the joint consultation system, which is conducive to getting complete information feedback on the areas and links with big security risks and many illegal behaviors, making timely suggestions, taking effective measures, and realizing the true multi-department joint law enforcement.

4.2 Enhancing Participation in International Governance and Building a Community of Human Health and Wellness

China is an advocate of a community with a shared future for mankind and a community of human health. Improving China's participation in public security and rule-making capabilities are of strategic value to optimizing the international governance system, maintaining the strategic security environment, and serving the overall interests of national diplomacy.

First, we need to strengthen technical cooperation in global public health. With the deepening of globalization, a growing number of issues, such as the prevention of emerging and re-emerging infectious diseases and global environmental governance, require collective action and collaboration among countries. China should strengthen cooperation with world organizations and other countries in the global disease surveillance system, infectious disease identification and traceability, control and treatment, curbing the abuse of antimicrobial drugs, vaccine research and development, biocatalysis and refining, biosecurity risk assessment and other technologies, and build a highly integrated biosecurity threat defense system. At the same time of technical cooperation, attention should be paid to the protection of intellectual property rights of biotechnology, and normative documents concerning the safety and protection of biological resources such as the Patent Law should be amended to balance the conflict of interest between the utilization of biological resources and biosafety protection. From the perspective of industry, pharmaceutical, biotechnology, industrial and other industries are highly dependent on intellectual property rights.

Second, actively participate in the formulation of global policies and cooperative measures. The Chinese government should draw on the successful experience of COVID-19 prevention and control, put forward new rules and initiatives such as emergency response, prevention and control, and sustained public safety measures, guide countries around the world to build mutual trust, and actively promote the conclusion of international treaties related to global public health and biosecurity. We will promote the holding of conferences of States Parties such as the International Health Regulations (2005) and Biological Diversity, ensure the implementation and fulfillment of obligations, strengthen the development, implementation and management of international activities and cooperation projects, and contribute China's strength to maintaining stability and peaceful development of the global landscape.

4.3 Comprehensive Improvement of National Governance Capacity in the Area of Public Security

First, promote the modernization of national governance capacity in the field of public security. The maturity of national, regional and local public health and biological resource systems, as well as the ability to detect, evaluate, report, and quickly control outbreaks, is the embodiment of national governance capacity. We should develop special national plans or strategy documents to strengthen corresponding capacity-building. Strengthen the “regulation service”, introduce more flexible policy guidance tools, governance regulatory tools and dialogue platforms, and establish a more smooth biosafety product supervision and market access system.

Second, the amendment of the Wildlife Protection Law should focus on bioethics and maintaining public safety. Cracking down on the illegal trade of wildlife and eliminating the bad habit of eating wild animals is a pressing legal issue facing China, and it is urgent to improve the relevant legal systems such as wildlife protection to strengthen the law enforcement of illegal trade and eating, and improve the prevention and treatment system

of infectious diseases co-existing between humans and animals. Expand the scope of protection of wild animals, take animal welfare and land ethics as values, adopt a list system for the trading, management and consumption of wild animals or artificially raised and bred wild animals, ensure biosafety, and promote China's ecological governance system, so that ecological civilization construction and citizens' public health and health protection system can be organically integrated.

5. Annotation

(1) Infectious diseases are those in which human incidence has increased over the past two decades or is likely to increase in the near future, including previously unknown pathogens or known pathogens that are spreading to new geographic areas, such as cholera in South America and yellow fever in Kenya. Most new diseases have no vaccine, treatment or cure, and there are very limited means of prevention or control, such as the novel coronavirus disease that has swept the world, killing 730,000 people worldwide as of August 10, 2020. Re-emerging infectious diseases are human diseases caused by pathogens that have been controlled or reduced in scope and/or incidence, but are now on the rise again in scope, incidence, drug resistance, transmissibility and/or fatality.

(2) According to the World Health Organization (WHO), infectious diseases accounted for 29% of the 56.9 million deaths worldwide in 2016, with lower respiratory infections remaining the most deadly infectious diseases, accounting for 3 million deaths, diarrhoeal diseases for 1.4 million deaths, and tuberculosis for 1.3 million deaths. One million people died of AIDS. In 2019, 3.072 million cases of class A and B infectious diseases were reported in China, with 24,981 deaths reported. As of August 15, 2020, there have been 4,634 deaths and 84,827 confirmed cases. Information from the national health committee official website: http://www.nhe.gov.cn/xcs/yqfkdt/202008/be2083249fba41babf3120710bbd089e.shtml.

(3) Wang Feng, Wang Xiaoli, First Instance Civil Judgment on Medical Service Contract Dispute of Obstetrics and Gynecology Hospital Affiliated to Zhejiang University School of Medicine ([2019] No.2774, Zhejiang 0102, Minchu).

(4) Sepa shall be responsible for the organization and coordination of the protection and management of biological species resources, and shall strengthen supervision and inspection together with the Ministry of Supervision. The departments of education, construction, agriculture, public health, forestry and traditional Chinese medicine shall be responsible for the protection and management of biological species resources in their respective industries; The departments of industry and commerce, commerce, customs and quality inspection are responsible for market and entry and exit administration; Science and technology, intellectual property and other departments are responsible for scientific research and development and intellectual property management; Ministries such as development and reform and finance are responsible for formulating economic policies and securing the necessary funds. All relevant departments should strengthen coordination, close cooperation and full cooperation to jointly do a good job in the protection and management of biological species resources in China.

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