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EFFECTS OF LOCAL TRADITIONAL CULTURE AND WORKSTATION LOCATIONS ON CONSERVING GREEN SEA TURTLES

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Written by [Tzu-Ming Liu](#).

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Green Sea Turtles (*Chelonia mydas*) have long been classified as a globally endangered species due to human disturbances. The turtles are hunted for their meat, eggs, and shells, and their reproduction suffers from the effects of habitat degradation and fragmentation. Artificial light sources hinder the Turtles' return to land for egg laying and interferes with young hatchlings' movement towards the sea, thereby increasing their mortality rate. Many conservation measures, such as eco-tourism, have been implemented to protect Green Sea Turtles but not all are successful. Some successful international models of conservation were implemented in Taiwan, but the results were not as positive as expected. We find that the conflict of cultural beliefs regarding Green

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Sea Turtles and the government's conservation grants scheme is key to this failure.

Green Sea Turtles are distributed across the northern, eastern, and southern areas of Taiwan, as well as on Lanyu Island and Penghu Islands. However, because of long-term excessive poaching, combined with habitat destruction caused by construction projects, their nesting habitat is limited in Wangan (Penghu Islands) and Lanyu islands. The Green Sea Turtles in Lanyu Island are of particular interest because they affect the behavioural evolution of terrestrial organisms in this region. The *Oligodon formosanus* in Lanyu is observed to ingest eggs via a 'food can opening' approach. The females of *Oligodon formosanus* defeat males to take possession of turtle eggs which differs from the male-dominated survival mode of most organisms. The Turtles also manifest parental care behaviour in *Mabuya longicaudata* in Lanyu, a rarely observed phenomenon. The unique ecological influence of Lanyu Green Sea Turtles has important value for the behavioural evolution studies of reptiles.

Lanyu Green Sea Turtles are affected by a loss of habitat, which has led to significant reduction in their numbers. The Forest Bureau of Taiwan has conducted multiple biological studies on Green Sea Turtles since 1992, including a long-term investigation on the

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reproduction and ecology of the Turtles on Lanyu Island since 1996. Conservation measures include monitoring the numbers and activities of Green Sea Turtles, rescuing injured Turtles, shifting nests to more suitable local habitats, and various forms of educational and promotional activities aimed at raising local awareness about the project, as well as obtaining support from local communities. These activities include planning and promoting Green Sea Turtle ecotourism, training tour guides, and employing local residents to assist with ecological restoration related projects. After many years of efforts, conservation measures have still not integrated successfully into the local community. Staff conducting the conservation measures had been verbally humiliated and physically attacked by local residents, and some residents even considered them an important source of the disruption towards local turtles' living environment. Green Sea Turtle conservation measures did not consider local aboriginal culture and the meeting of these two resulted in tension and conflicts.

The traditional culture of the local aboriginal Tao tribe on Lanyu Island has a very strong cultural taboo regarding the Green Sea Turtles. Their habitat is close to the local population's traditional cemetery and the area is regarded as the living space of evil spirits. The organisms living in these areas, such as green sea turtles,

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are believed to have devil spirits. Interactions with taboo objects or areas, or even grains of sand, are believed to lead to disasters. Bringing items from the beach back home is similar to bringing the devil home, which would bring misfortune or sickness to family members. This taboo prohibits the Tao tribe from disturbing and hunting the turtles.

This cultural characteristic affected the planning of manpower conservation efforts. Most cases of international conservation obtained cooperation from local residents which enhanced the effectiveness of conservation. However, cultural taboos discouraged the people of the Tao tribe on Lanyu Island from participating in the Green Sea Turtle conservation. Conservation measures that required direct contact with the turtles, such as moving the eggs, incited resentment from local residents. Eco-tourism is an example of the impact of the Tao cultural taboo on conservation efforts. Turtle eco-tourism provides a market-based incentive mechanism that should attract local residents to support and assist in conservation. Many international sea turtle conservation organisations have conducted eco-tourism as a successful conservation measure. However, the Tao people on Lanyu Island could not accept activities placing people in contact with the Turtles and consequently eco-tourism has not played its expected role in conservation.



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The location of the conservation workstations is another example of conflict between conservation staff and locals. If the conservation workstation was set in the tribal village, the staff had more opportunities to interact with the residents in their daily life. These interactions improved mutual understanding of Green Sea Turtle conservation and facilitated better support and cooperation from the local residents. However, if the conservation workstation was located far away from the tribe, most staff-local interactions involved the taboo subject of Turtle conservation and resulted in more conflict and disputes than understanding and compromise. Because the government agency did not provide sufficient resources to support conservation measures, it was difficult to establish a long-term and trusted cooperative conservation workstation with the Tao people.

The experience of the conservation organisation on Lanyu Island demonstrated a significant impact from the local aboriginal traditional ecological culture on the conservation of the species. Conservation mechanisms that provide economic incentives must be appropriate to local culture; otherwise, the creation of incentives will not only fail to promote conservation but will destroy the social norms required for conservation. Therefore, the planning of conservation must be based on an understanding of the relations

between the local culture and conservation. When culture is in conflict with the conservation efforts, the location of the workstation is key to resolving this problem. Understanding local traditional culture and selecting workstation locations that are close to the local residents are important tasks for promoting the success of conservation.

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