

## Successful Public-Private Partnership Through the Impact of Environmental Education: A Case Study on Transforming Community Confrict into Harmony in the Dongpian Community

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**Abstract :** Pingtung County, located in the southernmost region of Taiwan, has the largest number of pig farms in the country. In the past, livestock operators in Dongpian Village discharged their wastewater into the nearby water bodies, causing water pollution in the local rivers and polluting the air with the stench of the pig excrement. These resulted in many complaints from the local residents. In response to a long time fighting back of the community against the livestock farms due to the confrict, the County Government's Environmental Protection Bureau (PTEPB) examined potential wayouts in addition to heavy fines to the perpetrators. Through helping the livestock farms to upgrade their pollution prevention equipment, promoting the reuse of biogas residue and slurry from the pig excrement, and environmental education, the confrict was successfully resolved. The properly treated wastewater from the livestock farms has been freely provided to the neighboring farmlands via pipelines and tankers. Thus, extensive cultivation of bananas, papaya, red dragon fruit, Inca nut, and cocoa has resulted in 34% resource utilization of biogas residue as a fertilizer. This has encouraged farmers to reduce chemical fertilizers and use microbial materials like photosynthetic bacteria after banning herbicides while lowering the cost of wastewater treatment in livestock farms and alleviating environmental pollution simultaneously. That is, the livestock farms fully demonstrate the determination to fulfill their corporate social responsibility (CSR). Due to the success, Eight farms jointly established a social enterprise - "Dongpian Gemstone Village Co., Ltd." to promote organic farming through a "shared farm." The company appropriates 5% of its total revenue back to the community through caregiving services for the elderly and a fund for young local farmers. The community adopted the Satoyama Initiative in accordance with the Conference of the CBD COP10. Through the positive impact of environmental education, the community seeks to realize the coexistence between society and nature while maintaining and developing socio-economic activities (including agriculture) with respect for nature and building a harmonic relationship between humans and nature. By way of sustainable management of resources and ensuring biodiversity, the community is transforming into a socio-ecological production landscape. Apart from nature conservation and watercourse ecology, preserving local culture is also a key focus of the environmental education. To mitigate the impact of global warming and climate change, the community and the government have worked together to develop a disaster prevention and relief system, strive to establish a low-carbon emitting homeland, and become a model for resilient communities. By the power of environmental education, this community has turned its residents' hearts and minds into concrete action, fulfilled social responsibility, and moved towards realizing the UN SDGs. Even though it is not the only community to integrate government agencies, research institutions, and NGOs for environmental education, it is a prime example of a low-carbon sustainable community that achieves more than 9 SDGs, including responsible consumption and production, climate change action, and diverse partnerships. The community is also leveraging environmental education to become a net-zero carbon community targeted by COP26.

**Keywords :** environmental education, biogas residue, biogas slurry, CSR, SDGs, climate change, net-zero carbon emissions

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