A Sampling of JICA’s Climate Actions

There are many different approaches to fighting climate change. These projects are aimed at controlling or preparing for climate change.

Costa Rica Developing Clean Energy

Geothermal power generation key to becoming a carbon-neutral nation

Costa Rica, a Central American country, relies on hydropower generation for most of its power supply. However, in the dry season the amount of hydro power generation decreases making it necessary to generate power with imported fossil fuels to cover the shortage. Under these circumstances, Costa Rica has been developing geothermal power generation as a means to achieve stable power supply at a lower cost. Japan has been providing assistance in constructing a geothermal power station, and presently work is underway in Las Pailas, Guanacaste.

Chika Takahatake, JICA Panama Office, says, “When Las Pailas 2 is completed, it is expected to help reduce the annual greenhouse gas emissions by 14,000 tons compared with those from oil-fired thermal power generation.” The great value of this project lies in the fact that the conservation of the surrounding environment and mitigation of climate change are both addressed at the same time.

“The steam pipeline and the power station, which was developed by Japan, are very earth-friendly.”

Using science to control the increased risk of infectious diseases due to climate change

Climate change is exacerbating the threat of infectious disease in developing countries. For example, extreme cases of El Niño and La Niña are accompanied by flooding. This accelerates the breeding rate of mosquitoes, which are a known carrier of pathogens, resulting in the spread of diseases such as malaria. The deterioration of the quality of water supply due to flooding also leads to the spread of cholera.

This relationship between climate and infectious disease epidemics was recognized by Japan and the Republic of South Africa, which have launched a joint research effort aimed at predicting potential epidemics and providing early warnings. Using artificial intelligence and other methods, the research team analyzes the weather forecast for Southern Africa acquired from one of the world’s most advanced climate models, which was developed by Japan. This data is then combined with local environmental factors to predict infectious disease epidemics.

Noboru Minagawa, Project Leader for JICA and Professor at Nagasaki University, says, “If we can predict epidemics, we can prepare preventive measures, drugs, and diagnostics kits at an early stage. This will reduce the number of cases of infection.”

It is expected that the results of this project can be further developed and applied in other parts of the world to control climate-related infectious disease.

Metro System Contributing to CO2 Emission Reduction

Metro Development in India

As India accelerates economic growth, the number of car owners has been increasing, resulting in air pollution and traffic congestion that cause serious problems in the major cities. The Delhi Metro Project, which was developed under Japan’s ODA loan, contributes to reducing CO2 emissions and air pollution. Mr. M. P. Singh, Chief Development Specialist of the JICA India Office, explains the development impact of the Project: “With the introduction of the metro system, the daily volume of vehicles on the road in 2018 decreased by about 700,000. When converted to CO2 emissions, there is a reduction of approximately 990,000 tons. Owing to the use of an energy-efficient braking system developed by Mitsubishi Electric Corporation, the Project earned Japan its first Certified Emission Reduction Credits for the railway sector under the UN’s Clean Development Mechanism (CDM).”

As air pollution is a big concern, not only in Delhi but also in all major cities throughout India, the government of India intends to develop more metro systems. “The Delhi Metro is highly regarded in India as a ‘Shining Example’ that is representative of the cooperation between India and Japan,” continues Mr. Singh. “Other Metro projects modeled after this project are already underway in and outside India, including Bangladesh.”

In 2017, the number of people using the Delhi Metro reached 1.8 billion people, making it the seventh most used subway in the world.

Metro in India: A sampling of JICA’s climate actions. There are many different approaches to fighting climate change. These projects are aimed at controlling or preparing for climate change.

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