

Does the Development of Aquavoltaics Policy Affect Farmland Price?

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Abstract:

In alignment with the commitments established under the 2015 Paris Agreement, numerous countries have prioritized the development of renewable energy on agricultural land. Recently, policy initiatives have shifted towards the promotion of aquavoltaics which is a dual-use system that integrates solar power generation with aquaculture. This study examines the impact of aquavoltaics policies on farmland prices, providing insights into the intersection of renewable energy policy and farmers' welfare, as farmland value serves as a key indicator of agricultural wealth. Utilizing population-based data on farmland transactions in Taiwan, this study employs the difference-in-differences methodology to assess the policy's effects. By exploiting the staggered introduction of aquavoltaic zones over time in Taiwan, we robustly identify the causal impact of the policy. Our findings suggest that the policy has led to a 23% increase in farmland prices, with the effect being more pronounced in zones that were announced earlier or were of larger scale. Additionally, a more significant price increase is found in zones with greater availability of feeder lines. These results suggest that the increase in farmland prices may reflect the potential positive option value associated with the future development of aquavoltaics on eligible land.

Keyword:

Aquavoltaics policy, farmland price, renewable energy, land transaction.