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Buffer Zone Delineation at Conservation Reserve

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Abstract

Stakeholders play an important role towards the Conservation Reserve Buffer Zone. Their perspectives with regards to the concept and delineation criteria of BZ are important and may reduce the conflict of interest between livelihood of the people and conservation objectives of the CR. This paper describes the pilot findings of in-depth interviews with the key stakeholders of two important CR in Malaysia. The findings shows that they understand the concept of BZ differently and there are disputes and agreements on delineation criteria and factors affecting the criteria.

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Keywords: Conservation reserve; buffer zone delineation; Malaysia

1. Introduction

An important issue when delineating the BZ is to reach the agreement between the stakeholders to ensure the delineation area contributes significant advantages to all stakeholders. Consequently, the social-economic settings and relationships are among the ability of contracting stakeholders to sustain their obligations in BZ development. In particular, stakeholders should be considered as valuable source

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and although it is always a challenge in finding a balance between them, and more general priorities, the outcome of any conciliation is more likely to have positive results if the approaches adapt to the local context (Sheil, Nasi, & Johnson, 2004). Stakeholders' consensus is required to determine the necessary decision (e.g., managers, adjacent communities, legal enforcement agencies).

In general, broad participation becomes a norm in good practice. Nonetheless, it is effective only if they involve in the planning process and the outcome of the process favor all parties (Suškevičs, Tillemann, & Külvik). A reasonable initial point is to simply improve the integration of local stakeholders and their needs into the planning process of determining the criteria. These decisions may be due to economic considerations of the existing and future changes of the land uses. As decisions are made, stakeholders should be aware of the potential changes in desired buffer functions that occur and the potential compromise of long-term values. In most cases, a buffer width can be determined which will meet landowner needs while also providing an adequate function of BZs (Liu et al., 2010). In actuality, many BZs constitute a geographical expansion of the state authority beyond the boundaries of the CA and into the communities and economic entities (man's land) in which the establishment of it resulted in 'new forms of state intervention and restrictions on land use activities' (Stræde & Treue, 2006). Sadly to say, this approach might be unwise without recognizing the ideal mutual support between local communities or surrounding stakeholders and the conservation purposes.

2. Literature review

As agreed by many parties, CR is important for biodiversity; flora and fauna that contribute to a wide range of benefits, from local to global (Klar et al., 2012). CR is also vital for carbon off-set; current mitigation to overcome the climate change phenomena (Liu, Ouyang, & Miao, 2010; Strohbach, Arnold, & Haase, 2012). One important thing is to establish criteria preferably multiple criteria, including spatial design and socio-political criteria to be used for demarcation of the boundary of the Buffer Zone (Gilmour & Nguyen, 1999; Moffett, Dyer, & Sarkar, 2006). Since the surrounding areas, so called potential BZs, belong to various stakeholders (someone who can affect, or can be effected by others' decisions), their input to share ideas, solutions, threats and opportunities is important to reflect the collective responses to human-nature interface problems (Rastogi, Badola, Hussain, & Hickey, 2010).

2.1. Concept and criteria

BZs are supposed to serve the dual purpose of 'extension buffering', or an extension of core habitat areas, and 'socio buffering' to provide goods and services to humans (Jotikapukkana, 2010). There is no definition for 'appropriateness' of criteria used, but they should be explicit and quantifiable (Bibby, 1998). Previous studies have considered various factors in establishing the criteria for the delineation of BZs (Borgström, Cousins, & Lindborg, 2012; Datta, Guha, & Chattopadhyay, 2010; DeFries et al., 2010; Khoi & Murayama, 2010; Martino, 2001; Semlitsch & Jensen, 2001; Wild & Mutebi, 1997), but there is no set of criteria which covers all the said factors – 'suitable criteria'. Among considered factors are:

- Social factors - Traditional use of land, harvesting of non-timber forest product (NTFP), agricultural activities, man-made structure etc.
- Economic factors – Agriculture, aquaculture, timber, mining etc.
- Environmental factors which include:
- Biophysical factors – Topography, soil, hydrology, road network, boundary, size, elevation, slope etc.

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