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# Water Wisdom in Taiwan-Irrigation Ponds on Tableland Chih-Hung Tan, Ph.D.

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#### Introduction

There are thousands of scattered irrigation ponds on Taoyuan tableland that were created by the wisdom of ancient Taiwanese originals. Before the Shihmen Reservoir was constructed, the cultivation on the red clayed loam tableland depended on rainfall. The rivers running through the tableland were short and with small watershed. In the raining season the rivers supply sufficient water for irrigation. Most of the times, however, the rivers do not have much water for irrigation and have to build some sorts of water storage devices.

Water Detention: irrigation ponds become detention ponds during storm.



## **Irrigation Ponds**

The ponds were usually built in the lower areas. Builders dig both the red clay soil and pebble layers, then encircle the area with banks. The red soil is highly adhesive. When mixed with pebbles and pressed tightly, a waterproof bank can be made. Banks encircle the ponds in the low areas.

Form of the Irrigation Ponds: ancestors dig both the red clay soil and pebble layers, then encircle the area with banks. The red soil is highly adhesive. When mixed with pebbles and pressed tightly, a waterproof bank can be made.



Wildlife Conservation: many rare wild life species live in pond environment.





Taipei frog (Rana Taipehensis) is a protected species in pond.



The dragonfly (Neurothemis tullia) has large group in pond.

#### Landscape Scenery: ponds provide scenery to residents live in the neighborhood.





According to statistics, there were as many as ten thousand ponds on the Taoyuan plain before the great draught in 1913. At that time, all ponds were connected; and thus an irrigation system was created. With the sufficient irrigation system, the rice production of Taoyuan tableland grew increased significantly. That is how Taoyuan became the "breadbasket" of northern Taiwan.

Ponds on Tableland: thousands of irrigation ponds constructed on Taoyuan tableland.



#### Recreation: Cycling among Irrigation Ponds





### **Multi-Functions of Ponds**

Nowadays, in addition to irrigation, these ponds serve many other purposes, including water detention, fish raising, landscape aesthetic, recreation, ecology conservation and even for feng-shui. For whatever purpose the ponds have been changed, the ponds still reflect the wisdom from ancient people on this tableland.

Keywords: Irrigation ponds, Water wisdom, Taoyuan tableland

