

## Documents

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**Sustaining subak, the balinese traditional ecological knowledge in the contemporary context of Bali**  
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**Abstract**

Subak is a local organization that formalizes the Balinese traditional ecological knowledge and wisdom in managing and distributing water for agricultural purposes. This organization combines cosmology, spirituality, science, ecology, and engineering dimensions of knowledge. As the current development of Bali Island as one of the international tourist destinations has changed its landscape which involves various factors such as physical, social, and cultural. Hence, to what extent the traditional ecological knowledge (TEK) practice can be sustained in the current context and development setting become our focus of study. This paper has three objectives. The first is to collate/document the various perspectives of TEK from sustainable agriculture practices, ecological principles, water irrigation systems, and spiritual practices and values as part of the learning document. The second is to analyze the interdependence of the human and environmental systems in the context of the socio-ecological system framework for Subak TEK and its cultural sustainability. Third, to outline the potential effort to sustain Subak TEK by strengthening its adaptive capacity in the broader context of learning to strengthening the community based tourism planning. This study deploy the socio-ecological system, SES framework as the underlying theory and analysis and explore diverse initiatives to sustain Subak in the future. The study was conducted in conjunction with a sustainability leadership program which deployed an inter- and transdisciplinary approach of sustainability science that focuses on Subak as its case. Situational and content analysis from the workshop discussion notes is used to provide examples that describe diverse initiatives in tourism, agriculture, and education. The study found out that the SES framework of analysis in Subak TEK documented several core ritual activities, the interpretation of THK philosophy and its local wisdom and values which represent the interaction the social and natural system. Hence, demonstrate as a living monument with strong human institutions and nature interaction. Further, the Subak TEK has substantial community capital values that need to be strengthened by integration in the formal and non-formal education, the enhancement of the Tri Hita Karana (THK) awards and accreditation for tourism operators and hotels in the broader context of education for sustainable development framework as well as community-based tourism development planning. This initiative need to be supported by a community-based tourism by involving Pekaseh and youngsters in the current context of Bali community-based tourism. © Published under licence by IOP Publishing Ltd.

**Author Keywords**

Ecological; education; planning; sustainability; tourism

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