

JICA Global Agenda for No.6 Health

Cluster Strategy for Strengthening of Capacity for Infectious Disease Control and Testing

~Towards a world where the spread of infectious diseases that
threaten human life and livelihoods is prevented~

Summary



1. Cluster Purpose and Overview

1.1 Purpose of the cluster

This cluster aims to minimize the spread of infectious diseases that endanger human lives and livelihoods in order to contribute to “achieving Universal Health Coverage (UHC), which ensures that all people receive the health services they need without suffering financial hardship, even in times of public health emergency,” as stated in the JICA Global Agenda for Health. JICA will strengthen health systems core capacities to respond to emerging public health crises, regardless of which infectious disease might emerge.

1.2 Overview of the cluster

Infectious diseases have long posed a threat to human health. Once a frequent cause of early morbidity is found, infectious disease exposure risks have been reduced globally, thanks to technological advancements in medical countermeasures against a wide array of pathogens. However, as demonstrated by the significant socioeconomic impacts of the COVID-19 global pandemic, the control of infectious diseases remains of great importance as a development issue. To develop an infectious disease surveillance system that encompasses emerging infectious diseases, as opposed to separate disease-specific approaches, based on the International Health Regulations (IHR), this cluster will strengthen the key steps of infectious disease surveillance, namely detection, reporting, analysis and interpretation, and response and evaluation.

2. Advancing Infectious Disease Control through International Development Assistance Programs

2.1 Reducing infectious disease threats as a development challenge

- Goal 6 of the Millennium Development Goals (MDGs) adopted in 2000, which calls for the prevention of the spread of HIV/AIDS, malaria, and other diseases, has led to the creation of a number of funding agencies and organizations whose primary purpose is to

combat infectious diseases. Today, the MDGs have been succeeded by the Sustainable Development Goals (SDGs), but the fight against infectious diseases still remains as one of the most important issues in the updated global development agenda (Target 3.3).

- The spread of COVID-19 has exposed limited diagnostic testing and laboratory capacities in many countries, weaknesses in statistics and surveillance systems to accurately determine mortality and cause of death, and many clinical care gaps in health care systems. The pandemic has revealed global challenges in countries' efforts to control infectious diseases.
- In recent decades, the number of zoonotic diseases being transmitted between animals and humans has increased.
- Infectious diseases continue to dominate mortality rates in low-income countries, accounting for six of the ten leading causes of death (WHO, 2020).
- With the rise of globalization, emerging and re-emerging infectious diseases such as Ebola virus disease (EVD), HIV/AIDS, avian influenza, severe acute respiratory syndrome (SARS), yellow fever, cholera, and even vaccine-preventable diseases like measles are becoming transnational threats to global health security.

2.2 Development cooperation approaches to infectious diseases

- In the area of infectious disease control, International Health Regulations (IHR)(2005), an instrument of international law, adopted pursuant to Article 21 of the WHO Constitution, provide an overarching legal framework that defines countries' rights and obligations in handling public health events and emergencies. The IHR specifies minimum "core capacities" for surveillance and response. The infectious disease surveillance system, which helps detect, track, and report disease incidence in a country, is regarded as important capacity for early detection of infectious disease threats.
- The Japanese government developed a Global Health Strategy in 2022, based on lessons learned from the COVID-19 pandemic. Japan has been committed to strengthening pandemic prevention, preparedness, and response (PPR) and will accelerate efforts to achieve resilient, equitable, and sustainable health systems that contribute to human security through meeting the needs of both emergency responses and routine health care delivery.

3. Cluster Scenario and Rationale

3.1 Scenario

In this scenario, based on the IHR core capacities, the issues to be addressed are grouped into the following categories: “detection,” “reporting,” “analysis and interpretation,” and “response and evaluation”. The goal is to develop a functioning infectious disease surveillance system by strengthening each of these categories. See Figure 1 for details on the issues in each category.

3.2 Rationale

The infectious disease surveillance system to be strengthened in this cluster plays an important role among the IHR’s core capacities. This work contributes to the improvements in IHR compliance advancing progress towards internationally agreed targets, such as indicators in the IHR States Parties Self-Assessment Annual Report (SPAR).

4. Basic Policy for Cluster Development

4.1 Basic policy for scenario development

<Cluster scenario and JICA’s core areas of work>

- JICA’s approach to infectious disease control is to strengthen health systems by building the core capacities necessary for compliance with the IHR, and aligning crosscutting areas to both prevent and respond to outbreaks.
- As international coordination is essential in combating infectious diseases, JICA will also work with regional partners (e.g. Africa CDC: Africa Centres for Disease Control and Prevention) to support infectious disease control efforts that go beyond a single country’s borders.

<Priority target countries and priority target institutions to achieve regional impacts >

- This cluster aims to focus on countries that have significant capability gaps in infectious disease control countries that already have established public health assets and networks with Japan. During the period of this Cluster Strategy, namely by 2030, JICA will mainly focus on the 11 countries listed in the table below for providing large-scale assistance in the form of Grant Aid and Technical Cooperation projects. In addition, Finance and Investment Cooperation (Development Policy Loans, Project Loans, Sector Loans, Results-Based Concessional Loans, and Stand-by Credit for Urgent Response to Epidemics) will be used to prepare for potential public health threats.
 - Countries with high needs in infectious disease control: The Cluster prioritizes countries where new infectious diseases that could cause a global pandemic are most likely to emerge, where effective domestic infectious disease control measures cannot be taken or are insufficient, and where there is a high risk that the disease will spread outside the country. Program feasibility was also considered, such as countries having a network with Japanese resources.
 - Institutions contributable to infectious disease control at regional level: The Cluster prioritizes countries with laboratories that are recognized as regional hubs for infectious disease testing, including those developed through previous JICA cooperation. These institutions are expected to generate regional benefits and cooperation through the use of their improved capabilities from this program.

Priority target countries	(Asia) Philippines, Vietnam, Indonesia (Africa) Democratic Republic of the Congo, Zambia, Nigeria, Guinea
Priority target institutions (regional benefits)	<p>Institutions that have a long-standing cooperative relationship with JICA and serve as bases for regional benefits.</p> <ul style="list-style-type: none"> • Ghana/ Noguchi Memorial Institute of Medical Research (NMIMR) • Kenya/ Kenya Medical Research Institute (KEMRI) <p>Organizations that have (or plan to have) partnership with JICA and seek to provide regional benefits.</p> <ul style="list-style-type: none"> • Panama / Gorgas Memorial Institute • Brazil / Oswaldo Cruz Foundation • ASEAN Center for Public Health Emergencies and Emerging Diseases

- Africa CDC initiatives were also taken into account when selecting those countries and institutions in the African region.
- While the Grant Aid and Technical Cooperation Projects are limited to the priority target countries, JICA recognizes that there is significant demand for strengthening infectious disease control measures outside of the priority target countries and others. To meet the demand, it is important to promote information-sharing and collaboration among interested countries and international organizations. In particular, JICA will strategically form Group- and Region-Focused Training and Third Country Training programs in order to disseminate the outcomes of technology transfer to enable cooperation and to improve the capacities of other partner countries on a broad scale.

<Specific Cooperation Policies and Details>

(1) **Priority Target Countries:** JICA aims to strengthen the country's infectious disease control system by implementing technical cooperation projects. The details of the cooperation are expected to be broadly divided into the following three categories:

- A) Improving infectious disease detection and reporting capacities from the local administration to the community level (potential target countries: Indonesia, Democratic Republic of the Congo, Zambia),
- B) Establishing a system to safely diagnose high-priority and harmful pathogens in national-level laboratories, which further advances infectious disease surveillance capabilities (potential target countries: Nigeria, Guinea); and
- C) Improving and integrating laboratories into a cohesive national laboratory system by gradually developing public health laboratories in the country and strengthening the cooperation system (potential target countries: Vietnam, the Philippines, and Nigeria).

(2) **Priority target institutions (Regional impacts):** These institutions are recognized as having advanced technology in the region, partly as a result of Japan's many years of bilateral capacity-building cooperation, and maintaining relations with these institutions is important to sustain high standards of infectious disease control. In addition to maintaining long term collaborative relationships, JICA will also seek to disseminate valuable lessons learned from these programs to neighboring countries through regional trainings and sharing technical expertise.

1. Ghana/ Noguchi Memorial Institute of Medical Research (NMIMR): Western Africa, English-speaking region
2. Kenya/Kenya Medical Research Institute (KEMRI): Eastern Africa, English-speaking region
3. Panama/Gorgas Memorial Institute (Gorgas-JICA Institute for Genomic Surveillance): South America, Spanish-speaking region
4. Brazil/Oswaldo Cruz Foundation: Portuguese-speaking region
5. ASEAN Center for Public Health Emergencies and Emerging Diseases

In addition, there are also institutions in the priority countries that play an important role in regional infectious disease control, such as the Research Institute of Tropical Medicine (RITM) in the Philippines, the National Institute of Hygiene and Epidemiology (NIHE) in Vietnam, the Nigeria Centre for Disease Control (NCDC), and the University of Zambia, School of Veterinary Medicine (UNZA-SVM). JICA will actively cooperate with these institutions as important regional centers together with the institutions mentioned in (1) above.

(3) Initiatives shared among the priority target countries and institutions (regional benefits/impacts): JICA will implement long-term training programs in infectious disease control, with a focus on hub laboratories and infectious disease control authorities in target countries for cooperation. In the event of an outbreak, emergency assistance should be provided promptly considering both existing frameworks and capacity gaps unfilled by other donor governments and institutions.

4.2 Efforts to maximize the impact of cooperation and achieve the final outcome

- Since the establishment of an effective global surveillance system requires a large investment, cooperation with international organizations and other development partners (WHO, World Bank, U.S. CDC, Global Fund, Pasteur Institute, Africa CDC, ASEAN Center for Public Health Emergencies and Emerging Diseases, etc.) will be essential. On the other hand, the focus of each organization's capacity building efforts may differ depending on the target country or even among the initiatives within the same organization. JICA needs to verify the details of these ongoing programs in each country and work together with them in a synergistic manner.

- This field requires a high level of expertise, and in Japan, such personnel are only available at universities or technical organizations such as the National Institute of Infectious Diseases. Considering the limited resources in Japan, JICA will create enabling environment that encourages researchers in Japan to be involved in JICA's program. JICA will strive to establish a win-win relationship with organizations and researchers to make it attractive for them to cooperate with JICA projects. For example, JICA's Partnership for Building Resilience against Public Health Emergencies through Advanced Research and Education (PREPARE) in the African region will contribute to strengthening the ecosystem of "international brain circulation" between developing countries and Japan.
- Many private sector technologies for clinical testing for infectious diseases are available at the primary care level in developing countries, with simple operation, low running costs, no need for power supply, etc., and have the potential to efficiently strengthen testing capacity. JICA aims to help expand awareness of and access to these new technologies operable in low resource settings.
- In addition, the use of data in infectious disease control is advancing. Through this cluster, JICA will also provide support to strengthen data-driven approaches to control infectious diseases.
- Given the importance of One Health, which aims to maintain and promote the health of people, animals, and the environment in an interconnected systematic way, the cluster will promote collaboration and information sharing with another cluster: Promoting the "One Health" approach, including zoonosis control, through strengthening livestock hygiene. Also, this cluster approach actively promotes the use of advanced private-sector technology and digital health.

5. Cluster Goal and Indicators

<Targets and Indicators>

Ultimate goal (2030)	<p>The spread of infectious diseases that threaten people's lives and livelihoods is controlled and minimized.</p> <p>Indicator A decrease in the proportion of deaths caused by infectious diseases.</p> <p>Sub-indicator Increased achievement of International Health Regulations (IHR) core capacities as defined by WHO.</p>
Intermediate target (2030)	<p>Surveillance system is in place and functioning.</p> <p>Indicator</p> <ol style="list-style-type: none"> 1. IHR core capacities on infectious diseases, especially scores on DETECT (detection) (JEE or SPAR metrics) will improve in 7 countries. 2. The number of countries in which JICA's cooperation and collaboration with partners has improved the capacity for safe analysis and interpretation. (An advanced containment testing laboratory is in operation and biosafety and biosecurity standards are maintained: 7 countries) 3. The number of papers published by the research institutes strengthened by JICA support and the number of citations of those papers will increase.
Immediate targets	<p>A system for each step of the surveillance loop is in place in the target country/region.</p> <p>Indicator 1: The number of core human resources for detection, testing, and analysis for infectious disease surveillance and technology dissemination trained by JICA (1000) .</p> <p>Indicator 2: The number of instructors trained in biosafety and biosecurity training and number of trainees (180) .</p> <p>Indicator 3: The number of days required to detect and report an outbreak in the targeted area (within 8 days) .</p> <p>Sub-indicators²: In the case of an international threat, such as a PHEIC (public health emergency of international concern); the number of institutions and people whose capacity has been strengthened through emergency loans and emergency assistance.</p>

Figure 1: Theory of Change

