



110 年度東港溪水環境保護深耕計畫

2021 The enhancement project on Donggang River
water environment protection



主辦機關：經濟部水利署南區水資源局

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摘 要

本計畫為解決東港溪水質改善之目標，藉由媒合流域內各權責單位、鄉鎮公所、社區團體以及專業機構形成夥伴關係，以單一支流減廢行動為對策，採用環保署稽查與輔導並重之行動建議及其公權力支援，運用田野調查、執行與佈局單一支流減廢行動以及公私協力執行合作方案等策略，並與屏東縣政府環保局、農業處形成工作圈模式，建立可長期運轉之公私協力合作模式，以逐年改善東港溪各支流原水水質，逐步擴大參與行動範圍為目標。

本年度以龍頸溪做為強化行動範圍，並與國立屏東科技大學USR計畫合作「龍頸翻身」行動，藉由輔導106位學生至龍頸溪沿岸共8個社區進行田野調查、廣宣沼液沼渣回歸農地使用政策，並將有意願使用之農民資料提供於屏東縣政府環保局，以利擴大政策推展效益。

本計畫以萬巒鄉佳平溪為單一支流減廢行動執行範圍，本年度相關成果包含：萬巒鄉公所主動運用鄉內畜牧場之糞肥做為行道樹綠美化肥份來源、與檢調單位建立通報危害環境之非法情事之管道、請屏東縣政府環保局強化稽查佳佐工業區廢水排放情形以及辦理全鄉沼液沼渣媒合應用說明會，萬巒鄉長亦針對鄉內後續推展媒合畜牧戶及農戶行動研擬符合在地之新行動方案，以提升政策媒合成功率。

除了持續深化「畜牧戶及農戶配對行動」之外，本計畫與屏東縣畜牧戶共研擬「沼液供應中繼站」行動方案雛形，期能緩解現今槽車數量不足、沼液品質不一、供需時間落差過大之情形，以提升沼液運輸及使用效率，以朝向循環經濟及建立供需市場機制為行動目標，後續將把相關構想提供於農委會參考。

本年度持續與彰化縣湖埔社區大學辦理「雙東禮川南國行」之成果交流座談會，亦吸引雲林縣議員前來交流。本計畫除了分享計畫成果之外，亦藉由萬巒鄉五溝水戶外走讀行程，體驗「水好，一切都好」之概念；同時邀請國立屏東科技大學學生分享本年度參與「龍頭翻身」行動之心得及願景，藉此交流過程，讓彰化縣獲得「沼液供應中繼站」及「學校跨域合作方案」之 2 項行動策略，做為後續推廣東螺溪水質改善之參考。

本計畫自 103 年推動至今，已有建立「社區聯合巡查隊」、「畜牧業遊說團」及「畜牧戶及農戶配對行動」三大行動模組，並因地制宜研擬不同的組合方案，同時藉由公私協力工作圈進行交流、分工及相關事宜，讓整體行動更加完善。建議後續相關計畫可持續深化工作圈公私協力模式，以擴大其他鄉鎮共同參與光復東港溪水質行列及交流水資源相關議題。

關鍵字：東港溪、公民參與、公私協力、工作圈、單一支流減廢行動、沼液沼渣回歸農地使用

Abstract

The aim of this project is to resolve the water quality problem of Donggang River. Through the partnership with related organizations, township offices, community groups and professional institutes, with the policy of waste minimization in single flow action, and adopts Environmental Protection Administration's inspection and counseling for its authority support. By field survey to complete the mode of waste minimization in single flow action and involvement action building, and the implement the strategy of collaboration between public-private partnerships. In addition, to build up a long-term collaboration working team with Pingtung Environmental Protection Bureau and the Agricultural Department to improve the water quality of Donggang River.

This year, the Longjing River was regarded as the key execution area, and cooperated with USR project "Longjing Changes" by National Pingtung University of Science and Technology. Through counseling with 106 students to 8 communities along with Longjing River for the field survey, promotion of biogas residue and liquid used for the nutrition in agriculture, and providing Pingtung Environmental Protection Bureau with the farmers' information, so as to increase the benefits of the policy promotion.

This year, Jiaping River in Wanluan Township was the execution area for the action of single stream to decrease waste. The results of this project includes, Wanluan Township Office actively uses manure from livestock farm for greening the street trees, building up with prosecutor office to report illegal environmental hazards, conducting public meeting for matching biogas residue and liquid. Wanluan Township Mayor also continuously matching between livestock farmers and farmers to draw up localized action plans, in order to promote the successful matching rate.

Besides continuously deepening the action of “matching between livestock farmers and farmers”, this project cooperated with livestock farmers in Pingtung to draw up action plan for a “biogas residue and liquid supply Relay Station,” hopefully to alleviate the current situation of insufficient tank trucks, inconsistent quality of biogas liquid, and large gap between supply and demanding time, to improve the efficiency of biogas liquid transportation and use, then to move forward to a circular economy and to establish a supply and demand market mechanism. Next step will promote the idea to The Council of Agriculture.

This year, this project continued to hold a symposium about the results of the “Double Dong Rivers southern counties Trip” with Hupu Community University in Changhua County, and also attracted councilors from Yunlin County for communicating ideas. In addition to sharing the results, this project also used the Wugoshuei outdoor day trip in Wanluan Township to experience the concept of “Water is good, everything is good.” At the same time, students from National Pingtung University of Science and Technology were invited to share the experience and vision in the participation of the action of “Longjing Changes.” Through the communication process, allowed Changhua County to obtain the two action strategies of “Biogas liquid Supply Relay Station” and “School Cross-domain Cooperation Program,” which served as a reference for the follow-up promotion of Dongluo Creek water quality improvement.

This project started from 2014, has been build up three major action modules, “Community Joint Inspection Team”, the “Livestock Industry Lobby,” and the “Livestock and Farmer Matching Action.” Differentiate combination plans by different locations. Through the collaboration between public-private working team for communication, teamwork and related matters, complete the overall actions. It is suggested that the follow-

up projects can continuously deepen the model of public-private collaborative working team, so as to expand the participation of other counties in the action of improving of water quality in Donggang River, and to communicate about related issues of water resources.

Keywords: Donggang River, citizen participation, collaboration between government and contractor, action of choosing a single stream to decrease waste, biogas residue and liquid used for the nutrition in agriculture

結論與建議

一、結論

- (一) 本年度枯水期間適逢南部大旱，台灣自來水公司則開始引用東港溪水源，並經過原水前處理後，以支援民生用水至少 3 萬噸，此可證實東港溪水質改善對於支援高雄市的公共用水來源有其正向影響。
- (二) 本計畫針對過往推展至今的「單一支流減廢行動」之新埤鄉砂崙河、潮州鎮民治溪、竹田鄉龍頸溪下游進行水質檢測作業，水質均呈現枯水期相較於同期更加改善。
- (三) 本年度以萬巒鄉佳平溪為執行範圍，萬巒鄉公所「使用畜牧場之糞肥做為樹木綠美化肥份」、「與檢調單位、環保單位建立稽查訊息流通管道」以及「建立沼液沼渣媒合配對行動流程」為成果，萬巒鄉長以媒合配對為執行基礎，研擬符合在地推動條件之办理流程，本計畫亦研擬於泗水大橋建立水質檢測點，以供後續相關計畫辦理水質檢測作業之參考。
- (四) 本年度以內埔鄉、竹田鄉龍頸溪為強化行動範圍，本計畫與國立屏東科技大學 USR 計畫合作，運用 106 位學生於內埔鄉、竹田鄉合計共 8 個社區進行擾動，獲得有 18 位農民願意使用沼液沼渣，亦將相關資料提供於屏東縣政府環保局做為後續政策推展使用。
- (五) 本計畫與屏東縣農畜產運銷合作社共同研擬第四種行動方案「沼液供應中繼站」架構，期能緩解槽車載運頻率不足、沼液使用時間點落差、沼液品質統一及地方政府財政壓力等課題。

- (六) 本年度藉由工作圈平台會議，邀請屏東縣政府環保局、農業處及屏東縣農畜產運銷合作社共同討論萬巒鄉佳平溪推動媒合行動之分工及流程、沼液供應中繼站之可行性探討及法規適法性等課題，以利整體行動方案推動更加周延。
- (七) 本年度辦理之「東港流域地方學-第二屆雙東禮川南國行」以萬巒鄉佳平溪及強化龍頸溪之執行成果為分享內容，並由萬巒鄉公所、國立屏東科技大學共同熱情協助接待參與交流之彰化縣湖埔社區大學及雲林縣廖郁賢議員，讓湖埔社區大學獲得學校跨域合作水質改善之新方案模組、雲林縣初步認識東港溪歷年來行動模組，以做為後續得以應用於彰化縣及雲林縣境內改善河川水質之參考。

二、建議

- (一) 萬巒鄉林國順鄉長已針對佳平溪推展單一支流減廢行動研擬行動方案，運用鄉公所現有人力及地方仕紳專案編組媒合調查小組，以提升媒合配對成功機率，建議屏東縣政府環保局、農業處可持續協助萬巒鄉公所執行相關行動。
- (二) 本計畫已累積新埤鄉砂崙河、潮州鎮民治溪、竹田鄉及內埔鄉龍頸溪以及萬巒鄉佳平溪為單一支流減廢行動範圍，並評估潮州鎮溪州溪排水及魚池溝排水為佈局範圍，然因範圍日漸擴增，為集中推展效益，建議可就原有範圍持續強化推動為優先工作。
- (三) 本計畫自 108 年度建立之公私協力工作圈平台，已媒合鄉鎮公所及屏東縣政府農業處、環保局針對減廢行動及政策進行資訊交流、分工協力等業務，皆已有初步合作默契，亦可視流域相關議題增添適宜之單位參與，建議後續應持續

運作工作圈平台，以利流域推展相關工作增加效益。

- (四) 本計畫研擬之「沼液供應中繼站」之架構，目的在於自源頭管理面向減少畜牧廢水排放之機率，然其涉及到法規面及經營管理，建議可邀請農委會共同評估可行性或選擇本計畫之行動範圍進行試營運計畫。
- (五) 本計畫所產生之公私協力行動 4 種模組及 1 種與國立屏東科技大學之合作方案，已將協助技轉或將相關構想分享於彰化縣政府及湖埔社區大學，以解決彰化縣東螺溪畜牧污染問題，本年度彰化縣政府亦在此基礎下開始執行相關計畫，建議水利署應持續雙方互動，辦理雙東禮川交流論壇或活動。