

Perceptions of Traditional Ecological Knowledge (TEK) in Sustainability Education in Papua New Guinea



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Overview

- PNG occupies 1% of world's land area, high concentration of ecosystems & landscapes
- Supports 5% of animal & plant species, and over 80% rural population.
- Rural livelihoods threatened by pursuit of unsustainable economic development activities e.g. logging, mining
- Incorporation of TEK values/principles encourage sustainable practices



Background

- TEK: strategy for sustainable natural resource management (NRM).
- Quantity & type of natural resources used depend on users e.g. rural dwellers use more (Tiu, 2007)
- Rural communities extract natural resources using TEK approaches & techniques i.e. potential for sustainable NRM (Berkes, 1999, 2008; Houde, 2007; Usher, 2000).
- TEK: *accumulated indigenous knowledge, beliefs and practices about relationships between humans, other living things and their environment passed on through generations by various means* (Berkes, 2008, p. 7)

Background

- Theoretical assumptions: critical theory
 - ❖ power relationships (Freire, 1996)
 - ❖ enlightenment & emancipation (Geuss, 1991; Kemmis, 2006)
- Qualitative research
 - ❖ capture data on perceptions, interactions and surroundings.
 - ❖ gain holistic understanding of context through examining, experiencing and enquiring (Miles & Huberman, 1994)

Research Questions

1. What is the relationship between TEK and sustainability?
2. What are the stakeholders' perceptions of this relationship and how can these perceptions inform the development of a policy framework for sustainability in PNG?
3. How can policy framework for sustainability be translated into education policies to inform practice in PNG?

Research Design & Methodology

- **Study site:** coastal and highlands communities in PNG
- **Sample:** total of 24 participants from key stakeholders including communities, educators, practitioners, policy makers, and corporations/industries.
- **Methods used:** semi structured interviews (individual & focus groups), storytelling, observations and questionnaires.



Perceptions of TEK values

1. **People's understanding of TEK**
 - survival and continuity of natural resources to support subsistence livelihoods. TEK is:
 - ❖ *environmental, active, living, and progressive knowledge*
 - ❖ *also people's knowledge, practical knowledge, and sustainable knowledge.*
 - control of resource use and availability, based on sustainable knowledge & influenced by environmentally friendly techniques.

2. Application of TEK values in NRM

- clan based rotational harvesting (forest)
 - ❖ strengthens social relationships
- temporary bans or open/close seasons (coastal)
- awareness of resources as essential for survival & responsibility to ensure continuity.
- use of traditional practices/tools.
 - ❖ respect, responsibility and relationships
- collaboration and participation.
 - ❖ based on social relationships

3. Interdependence

- TEK provides fundamental knowledge about interdependence & influences resource abundance
- users of TEK develop sound knowledge of forests & seas, reinforcing interrelationships between humans, other species & environment.
- TEK practiced to understand the way living and nonliving things interact in the wild.
- knowledge of species & ecosystems relationships reinforced through concepts of connectedness, interactions and interrelationships e.g. *"the last decision on resource development should be made by the resource/ land owner. This is his customary land and his belly button is buried on this land"* (COM2).
- TEK acknowledges that finite nature of planet earth demands sustainable use of resources. (*unspoken understanding*)

Discussions

- TEK provides its users with a deeper understanding of interdependence.
- TEK recognises interrelationships between different components of the environment
- TEK encourages responsible action to protect these.
- Big corporate companies make decisions about critical resources so people who need these resources are completely disenfranchised from all these with their decision making ability being divorced.
- Power of making decisions to destroy or manage these relationships is with the people. In natural resource development, this aspect is overlooked and needs to be revisited to ensure equal participation.

Summary

- TEK is about survival & continuity of resources
- TEK is a strategy for NRM.
- TEK values on respect, responsibility & relationships to be incorporated into various sustainability policies
- TEK encourages collaboration among all stakeholders



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