World Academy of Science, Engineering and Technology
International Journal of Health and Medical Engineering
Vol:17, No:10, 2023

Promoting Environmental Sustainability in Rural Areas with CMUH Green Experiential Education Center

Authors : Yi-Chu Liu, Hsiu-Huei Hung, Li-Hui Yang, Ming-Jyh Chen

Abstract : introduction: To promote environmental sustainability, the hospital formed a corporate volunteer team in 2016 to build the Green Experiential Education Center. Our green creation center utilizes attic space to achieve sustainability objectives such as energy efficiency and carbon reduction. Other than executing sustainable plans, the center emphasizes experiential education. We invite our community to actively participate in building a sustainable, economically viable environment. Since 2020, the China Medical University Hospital has provided medical care to the Tgbin community in Taichung City's Heping District. The tribe, primarily composed of Atayal people, the elderly comprise 18% of the total population, and these families' per capita income is relatively low compared to Taiwanese citizens elsewhere. Purpose / Methods: With the experiences at the Green Experiential Education Center, CMUH team identifies the following objectives: Create an aquaponic system to supply vulnerable local households with food. Create a solar renewable energy system to meet the electricity needs of vulnerable local households. Promote the purchase of green electricity certificates to reduce the hospital's carbon emissions and generate additional revenue for the local community. Materials and Methods: In March 2020, we visited the community and installed The aquaponic system in January 2021. CMUH spent 150,000NT (approximately 5000US dollars) in March 2021 to build a 100-square-meter aquaponic system. The production of vegetables and fish caught determines the number of vulnerable families that can be supported. The aquaponics system is a kind of Low energy consumption and environmentally friendly production method, and can simultaneously achieve energy saving, water saving, and fertilizer saving .In September 2023, CMUH will complete a solar renewable energy system. The system will cover an area of 308 square meters and costs approximately NT$240,000 (approximately US$8,000). The installation of electricity meters will enable statistical analysis of power generation. And complete the Taiwan National Renewable Energy Certificate application process. The green electricity certificate will be obtained based on the monthly power generation from the solar renewable energy system. Results: I Food availability and access are crucial considering the remote location and aging population. By creating a fish and vegetable symbiosis system, the vegetables and catches produced will enable economically disadvantaged families to lower food costs. In 2021 and 2022, the aquaponic system produced 52 kilograms of vegetables and 75 kilograms of catch. The production ensures the daily needs of 8 disadvantaged families. Conclusions: The hospital serves as a fortress for public health and the ideal setting for corporate social responsibility. China Medical University Hospital and the Green Experiential Education Center work to strengthen ties with rural communities and offer top-notch specialty medical care. We are committed to assisting people in escaping poverty and hunger as part of the 2030 Sustainable Development Goals.

Keywords : environmental education, sustainability, energy conservation, carbon emissions, rural area development
Conference Title : ICSH 2023 : International Conference on Sustainable Hospital
Conference Location : Lisbon, Portugal
Conference Dates : October 30-31, 2023