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Headline: Japanese team to assess Metro water security

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MANILA, Philippines—Teams from the Japan International Cooperation Agency (Jica) and the University of Tokyo are lending their expertise and technology to help predict the impact of climate change on water security in Metro Manila.

According to Jica, Metro Manila has been relying largely on the Angat Dam for 97 percent of its water supply. Growing population and climate change have been affecting the Angat reservoir in terms of water supply and flood risks, it added.

Taking advantage of the Data Integration and Analysis System (Dias) developed in Japan, the researchers involved in the study analyzed volumes of climate change prediction data on a global scale and localized them to best fit the Metro Manila situation.

The University of Tokyo also established the Asian Water Cycle Initiative, and works with countries in Asia to tackle water-related issues.

Under the initiative, the University of Tokyo started capturing climate data from the Philippine Atmospheric, Geophysical, and Astronomical Services Administration (Pagasa) using the Dias system. This technology can store and process voluminous climate data measures in petabytes.

The study, which covered six Philippine basins, namely Pampanga, Angat, Agos, Umiray, Pasig-Marikina and Laguna Lake, is expected to help decision-makers in crafting policies on managing water resources and mitigate adverse impact of weather changes.

“Using a sophisticated climate modeling tool, we found that large floods will be very likely to occur more often in the Metro Manila and its nearby areas in the near future. In order to realize both maximization of water use and minimization of flood in the downstream, we recommend that various stakeholders to consider optimization of dam operations,” said Patricia Ann Jaranilla-Sanchez, a Filipino member of the research team.

“The system we developed can forecast inflow into reservoirs and subsequently provide suggestions for optimal dam operation. Such technical information can be used to support sound decision-making,” she further explained.

Sanchez worked with the Japanese consulting firm Nippon Koei, with studied water balance and economic impact assessment, and Professor Toshio Koike, a climate scientist from the University of Tokyo’s Department of Civil Engineering for the climate change impact assessment part of said study.

“There are so many advanced bodies of knowledge and technology resulting from research activities in universities. By collaborating with Jica, the results can be utilized for actual plans and policies of decision makers in developing countries like the Philippines,” added Sanchez.

“We want to encourage collaboration between Japanese universities and technical agencies of developing countries, as well as Jica to bridge gaps in research and policy making. This cooperation is particularly important in various sectors like water resource management where Japanese universities are most advanced in terms of technology,” added Yuki Kitagawa of Jica’s Philippine office.