Youth partnership enhances ecological value of Cuihu Park

Region	**Asia and the Pacific**
Award Scheme	**Shanghai Manual**
Themes	**Environmental Resilience** **Land** **Youth & Livelihoods**
Sustainable Development Goals	**Goal 6 - Ensure availability and sustainable management of water and sanitation for all** **Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable** **Goal 13 - Take urgent action to combat climate change and its impacts** **Goal 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**

Summary

Cuihu Park, located in Kunming, China, has undergone a transformative ecological restoration process, aided by an innovative Youth Partnership model that integrates scientific research and community engagement.

Background and Objective

Cuihu Park, spanning 21 hectares, is an essential part of Kunming's urban ecosystem. Historically, the park has served as a public space and ecological sanctuary, playing a critical role in maintaining local biodiversity and regulating the urban climate. However, rapid urbanization and industrial pollution in the late 20th century led to significant environmental challenges, such as water pollution and a loss of biodiversity. During the 1980s and early 2000s, the park saw the decline of native species, including the golden-line barbel fish, and suffered from severe water quality issues due to wastewater discharge into Dianchi Lake. By the 2010s, the park began efforts to restore its ecosystems, focusing on water purification, species reintroduction, and habitat rehabilitation. The primary objective of the ecological restoration was to improve environmental conditions, restore biodiversity, and create a sustainable model for urban ecological conservation.

Actions and Implementation

The restoration of Cuihu Park was driven by the Youth Partnership model, led by the Kunming Institute of Zoology (KIZ) in collaboration with local universities and research institutions. This model brought together young scientists from various disciplines to monitor and restore the park’s ecosystems using advanced technologies such as AI systems and environmental DNA (eDNA). By using eDNA, the research teams could identify species in real-time and track potential ecological threats. Over the years, efforts focused on removing invasive species, enhancing water purification, and reintroducing native plants and animals. These initiatives helped increase biodiversity, with the number of bird species in the park rising

from 25 to 94 between 2020 and 2024. Additionally, water quality improvement projects reduced the water purification cycle from 30 days to just 5 days, which significantly boosted the ecological health of the park.

In parallel with the ecological restoration, Cuihu Park integrated cultural tourism as part of its broader development strategy. The park hosted several cultural events such as the Jacaranda Cultural and Art Festival and Seagull Cultural Festival, creating unique cultural brands linked to its ecological assets. These events not only attracted large numbers of visitors but also supported the local economy through the sale of cultural products and services, making the park a vibrant cultural hub.

Outcomes and Impacts

The restoration of Cuihu Park has had a profound impact on both the environment and the local economy. The improved water quality and successful reintroduction of native species have contributed to the park becoming a key biodiversity hotspot in the region. Birdwatching and eco-tourism activities have flourished, with over 2 million visitors recorded in 2022. These activities have helped generate significant economic benefits, supporting local businesses in hospitality, retail, and tourism-related services. Additionally, the park has become an important science education platform, with the establishment of the Cuihu Ecological Civilization Exhibition Hall, which promotes public engagement in biodiversity conservation and sustainable practices.

Sustainability and Scalability

Cuihu Park’s approach to ecological restoration and sustainable development is designed to be both scalable and sustainable. The Youth Partnership model, which integrates youth involvement in scientific research and community engagement, has proven to be a robust mechanism for fostering innovation and ensuring long-term environmental stewardship. This model can be adapted to other cities facing similar environmental challenges, as it combines cutting-edge technology, youth-driven research, and community participation. Moreover, the integration of cultural tourism with ecological restoration has created a sustainable economic model that ensures the park’s continued financial viability, further supporting the long-term maintenance of the park’s ecological health.

Gender and Social Inclusivity

While the case study does not explicitly highlight gender and social inclusivity, the Youth Partnership model inherently promotes inclusivity by involving diverse youth from different academic and social backgrounds. The model provides equal opportunities for young scientists to engage in environmental research and conservation efforts, creating a platform for future leaders in biodiversity protection.

Moreover, the park's educational initiatives, including science education workshops and public engagement activities, are open to all members of society, promoting inclusivity in environmental awareness and action.

Innovative Initiative

The most innovative aspect of the Cuihu Park restoration project is the Youth Partnership model, which leverages the enthusiasm, creativity, and technological expertise of young scientists. This model integrates cutting-edge technologies, such as AI and eDNA, for biodiversity monitoring and ecosystem management. The active involvement of young researchers from diverse fields and regions has not only accelerated the ecological restoration process but also ensured that the park remains at the forefront of scientific research and innovation. By integrating ecological restoration with cultural tourism, Cuihu Park has also demonstrated a novel approach to combining environmental conservation with economic development, creating a model for other cities to follow.

Resources devoted to delivery

The successful implementation of the Cuihu Park restoration project involved significant resources from various stakeholders. The Kunming Institute of Zoology played a key role in providing strategic direction and facilitating collaboration among research institutions, universities, and government agencies. Financial support from municipal and district governments, as well as funding for scientific research and technology, was crucial in sustaining the restoration efforts. In addition, the park's cultural tourism initiatives required investment in event planning, digital technology, and infrastructure development. These combined resources have ensured the park's transformation into a thriving ecological, cultural, and economic asset.

Conclusion

Cuihu Park's ecological restoration, driven by the innovative Youth Partnership model, serves as an exemplary case of how urban biodiversity conservation can be integrated with cultural and economic development. Through collaborative scientific research, technological innovation, and cultural tourism, the park has transformed from an environmentally degraded site into a vibrant, sustainable urban sanctuary. The park's success offers valuable lessons for cities around the world seeking to balance ecological protection with economic growth, highlighting the potential of youth-driven initiatives and the power of integrating science, culture, and community for sustainable development.