Community-based trail monitoring as a echanism for capacity and partnership building: Lessons learned from Linmei Village, Ilan County, Taiwan

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While the involvement of local communities is becoming popular in natural resources as well as tourism management, environmental and/or facilities monitoring has become a focal practice for the government to empower and build partnerships with local communities (Folke et al. 2005, Yarnel & Gayton 2003). In this research, we tried to formulate a feasible mechanism to enhance local capacity and to create partnerships between the locals and the forestry agency through a community-based trail monitoring programme in Linmei Village, Ilan County, Taiwan. Our work was informed by the framework developed by the Canadian Community Monitoring Network (2003) and Conrad and Daoust (2008). In doing so, we addressed the following questions: 1. What is the workable community-based trail monitoring model (procedure and essential steps) in the Taiwanese context; 2. What are the different considerations among stakeholders to a community-based trail monitoring mechanism? 3. What is the role of academics throughout the process?

The Linmei trail monitoring programme was initiated in the early 2008 and continued through 2009. The Linmei Trail is highly popular tourist attraction in Ilan County with an average of over 200,000 visitors every year. The trail offers great variety of natural attractions in a short length (approximately 1.7 km). For this reason, and also because of insufficient ecological baseline data, we included only the items relevant to tourism and visitor safety, such as tourism facilities and carrying capacity control, into the monitoring mechanism. Using sheets and public participatory geography information system (PPGIS), we worked with the locals and the forestry agency to test appropriate monitoring formats. Additionally, we relied on the spatial information provided by Google Earth and Global Positioning System (GPS) to discuss and identify monitoring locations and items, and communicate results with both the local people and the forestry agency.

We employed individual interviews, focus groups, participation observation, and a literature review to collect information regarding the attitudes and considerations and comments from the local community and the forestry agency, respectively. We interviewed a total of 25 persons from the local community, 17 forestry officers and 8 relevant experts. Additionally, over 100 records were collected from participant observation and focus groups. It is worth mentioning that the Linmei trail was closed for about 3 months from September 2008 to January 2009 due to severe damage from a typhoon. This accident created a chance for us to further examine the comprehensiveness of government's trail policy and the local dependence on the trail and its visitors in terms of economic, social and political dimensions. We revisited the trail after typhoon and amended the patrolling sheets as well as the monitoring items with the senior community members. A training workshop was held for the local rangers to develop a standardized format for monitoring records in February 2009.

The final community-based trail monitoring scheme contains two parts: a quick screen that is done by roughly sketching the trail conditions on the map with some notes once every few days, and a comprehensive monthly assessment by senior staffs of the community organization. The local community showed their capacity to successfully implement the monitoring scheme and reported to the forestry agency regularly for at least 3 months in the spring of 2009; yet failed to continue it

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owing to limited man power. Interestingly, we found that the locations of damage caused by typhoon coincided very well with the problem spots already recorded by the local people before the typhoon. This has prompted the forestry agency to recognize the value of community participation in trail and tourism management. In fact, the agency communicated with the local community several times with the hope to restore the monitoring mechanism.

While it remains too early to define the sustainability of the Linmei's trail community-based monitoring scheme, the case has revealed some critical factors that can lead to a more sustainable programme. First, as all stakeholders of the case, especially the forestry agency, are satisfied with the monitoring mechanism, further effort should focus on ensuring a persistent input of qualified personnel from the community to execute the monitoring activities. Second, it appears that the local community tended to consider the feasibility of the mechanism, whereas the forestry agency emphasized its legitimacy and the integration of monitoring data into the official reporting system. Third, in relation to the second point, we as the academic team could be a good mediator to bridge communications between the local community and the forestry agency, and we were able to coordinate both sides to develop a monitoring scheme that is both feasible for local implementation and directly related to agency's trail management practice.

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