Issue Brief
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Japan Leads the Way in Global Health Diplomacy:

The Case of Neglected Tropical Diseases (NTDs)

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This issue brief aims to investigate Japan's policy toward "neglected tropical diseases" (NTDs) in light of Japan's global health diplomacy. It confirms the significance of the so-called 'Hashimoto Initiative' as the origin of Japan's global health diplomacy toward NTDs. This issue brief looks at the three cases of NTDs in Japan, i.e. dengue fever, Hansen's disease, and lymphatic filariasis, and how Japan succeeded in controlling and eradicating the diseases domestically. It then examines the significance of the establishment of the Global Health Innovative Technology Fund (GHIT Fund) in relation to Japan's global health diplomacy. Finally, it explores the future scenario of Japan's global health diplomacy to control and eradicate NTDs at the G7 Hiroshima Summit to be hosted by the Kishida administration in May 2023.

Introduction

In the midst of a coronavirus pandemic, 'neglected tropical diseases' (NTDs) tend to be literally neglected, and the term, NTDs, itself is not widely recognized by most people in the world.[1] NTDs is a group of some 20 diseases and conditions mainly prevalent in tropical areas, especially in Africa, Asia, and Latin America. There exists an 'attention gap' regarding global health agenda,[2] especially the 'devastating comparison' between NTDs and the 'big three' infectious diseases, namely HIV/AIDS, tuberculosis, and malaria.[3] Hence, more international attention needs to be paid to NTDs in order to reduce, control, and terminate the diseases. To this end, it is important for the international community to make the foreign policy of each country attuned to global public health and strengthen global health governance through 'global health diplomacy'.[4]

The following diseases are categorized as NTDs: Buruli ulcer, chagas disease, cysticercosis, dengue fever, dracunculiasis (Guinea worm disease),

echinococcosis, fascioliasis, human African trypanosomiasis (African sleeping sickness), leishmaniasis, Hansen's disease (leprosy), lymphatic filariasis, mycetoma, onchocerciasis, rabies (hydrophobia), schistosomiasis, soil-transmitted helminths (STH) (ascaris, hookworm, and whipworm), and trachoma, etc.[5] In terms of Japan's global health diplomacy, former Japanese Prime Minister Hashimoto Ryutaro contributed to shedding light on the issue of neglected diseases caused by parasites at the event of the G8 Denver Summit in 1997,[6] and the G8 Birmingham Summit in 1998.[7] The 'Global Parasite Control for the 21st Century Initiative' promoted by the Hashimoto government has since been known as the 'Hashimoto Initiative' in the history of NTDs and global health.[8] Based on the Hashimoto Initiative, the Asian Center of International Parasite Control (ACIPAC) was established in the Faculty of Tropical Medicine of Mahidol University, Thailand.[9]

In recent years, the Japanese government has supported the establishment of the Global Health Innovative Technology Fund (GHIT Fund) to invest in research and development for combating NTDs.[10] NTDs have tended to be overlooked by pharmaceutical companies due to the 'lack of market mechanism' as pointed out by Kei Katsuno,[11] and therefore, the Japanese government as well as the GHIT Fund collaboratively facilitate research and development on drugs and medicines to combat NTDs. This issue brief examines Japan's contributions to controlling and eliminating NTDs by investigating domestic cases in Japan as well as Japan's global health diplomacy in collaboration with the GHIT Fund. Finally, this research points out the significance of Japan's global health diplomacy with reference to the G7 Hiroshima Summit to be held on May 19-21, 2023.

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NTD Cases in Japan: Dengue Fever, Hansen's Disease, and Lymphatic Filariasis

In examining Japan's global health policy toward NTDs, it is important to contextualize how Japan succeeded in controlling and eradicating some NTDs (specifically, dengue fever, Hansen's disease, and lymphatic filariasis) domestically. Among NTDs, dengue fever is recognized by most people in Japan. Dengue virus infection is caused by mosquito bites just like other infectious diseases.[12] When a pregnant woman is bitten by an infected mosquito with dengue virus, it could be passed to her fetus during pregnancy or childbirth, causing the death of the fetus and other problems. In the past, epidemics of dengue fever were reported in western parts of Japan, especially in the cities of Nagasaki, Hiroshima, Kobe, and Osaka, from 1942 to 1945.[13] There had been no record of domestic cases of dengue fever within Japan since then but in 2014, it was reported that 162 people of the country were infected by dengue fever.[14] Although none of them died of the disease, most patients suffered from fevers and headaches. In 2019, there were 461 cases of dengue fever reported in Japan, although the number of cases dramatically dropped to 43 and then to 8 in 2020 and 2021, respectively, due to border controls for the coronavirus pandemic.[15] Having said that, since infective mosquitoes exist in Japan, further attention needs to be paid to prevent recurrence of dengue fever epidemic in Japan.

Likewise, Hansen's disease (leprosy) is familiar to the Japanese people. Hansen's disease is caused by slow-growing bacteria, mycobacterium leprae, which can

affect the nerves, skin, eyes, and noses, and may cause paralysis of hands and feet, and blindness.[16] In Japan, a policy of compulsory isolation of patients of Hansen's disease was implemented by the Japanese government in 1907.[17] Under the 1953 leprosy prevention law, campaigns to track down patients and forcibly send them to sanatoriums were conducted. The isolation system remained effective until 1996.[18] In May 2011, the Kumamoto District Court ruled that the national government must compensate Hansen's disease patients who had received discriminatory sterilization surgeries. Three days later, Sakaguchi Chikara, as a medical doctor, a lawmaker of Komeito, and then-Minister of Health, Labor and Welfare, admitted the failure of the government's policy and officially apologized to the patients.[19] Thus, Hansen's disease is thought to be a disease of the past in Japan, but recent research indicates the rise of non-autochthonous cases due to the result of globalization. Hence, continuous surveillance and public health services for Hansen's disease are necessary even after reaching the state of eradication in Japan.[20]

Lymphatic filariasis is a parasitic disease caused by microscopic thread-like worms that can live in the lymph system of human beings. People get infected by the disease through mosquito bites, and patients suffer from swelling or permanent paralysis of legs.[21] Lymphatic filariasis may not be familiar to most people in Japan, but cases of the disease had been reported in Japan since the Heian period (794-1185).[22] Researchers on the history of pharmacy analyzed that the Meiji Restoration hero Saigo Takamori suffered from lymphatic filariasis, and was not able to ride a horse after being infected by the disease. Lymphatic filariasis was prevalent in Kyushu and Okinawa regions until the 1960s, but owing to the development of medicines, Japan became the first country that succeeded in eliminating the disease by the end of the 1970s.[23] In this context, Akino Kozo as a medical doctor and parliamentary politician of Komeito shed light on Japan's experience of controlling and eradicating lymphatic filariasis in Okinawa during the Committee on Audit of

> ***"The 'Global Parasite Control for the 21st Century Initiative' promoted by the Hashimoto government has since been known as the 'Hashimoto Initiative' in the history of NTDs and global health.***

the House of Councillors on May 18, 2011.[24] Akino suggested that the Japanese government should make the best of the Okinawa method to contribute to combatting the disease in the world.[25] In response, the Japanese government pledged that it would attempt to contribute to combatting NTDs, including lymphatic filariasis in developing countries.[26] In short, Japan's experience in controlling and eradicating some NTDs domestically might be contributive to its global health diplomacy for the global control and elimination of NTDs.

Global Health Innovative Technology Fund (GHIT Fund)

As shown in domestic cases and experience of Japan, drug discovery and development is critical for controlling and eradicating NTDs,[27] and Japan has been willing to make contributions to reduction and eradication of the diseases. In order to systematically address the reduction of NTDs through effective investment in the development of medicines, vaccines, and diagnostic drugs of infectious diseases in developing countries, the GHIT Fund was established in Tokyo on November 6, 2012.[28] The headquarters of the GHIT Fund is located in Tokyo, since Japan has one of the largest pharmaceutical industries in the world and possesses a potential for further investment.[29] The Tokyo-based fund was established based on a recognition that "global health" is a central component of Japan's foreign policy.[30] B.T. Slingsby, Executive Director of the GHIT Fund, stated that

"If you just look at the number of drugs that are produced by Japanese pharmaceutical companies in general, Japan is number three behind the U.S. and UK. There is an enormous capacity and culture of innovation here in Japan. It's just a matter of how to bring that into global health."[31] The GHIT Fund as a non-profit organization and a "catalyst" of Japan's pharmaceutical sector aims at facilitating the research and development of new medicines to tackle not only infectious diseases, such as HIV/AIDS, tuberculosis, malaria, but also NTDs around the world through public-private partnerships.[32] In other words, the GHIT Fund can be regarded as one of the critical examples of Japan's contribution to the enhancement of the global health architecture.

Indeed, the GHIT Fund has been financially supported by funding partners and sponsors, such as the Ministry of Foreign Affairs of Japan (MOFA), the Ministry of Health, Labor and Welfare of Japan (MHLW), the United Nations Development Program (UNDP), the Bill and Melinda Gates Foundation (Gates Foundation), and Welcome Trust, etc.[33] Japanese pharmaceutical companies, such as Astellas, Chugai, Daiichi-Sankyo, Eisai, Shionogi, and Takeda, are also full partners of the fund. Associate partners are Fuji Film, Otsuka, and Sysmex.[34] Overseas companies, such as Johnson and Johnson and Merck, are included as affiliate partners. Sponsors of the GHIT Fund are ANA, Yahoo Japan, Salesforce, Zoom, etc.[35] Notably, the financial structure of the fund is composed of the Japanese government (50 percent), pharmaceutical companies (25 percent), and the Gates Foundation and Welcome Trust (25 percent). The GHIT Fund can be regarded as Japan's contribution to pandemic preparedness and enhancement of global health, including measures against NTDs.[36]

> ***Japan's experience in controlling and eradicating some NTDs, specifically, dengue fever, Hansen's disease, and lymphatic filariasis, domestically might be contributive to its global health diplomacy for the elimination of NTDs.***

Since 2013, the GHIT Fund has invested in 114 cases of research and development of medicines and vaccines with 27.6 billion yen as of March 31, 2022. In terms of diseases, the GHIT Fund invested a little over 12,346 million yen (44.7 percent) in malaria, 3,000 million yen (10.9 percent) in tuberculosis, and 12,286 million yen (44.5 percent) in NTDs. In the field of products, the fund invested 18,317 million yen (66.3 percent) in pharmaceuticals, 6,558 million yen (23.7 percent) in vaccines, and 2,757 million yen (10 percent) in diagnostic drugs. Further, 4,786 million yen was invested in investigated research, 15,814 million yen (57.2 percent) in non-clinical tests, and 7,031 million yen (25.4 percent) in clinical tests.[37] The figures show how the GHIT Fund has been committed to the research and development of medicines and vaccines for improvement of the global health system. In addition, Japanese pharmaceutical companies, such as Astellas, Daiichi Sankyo, Eisai, and Takeda, are included in scope of the 2022 Access to Medicine Index, indicating the global competitiveness and influence over the development of medicines on a global scale.[38] In collaboration with 166 product development partners, the GHIT Fund has contributed to the reduction of major infectious diseases, such as tuberculosis and malaria, as well as NTDs,[39] representing Japan's contribution to the global health system.

From London to Kigali

On January 30, 2012, the London Declaration on Neglected Tropical Diseases (London Declaration), inspired by the WHO's 2020 Roadmap on NTDs, was announced.[40] Pharmaceutical companies, endemic

countries, and non-governmental organizations, especially the Gates Foundation, signed the statement and pledged their commitment to control, reduce, and eventually eradicate 10 targeted NTDs by 2020. Specifically, the statement aimed to eradicate Guinea worm disease by 2020, eliminate lymphatic filariasis, Hansen's disease, sleeping sickness (human African trypanosomiasis), and blinding trachoma by 2020, and control schistosomiasis, soil-transmitted helminthes, Chagas disease, visceral leishmaniasis and river blindness (onchocerciasis) by 2020.[41]

Among the pharmaceutical firms, Eisai as a major Japanese company began its commitment to the achievement of the London Declaration by donating tablets to endemic countries through the WHO. As of January 2022, Eisai donated as many as 2.05 billion diethylcarbamazine (DEC) tablets to developing countries suffering from lymphatic filariasis. As a result, the progress of the London Statement turned out to be measurable and the commitment to reduce NTDs is regarded as a gateway to UHC.[42] In 2020, 761 million people received medical treatment for NTDs, and at least one NTD has been eliminated in 45 countries so far.[43] From 2012 to 2021, over 17 billion treatments were donated by the pharmaceutical industry to defeat NTDs.[44]

> ***The GHIT Fund as a non-profit organization and a "catalyst" of Japan's pharmaceutical sector aims at facilitating the research and development of new medicines to tackle not only infectious diseases but also NTDs through public-private partnerships.***

> ***As a host country of the G7 Summit to be held in May 2023, the Kishida administration is expected to make further contribution to enhancing the global health system and expanding its diplomatic and financial contributions to combat NTDs.***

On June 24, 2022, the Kigali Declaration on Neglected Tropical Disease (Kigali Declaration) was announced during the Global Summit on Malaria and Neglected Tropical Diseases at the summit held in Kigali, Rwanda.[45] In preparation for this summit, the Parliamentary League for the Eradication of Neglected Tropical Diseases formed by Japanese Diet members already made policy recommendations for the Kigali Declaration on May 20, 2021. As a top priority in the proposal, the Japanese parliamentary league argued that investment in the GHIT Fund should be expanded.[46] In order to achieve the objectives of the Kigali Declaration, it was felt that the Japanese government needs to collaborate with international organizations, non-governmental organizations, including the Japan Alliance on Global Neglected Tropical Disease (JAGNTD),[47] the Drugs for Neglected Diseases initiative (DNDi),[48] as well as academia, especially the Institute of Tropical Medicine, Nagasaki University.[49]

Toward 2023 – G7 Hiroshima Vision for Global Health

As discussed in this issue brief, Japan has made diplomatic and financial contributions to combating NTDs through the Hashimoto Initiative at the 1997 Denver Summit and 1998 Birmingham Summit, the successful control and eradication of its domestic

NTDs, the support for the GHIT Fund, and political advocacy through the Parliamentary League for the Eradication of Neglected Tropical Diseases toward the 2022 Kigali Statement. As a host country of the G7 Summit to be held in Hiroshima on May 19-21 2023, the Kishida administration is expected to make further contribution to enhancing the global health system and expanding its diplomatic and financial contributions to combat NTDs. Such an initiative by the Kishida government could be recognized as the 'Kishida Initiative' to fight against NTDs and to promote the enhancement of the global health system in the wake of the COVID-19 pandemic.

Prior to the G7 Ise-Shima Summit, Takemi Keizo, a legislator of the Liberal Democratic Party (LDP), pointed out during the Committee on Health, Labor and Welfare of the House of Councillors on April 21, 2016 that the G7 countries should discuss global health issues including NTDs.[50] During the summit held in Mie Prefecture in 2016, the G7 Ise-Shima Vision for Global Health was formulated and announced under the leadership of then-Prime Minister Abe Shinzo.[51] The vision was designed to promote the establishment and enhancement of the global health system and pointed out the significance of research and development activities to address NTDs.

Similarly, it is possible and desirable for the Kishida administration to contribute to formulating and announcing the 'G7 Hiroshima Vision for Global Health' with a view to controlling, minimizing, and eradicating NTDs, which should not be neglected even during the coronavirus pandemic. This way, the Japanese government would be able to take global leadership at the G7 Hiroshima Summit and implement its global health diplomacy based on human security as its core diplomatic pillar. Likewise, the impact of investment by the GHIT Fund on research and development to combat NTDs could be calculated and visualized in an application of "impact-weighted accounts initiative" (IWAI) as promoted by the Harvard Business School.[52] In this way, the Japanese government and private sector can make further financial contributions to the GHIT Fund to combat NTDs and to the enhancement of the changing global health architecture in the post-COVID-19 era.[53]

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