

NWRB Major Programs/Projects Conducted and Status of Implementation

1. Amendment of the 1976 Water Code of the Philippines

The amendment to the 1976 Water Code of the Philippines is necessary for it to be responsive to the changing needs of the country and its environment considering its more than three decades of adoption and implementation. There are current issues and challenges which need to be addressed thus, the revision is necessary to effectively implement and enforce the Water Code.

The amendment to the Water Code of the Philippines has been proposed as a draft bill entitled “An Act Revising the Water Code of 1976 and for Other Purposes”. The key proposed amendments are as follows:

- Adoption of practices, principles embodied in the Integrated Water Resources Management (IWRM);
- Institutionalization of river basin organizations (RBOs);
- Incorporation of principles of climate resiliency on resource regulation;
- A new chapter on economic regulation;
- Incorporation of water demand management principles;
- Emphasis on community partnerships and indigenous peoples and benefits to host communities;
- Science-based research and development needs; and
- Improvement in data collection and disclosure

Regional consultations have been conducted in Visayas and Mindanao, specifically in Iloilo City and Cagayan de Oro City, respectively. An Experts’ Forum was also held in Q.C. in March 2016. Further enhancement of the draft is currently on-going. Conduct of Thematic Group meetings/consultations is being considered prior to the conduct of a National Consultation. The target date for submission to Congress is in August 2016 and NWRB aims to find water champions in the Congress & Senate for the passage of the proposed amendments into law.

Currently, the draft amendment is being reviewed by the Office of the Senate President.

2. Groundwater Management Plan and Establishment of Monitoring Wells

In 2013, NWRB started the project “Development of Groundwater Management Plan for Highly Urbanized Water Constraint Areas” which piloted in the city of Iloilo. Final report for Iloilo was already completed in 2014. Formulation of policies on groundwater management in the area based from the recommendations

in the plan will be conducted. Dissemination of the report to all stakeholders in the area is recommended.

Groundwater Management Plan for Cagayan de Oro City, the second location, was already completed in May 2015

The NWRB's project pursued the areas of Angeles City in Pampanga, Bacolod City, Baguio City, Metro Manila and surrounding areas. Groundwater Management Plans for the said areas were already completed as of June 2017. Development of Groundwater Management Plan for Metro Cebu and Zamboanga City is on-going.

A major component of the project is the installation of groundwater monitoring wells in the target areas. In 2014, all eight (8) monitoring wells in Pavia, San Miguel, Alimodian, Oton, Pagsanga-an, Iloilo City were already operational. NWRB monitors water level and water quality twice a year.

There are ten (10) monitoring wells installed in Cagayan de Oro City from 2015-2016. Data collection on water level and water quality is being conducted by NWRB to monitor the trend of groundwater level in the area. Six (6) monitoring wells were already constructed in Angeles City and three (3) in Metro Manila. Establishment of three (3) monitoring wells in Mabalacat, Pampanga and another three (3) in Bacoor, Cavite is on-going.

3. Comprehensive Water Resources Assessment for Major River Basins

The project is an assessment and updating of water availability and quality situation that could sustain the projected population and developments using the river basin as appropriate planning area. The main objective of this endeavor is to garner a wholistic knowledge on the current water resources situation of the area which will be used in the effective implementation of NWRB's regulation and policy formulation functions.

The NWRB conceptualized the Comprehensive Water Resources Assessment for the Agno River Basin first. The project started in July 2015 and was completed in July 2016.

Comprehensive Water Resources Assessment for the Panay River Basin was completed in April 2017 and on-going for Davao River Basin.

4. Climate-Resilient Management of the Dams and Reservoirs in the Upper Agno River Basin (UARB)

Another project for the Agno River Basin is the Climate-Resilient Management of the Dams and Reservoirs in the Upper Agno River Basin (UARB). It is specifically focused in the operation, regulation and monitoring of the water

resources in the UARB area highlighting the possible impacts of climate change in its hydrological regime.

The overall objectives of the Project are: 1) to appraise the water resources the impacts of climate change on the hydrological regime of the Upper Agno River Basin; and (2) to develop an optimization model for the operation regulation and monitoring of the water resources systems of the Upper Agno River Basin.

The endeavor started in the lattermost part of 2015 and is still on-going.

5. Automated Real Time Monitoring System (ARMS) for Ambuklao, Binga and San Roque Dams (Phase I)

The ARMS Project is a joint project between Mapua Institute of Technology (MIT), Philippine Council for Industry, Energy and Emerging Technology (PCIEERD-DOST) and the National Water Resources Board (NWRB). The pilot testing to remotely monitor real-time hydrological parameters in the watershed and dam reservoir using installed sensors which are all based in WMO standards will help in estimating the amount of available water in the basin. Monitoring of dam reservoirs has been one of the major role of NWRB and having real-time data will help the agency in making efficient decisions.

The overall objective of the Project is to provide an automated real-time monitoring system of measured hydrological and operational parameters at the dam/reservoir for an accurate assessment of situation and time critical decisions during emergency and crisis management for Ambuklao Dam for the first and pilot phase (first half of the project year) and for Binga and San Roque Dams for the second phase (second half of the project year).

As of June 2017, the project team has already conducted inventory of existing hydrological monitoring devices, systems and policies and guidelines, calibrated the hydrological model for Agno River, started the creation of real time monitoring for the three dams; integration of database system with wireless network system; and working with dam break models and scenarios.

6. Listahang Tubig

Listahang Tubig or Water Register Project is a national survey of all water utilities in the country. The project started in October 22, 2014 after the signing of the memorandum of agreement (MOA) among various stakeholders such as NWRB as the lead agency, DILG, LWUA, NEDA, PAWD, and all local government units (LGUs) in the Philippines. It is supported by the World Bank Water and Sanitation Program (WB-WSP).

In 2015, the first of its kind countrywide survey was completed by the five assessment teams of World Bank through the utmost cooperation of all participating parties. Two major challenges were encountered along the data gathering stage including the participation of LGUs mostly due to lack of manpower and poor internet connection as well as the integrity of inputted data. These issues were resolved by the deployment of provincial enumerators who directly collect, encode and endorse data together with the stationing of data checkers.

Although it's primary objective is only to create a database of water utilities operating in the Philippines, it expanded to generating profiles, establishing a benchmark for level 3 water utilities, facilitating improvement in water regulation and water service delivery through access to information of participating water service providers (WSPs).

Listahang Tubig data is readily available in its cloud-based system through <http://listahangtubig.cloudapp.net/>. An infographic printed material is also created to promote and inform the public about the endeavor in Listahang Tubig.

Reorientation workshops in Listahang Tubig for LGUs will be conducted in fifteen provinces for 2017. As of June 2017, workshops were already conducted in six (6) provinces of Palawan, Iloilo, Negros Oriental, Cebu, Bohol and Siquijor. For the rest of the year, nine (9) provinces (Negros Occidental, Pangasinan, Bulacan, Tarlac, Pampanga, Cavite, Laguna, Batangas and Quezon) are scheduled to be visited by the team for another workshops.