

Traditional and Local Ecological Knowledge for Land Use Mapping

Norizawati Mohd Ayob^{1,a}, Norhasimah Ismail^{1,b} and Tarmiji Masron^{1,c}

¹ School of Humanities, Universiti Sains Malaysia, 11800, Penang, Malaysia

^anorizawatiayob@gmail.com, ^bshima860720@yahoo.com, ^cmmiji@usm.my,

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Abstract. Land use changes are a key driver in global environmental changes and had a significant impact on the climate at all scales. Various human activities that took place thousands of years ago have an impact on the earth's surface. Today, with the limited supply and high demand, land use crisis became a big issue for the most countries. Changes in land use are not actually only providing a history of the area, but it also describes the way of life of its local communities. In the interdisciplinary research for land use study, cultural values, knowledge and perceptions of knowledge has been recognized as a major factor in determining the adopted approach applied in land use management in that area. Therefore, this paper tries to evaluate the role and potential of the integration of TLEK and GIS in mapping the series of changes in land use.

Introduction

Local Knowledge (LK) is a common term used in Malaysia to refer the informal knowledge system which created from intimated relation between people and their natural surroundings. Generally, local knowledge not just confined to tribal groups or the original inhabitants of the area or rural people because all communities possess their own local knowledge. There are several terms used to refer this kind of knowledge included indigenous knowledge, people's knowledge, traditional wisdom, or traditional sciences [1]. But, the local knowledge term seems least biased in term of its content and origin because it embraces a larger body of knowledge systems includes those are classified as traditional and indigenous [2]. Since the 1970's, there are growing body of literature has emphasized the importance of incorporating local knowledge an practice, especially in the development and conservation projects [3]. Nowadays, the blended research between local knowledge and scientific research about natural resources and ecological become the most attractive topic among the expertises and academicians. There are various topics of LK was discovered by the researchers and among of that is a Traditional and Local Ecological Knowledge (TLEK).

Land degradation and increasing of people living in poverty are among the symptoms of the current pressure on land resources. However, the way how the world's response to these two challenges has been less than successful because of the lack of an integrated planning framework for land due of poor management strategies, failure to identify stakeholders and involve and empower them in the planning and management process and weak institutional structures. This issue clearly recognized during the United Nations Conference on Environment and Development (UNCED) in 1992 in Rio de Janeiro, which called for an integrated approach to planning and management of land resources [4]. Our understanding of the global patterns of land use intensity is weak, partly because land use intensity is complex, multidimensional term, and its result from the lack datasets to assess land use intensity [5].

Traditional and Local Ecological Knowledge (TLEK)

Traditional and Local Ecological Knowledge (TLEK) can be defined as knowledge of local people about the natural resources and ecological system in their living vicinity area. TLEK also known in other term such as Traditional Ecological Knowledge (TEK), Local Ecological Knowledge (LEK) and Indigenous Ecological Knowledge (IEK). Even though, the usage term may differ from one researcher to another and it depends on who are you asking because its influence by their