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**APPLICATION EXPERIENCES OF CONSTRUCTED
WETLANDS IN SOUTHEASTERN ASIA**

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Abstract: The collaboration projects of applying constructed wetlands (CW) between Chia-Nan University of Pharmacy and Science (CNU) and southeastern Asian countries have proceeded since 2004. In the beginning, the main work was focused only on academic collaboration and the universities involved with this project including Asian Institute of Technology, Chiang Mai University, Prince Songkla University, Khon Kaen University of Thailand and Hanoi University of Vietnam. The mutual understanding among these universities and CNU was CW can be an efficient, economical, and environmental friendly technology for pollution control and the ultimate goal is trying to protect Mei-Kung River. Because that the R&D Center of Ecological Engineering and Technology in CNU has developed many results academically and practically in using CW for treating wastewater in Taiwan, therefore, provides technical support for those universities. With the efforts of each university, two practical projects of using CW for environmental protection are implemented in Thailand through international collaboration. In fact, CW has been recognized as one of the feasible technologies for reducing organic and nutrient pollution to nature in southeastern Asian countries. However, most of the applications are still remained at research stage or pilot scale. Chiang Mai University, with technical support from CNU, funded by Canadian International Development Agency (CIDA) to proceed a industrial wastewater treatment by using CW as a demonstration project for protecting Phayao Reservoir, an important water resource in northern Thailand. Khon Kaen University assisted by CNU and Mahasarakham University of Thailand funded by Regional Environmental Office 10 (REO 10) with the Thailand Royal Funding to build a CW system to treat wastewater from Ubolnatarata municipality. The main goal of this CW system is showing that the general community can also achieve pollution reduction and further protect the water quality of the watershed nearby, Ubolnatarata Dam is the protect target in this project. These two projects have implemented in November 2007 and operated by local communities, respectively. Although pollution control was the main purpose for using CW in these projects, the concepts of landscape and resource reservation were also promoted during the whole procedures of building the CW, including problem analyses, discussion with local people, designing, and management. The meaning and importance about ecological technology, green architect, and resource reservation are not only revealed in the construction work, but also experienced by the local people through the work of actual operation and maintenance.

Key Words: constructed wetlands, ecological technology, pollution control, southeastern Asia