

# NPUST CENTER FOR WATER RESOURCES EDUCATIONS AND STUDIES

## 1.Introduction -The Development of Water Resources

The center is located in Southern Taiwan where there is abundant natural resources as well as ample hydraulic engineering resources. These superior conditions can be effectively harnessed by our center for field instruction and research. Thus, multi-developed water resources at the center have created many hydraulic engineering accomplishments for agriculture, livelihood, and industry such as reservoirs, hydropower demonstration area, and an infiltration gallery. The primary freshwater source is used for agriculture, industry, and by households. With the vision of integrating regional resources, the Center for Water Resources Education and Studies was established in 2005.

## 2. Teaching Place

- (1).Reservoir
- (2).Canal
- (3).Artificial Recharge Area
- (4).Construction Wetland

## 3. Cooperative Organization

Taiwan Power Company , Irrigation Association, Water Resources Bureau, Taiwan Sugar Corporation, and CPC Corporation, Taiwan

## 4. Establishment Methods

1.NPUST is determined to fully establish the Center for Water Resources Education and Studies. It combines all of the resources for strengthening research and education.

2.Educational work is detailed as follows:

- (1).Archive textbooks on water resources education
- (2).Organize conferences on water resources research
- (3).Undertake water resources education projects
- (4). Administration works

3.Technical research comprises the following:

- (1).Water resource research and development, including patent applications

(2).Project applications and implementation

## 5.Organizational framework

### Administration Management Group

The administration secretary and the financial management officer are responsible for routine activities, salary concerns, and employee welfare.

### Wetland Ecology Group

The Wetland Ecology Group mainly investigates the eco-hydrogeology and hydrological parameters toward the comprehension of wetland structure and function.



Cheh-Shyh Ting (second left) with Pingtung County Magistrate (second right) visiting Er-Fong Gallery.

This research group focuses on hydrology and ecology. Specifically, these are the areas of concern: water quality, soil, zoology and botany, and the integration of related projects.

### Water Resources Group

This group focuses on the Pingtung Plain, with the following areas of study: artificial recharge of groundwater, optimization for groundwater resources pattern, investigation of groundwater and water quality, and pumping test. It focuses not only on the provision of numerical simulation capability, and also implements simulation projects, plan analysis, and pilot test analysis.

### Water Resources Education Group

This group implements water resources education, which includes groundwater and eco-hydrogeology courses. In addition, it collaborates with the Community University, colleges, and other institutes for the conduct of educational lectures. In the future, it plans to join the ecological protection and environmental consciousness advocacy. This is a crucial idea that it intends to develop in the field of water resources.

### Information System Group

This group is responsible for the construction and enhancement of the central system and team work, as well as the development of the Geographic Information System (GIS) in Pingtung Plain.

## 6.TECHNICAL SERVICES

### Investigations

1. Pumping test and analysis
  2. Soil permeability pilot test
  3. Hydrogeology investigation
  4. Groundwater monitoring
  5. River current observation
  6. Meteorological observation
  7. River circumstance investigation
- Pilot Test and Numerical Analysis
- 1.Experiment on artificial recharge of groundwater

groundwater

2.Investigation on soil and chemical character

3.Algae and water quality

4.Hydrology groundwater monitoring

5.Numerical analysis

### Equipment

1.Water level automatic recorder

2.Manual water level recorder

3.Supersonic wave overflow flow meter

4.Clamp type flow meter

5.Microclimate station

6Automatic soil sieves