



Neglected Tropical Diseases (NTDs)

Summary

- Following the formulation of the NTDs Roadmap by WHO in 2011 and the London Declaration on NTDs in 2012, the interest in NTDs has been accelerated globally, and public and private sectors in Japan also have been investing funds in the development of medicine for NTDs.
- JICA has continued its efforts against NTDs—to eliminate Chagas disease and Lymphatic Filariasis—for over 10 years, including infection prevention at a community level and therapeutic drug research in Chagas disease, and support towards filariasis elimination in Pacific Island Countries.
- In addition to direct approaches to develop diagnostic methods and therapeutic drugs of NTDs, JICA takes indirect approaches as a part of health promotion, enhancement of health administration, improvement of sanitation, and school health in order to take comprehensive measures against NTDs.

Overview

Most NTDs are possibly suppressed by improved sanitation and living environment, and appropriate prevention and treatment services. The cost-effectiveness of prevention and treatment of NTDs is high. However, compared to the three major infectious diseases (HIV/AIDS, tuberculosis, malaria), little interest has been directed globally, and adequate measures have not been taken. The main reason was low demand for therapeutic drugs of NTDs in developed countries, but in recent years international interests are raised due to the increase in population affected by NTDs to over one billion.

In 2011, WHO published “Accelerating Work to Overcome the Global Impact of Neglected Tropical Diseases - A Roadmap for Implementation-,” in which five main strategies are highlighted: “Preventive chemotherapy,” “Intensified case-detection and case management,” “Vector and intermediate host control,” “Veterinary public health at the human–animal interface,” and “Provision of safe water, sanitation and hygiene.” In January 2012, 13 pharmaceutical companies, governments of the US, UK and UAE, and several international organizations in the health sector declared a collaboration to develop and supply new drugs in order to accelerate the control or elimination of 10 selected NTDs (see Table) by 2020 (London Declaration on NTDs¹).

Following this, the World Health Assembly (WHA) in 2013 emphasized the strategies listed in the Roadmap, and confirmed that the world would work to strengthen efforts towards eliminating NTDs. The Sustainable Development Goals (SDGs) include ending the epidemic of NTDs at goal 3.3 by reducing “the number of people requiring interventions against NTDs (SDGs 3.3.5).”

Table: “20 NTDs specified by WHO”

10 NTDs targeted at “London Declaration on NTDs”

Guinea-worm disease	Buruli ulcer
Lymphatic filariasis	Dengue and Chikungunya
Trachoma	Rabies
Sleeping sickness	Echinococcosis
Leprosy	Foodborne trematodiases
Soil-transmitted helminthiases	Snakebite envenoming
Schistosomiasis	Taeniasis/Cysticercosis
River blindness	Mycetoma
Chagas disease	Endemic treponematoses
Leishmaniasis	Scabies

Following this international trend, the Japanese government also formed a public-private partnership “Global Health Innovative Technology (GHIT) Fund” jointly with pharmaceutical companies, Bill & Melinda Gates Foundation, and other partners in 2012, and has been supporting the development of new medicines, vaccines and diagnostic methods for infectious diseases including NTDs. Furthermore, at the G7 Elmau Summit in 2015, the commitment to the fight against NTDs was included in the Leaders’ Declaration, and at the G7 Ise-Shima Summit in 2016, the necessity of research, development and innovation in this area was declared in “The G7 Ise-Shima Vision for Global Health.”

1: London Declaration on Neglected Tropical Diseases <https://unitingtocombatntds.org/wp-content/uploads/2017/11/london_declaration_on_ntds.pdf>

Cooperation Policy

- JICA has supported the development of new drugs and basic research ability in research institutions in developing countries through technical cooperation called SATREPS². In addition, JICA has focused on human resource development for parasites control as well as on education and promotion for prevention, and treatment of NTDs. These activities are consistent with the "London Declaration on NTDs." In addition to direct support for the development of diagnosis methods and therapeutic drugs, our strategy in this field also covers wider approaches as a part of health promotion, enhancement of health administration, improvement of sanitation and school health.
- Regarding Lymphatic Filariasis in Pacific Island Countries, the possibility of elimination has become high as donations of anthelmintics and test kits, and JICA volunteers dispatched since 2000 have contributed. Based on this situation, JICA will continue support until the elimination of NTDs, just as JICA are supporting the polio eradication program.

Cases

[Chagas disease: JICA's approach from the past and into the future]



Awareness raising activities against vector insects

Since 2000, JICA has worked to reduce Chagas disease infection in Central American countries (Guatemala, Honduras, El Salvador and Nicaragua). In the first phase (attacking phase), the vector insect, *Reduviidae*, living in homes, was exterminated and awareness raising activities against vector insects were conducted for the residents. This succeeded in reducing the vector's inhabitation rate and disease morbidity. In the second phase (monitoring phase), a monitoring system was established to maintain the reduced morbidity and to suppress new infection. The successful results of these activities was due not only to the experts and volunteers from Japan taking active roles, but also the provision of test kits, insecticides, and other commodities. In 2014, good practices reported from the insect monitoring system by the citizens were gathered and shared within the Central American region with the joint initiative of Pan American Health Organization (PAHO).

Currently, a research project is being conducted in El Salvador between Japanese and El Salvador institutions (2018 - 2023), which aims to elucidate the pathology and to develop new effective therapeutic drugs in the chronic phase.

[Elimination of Lymphatic Filariasis in Pacific Island Countries]

Lymphatic Filariasis is a mosquito-borne infectious disease confirmed in 73 countries in the tropical and subtropical regions of the world. Intervention against filaria in Pacific Island Countries began with the Pacific Programme for the Elimination of Lymphatic Filariasis (PacELF) by the WHO Western Pacific Regional Office (WPRO) in 1999. The contents are 1) mass drug administration (MDA) using anthelmintic drugs, 2) fixed point survey (Transmission Assessment Survey: TAS) after implementing the prescribed number of MDA, 3) care for chronic lymphedema patients, and so on. JICA dispatched volunteers to 14 countries³ in the region where this program has been implemented and provided anthelmintic agents (free of charge, provided by Eisai Co., Ltd., from 2011 onwards) and test kits from 2000 to 2016. Under these international efforts, information on prevention of infection was spread to citizens, including the fact that filariasis is transmitted by mosquitoes.

In this region, seven countries⁴ were certified to eliminate filariasis⁵ by WHO in 2017, and JICA launched the "Project for

Elimination of Lymphatic Filariasis in Pacific Region" (2018 - 2022) with the aim of suppressing filariasis in the remaining seven countries.



A Japanese volunteer teaching a care method acquired at Mahidol University in Thailand to the nurses in Papua New Guinea

2: Technical Cooperation of JICA in collaboration with AMED/JST to promote international joint research by both Japanese research institutions and those of recipient countries with a view to resolving global issues such as infectious diseases.

3: Fiji, Kiribati, Micronesia, Papua New Guinea, Samoa, Tonga, Tuvalu, Marshall Islands, Cook Islands, Niue, Palau, Vanuatu, Nauru, and Solomon Islands

4: Marshall Islands, Cook Islands, Niue, Tonga, Vanuatu, Nauru, and Solomon Islands

5: The condition in which transmission of filaria by mosquitoes to inhabitants over five years old became impossible even without MDA.