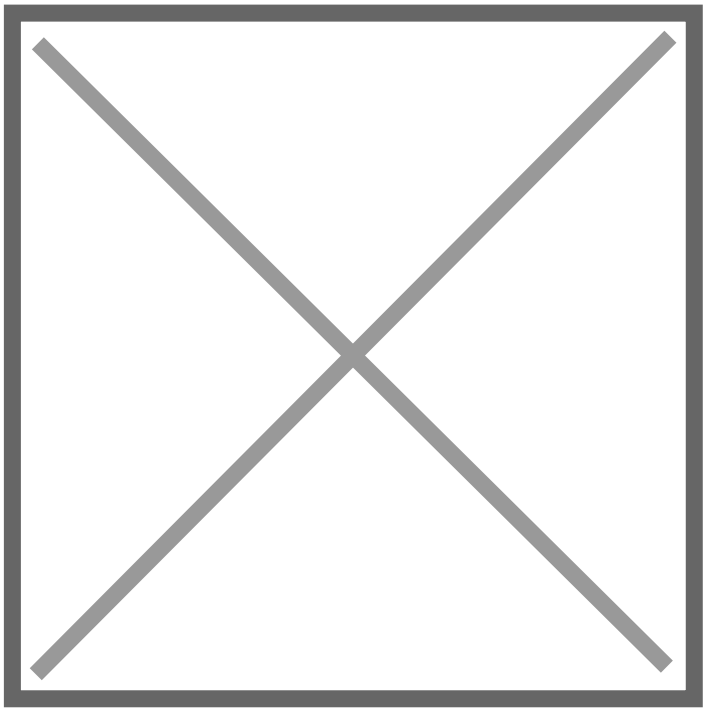
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UN-backed team reviews Taiwanâ??s climate and agriculture model

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Tainan projects highlight scalable approaches to carbon storage and sustainability



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Taiwanâ??s evolving approach to climate action and carbon sequestration drew global attention as international experts, including representatives from the United Nations Development Programme and the International Union for Conservation of Nature, conducted a multi-site field assessment across Tainan City. The visit highlighted the growing international relevance of the â??Taiwan Model,â?• an integrated framework that combines technology, ecology, and community-driven governance to advance net-zero goals.

The delegation, comprising scientists, policymakers, and students, undertook on-ground evaluations across five districtsâ??Liujia, Dongshan, Baihe, Houbi, and Yanshuiâ??to examine carbon sink potential within diverse agricultural and ecological landscapes. The initiative integrates advanced tools such as satellite remote sensing and artificial intelligence with traditional ecological knowledge, aligning with the principles of the United Nations University Institute for the Advanced Study of Sustainability and the Social-Ecological Production Landscape and Seascape (SEPLS) framework.

In Liujia District, bald cypress wetlands have emerged as a flagship carbon sink demonstration site. Supported by satellite data from Taiwanâ??s National Space Organization, the landscape illustrates how natural ecosystems can be transformed into measurable carbon assets while maintaining ecological and tourism value. The model introduces innovative mechanisms that convert carbon rights into community-linked economic opportunities.

Dongshan District showcased the integration of agriculture and biodiversity through its dragon fruit industry. By embedding environmental metrics into farming practices, the region exemplifies how agricultural systems can generate both economic returns and ecological benefitsâ??what local stakeholders describe as a â??bio-cultural dividend.â?

Similarly, Baihe Districtâ??s bamboo forests are being redefined as high-integrity carbon assets through AI-enabled monitoring and participatory governance frameworks. The incorporation of principles such as Free, Prior, and Informed Consent ensures that local communities remain central to decision-making and benefit-sharing processes.

In Houbi District, guava orchards are at the forefront of a transition towards a carbon credit-based agricultural economy. Leveraging remote sensing technologies, farmers are aligning productivity with environmental stewardship, enabling income generation through sustainable practices.

Yanshui District, meanwhile, demonstrated climate resilience through its adoption of dryland farming systems. The cultivation of drought-resistant crops such as sorghum and soybeans reflects a strategic response to water scarcity, while contributing to enhanced carbon storage and long-term sustainability.

Experts noted that Taiwanâ??s approach effectively translates global climate frameworks into actionable, community-level solutions. By integrating cutting-edge technologies with indigenous knowledge systems, the model offers a scalable blueprint for aligning local development with international climate commitments, including Nationally Determined Contributions.

The field study underscores a broader shift in climate strategyâ??from isolated interventions to holistic, landscape-level solutions. Taiwanâ??s â??net-zero pathwaysâ? illustrate how agriculture, biodiversity, and community participation can converge to create resilient, high-impact carbon systems with global applicability.

As Taiwan continues to engage with international institutions and expand collaborative frameworks, the â??Taiwan Modelâ? is positioning itself as a replicable template for regenerative developmentâ??demonstrating that effective climate governance can be rooted in local ecosystems while delivering global outcomes.