

Latin America's "Illness of the Poor Stratum": Fighting Chagas Disease Together with Local Residents

– Implementing a Control and Surveillance Project to Deal with the Insect Vector of the Kissing Bug in Nicaragua –



Mr. Yoshioka holds a kissing bug sent into the Ministry of Health from residents. (Photo: Kota Yoshioka)

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"Chagas Disease" is uncommon in Japan, being endemic in Latin America, where it is known as the second most deadly tropical disease after Malaria. However, in the past few decades, the movement of people has spread the disease across the world, with cases now being reported in the United States, Canada, a number of countries of Europe, and even Japan. Chagas disease is emerging as a global threat.

Approximately 80% of those with Chagas disease contract it through a vector, specifically the blood-sucking beetle known as the "kissing bug." While a cure is possible through treatment immediately following infection, in many cases, the infected are unaware of their condition. There is as of yet no established effective treatment for those with chronic infections. Some people go ten or twenty years without knowing they have been infected, only to perish from heart disease or other ailments.

In the 1990s, JICA conducted a research project on Chagas disease in Guatemala, which it then developed into technical cooperation for infectious disease countermeasures in Latin America as a whole. In 2009, that project extended to the Central American country of Nicaragua, a place thought to be seeing 50,000 cases per year by conservative estimates.

"Chagas disease, unlike dengue fever and influenza, is an infectious disease without outbreaks. So there is not much recognition of urgency to combat it. Chagas disease countermeasures have low urgency but high importance. A major point of this project was convincing the Ministry of Health (MINSa) to systematically conduct daily duties related to these countermeasures."

This comment comes from Mr. Kota Yoshioka, a JICA expert working in Nicaragua. Mr. Yoshioka first became involved with Chagas disease countermeasures while working in Guatemala as a JOCV volunteer. After the time in Guatemala, he went on to study Global Health and Development in graduate school.

Chagas disease is also sometimes called an "illness of the poor stratum." Its vector, the kissing bug, makes its home in the dirt walls and thatch used in the houses of the very poor.



A Ministry of Health official teaches a resident volunteer (right) how to apply pesticides around houses made of soil walls and thatch roofs. (Photo: Kota Yoshioka)

The incidence rate is known to be particularly high in the northern region of Nicaragua, where poverty is widespread. This project focuses on five departments in the northern part of the country, where it has set goals to sustainably prevent the spread of Chagas disease by kissing bugs.

First, research was conducted to grasp the state of kissing bug inhabiting situation. MINSa sent surveyors to inspect 12,195 households, out of which kissing bugs were confirmed present in 815 (6.7%). In the municipality where the bugs were found most, 19% of the households had the bugs in their houses.

In order to improve this situation, the project conducted the following steps. First, in municipalities with many kissing bugs, the number of pests was reduced by spraying insecticides in houses one by one. For example, insecticides were spread in over 13,000 houses in 2012. However, such insecticides have only a temporary effect in getting rid of kissing bugs – it is not a permanent solution. It is important that residents understand the threat posed by kissing bugs and that a system be created to conduct continuous monitoring. The project proposed such surveillance systems, and then conducted necessary training towards introduction of the systems to 49 municipalities in the five departments it targeted. The proposed system aims to establish a cycle in which residents who discover kissing bugs report to a nearby health center, and then staff members from the health center visit the reporting homes and respond to the situation through such activities as raising awareness of the problem or spraying insecticides.

Kissing bugs live inside soil or sun-dried brick walls. Especially, they look for small holes or cracks in walls where they can get in, and as such, a part of this project is the repair of such cracks. Through repairs, the kissing bugs lose their habitats, greatly lowering the risk of infection for residents.

The understanding and cooperation of residents are indispensable for Chagas disease countermeasures. Mr. Yoshioka, who works to look over the local people, commented on the results of the measures and his expectations for the future of this project.

"We are trying to encourage the residents to take the initiative themselves by working to repair walls. People take for granted the things that they get for free from others, while the things that they acquire through their own hard work are cherished over a longer period of time. In repairing walls, we are having people accomplish a single job by themselves, and trying to fill them with a sense of accomplishment and fulfillment. I expect that through the accumulation of these activities, people will start to work by themselves to spread these lifestyle improvement activities voluntarily.

I hope that the people of Nicaragua understand well that Chagas disease is a serious illness and they know the risk of infection it poses. And I hope that in addition to that, they will also come to feel that the risk can be reduced through collaboration between local governments and local residents."