

Applying indigenous knowledge in forest resource management in the central highland Viet Nam

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Abstract: Nowadays, most of the mountainous provinces and central highland of Viet Nam's forests area are decreasing in quality as well as quantity seriously. Consequence, the problem of environmental pollution is becoming more and more serious in Viet Nam such as soil erosion, climate changes, land slide, flood and drought, air pollution, water pollution, etc. Controversial issues of forest degradation are being mentioned in the world agendas and hot news. One of the reasons is that the forest area is decreasing in quantity and quality significantly. The area of exploited forest is far greater than the actual planted forest area. In rural areas, indigenous knowledge plays an important role in the protection of forests and wildlife, but the rapid developments occurring in the society and economy impose several challenges to the continued role of indigenous knowledge. Local knowledge of the Central Highlands ethnic minorities play a very important role in all aspects of community life in which there is a intimate attachment with the forest culture space and forest land. So, upholding the values of local knowledge in forest protection is an important factor promoting the rapid and sustainable development of this area. Come from that practical meaning, we carried out the study "Applying indigenous knowledge in forest resource management in the central highland Viet Nam" with the aims of increasing income for people who are living near the forest and contributing to hunger eradication, poverty reduction, job creation, protecting forest resources and others as well.

Keywords: Forestry eco-agricultural system, forestry village, sustainable development for the Central Highlands.

1. Introduction

"The nature of indigenous and post-colonial 'traditional' rural Africa, and the constraints or challenges this poses to the current maintenance and practical use of TEK, including the future transmission among indigenous Africans and development planners alike are examined. Main traditional livelihoods and land-use practices which sustainably exploit the ecosystem include sedentary and shifting agriculture, nomadic pastoralism, hunting, fishing, food gathering, rain forest use and limited agroforestry for food materials and medicines, etc.^[1]

In the mindset of ethnic minority communities in Vietnam, Northeastern region, Northwestern regions and Truong Son-Central Highlands also mention to a forest-related & cultural ecosystem. Especially, both living space and social space of the ethnic minorities in Truong Son - Central Highlands are deeply forest-related. Researchers often call it "mountainous culture", "highland culture" or "upland culture".

Similar to many other ethnic minority groups in the North East and North West, those in Central Highland have long "eaten" the forest, have their livelihood based on forest, and shelter in wild highlands without any previous human footprints. They believe that deep forests, high mountains, and watershed forests are sacred, where gods situate in and therefore needed to be strictly protected.^[3]

Research content

2. Concept of IK

Indigenous knowledge refers to understandings, skills, and philosophies developed by local communities with long histories and experiences of interaction with their natural surroundings according to the UNESCO's programme on Local and Indigenous Knowledge Systems (LINKS) (Hiwasaki et al., 2014a).

According to the World Intellectual Property Organization - WIPO (2012), indigenous knowledge or traditional knowledge is knowledge including know-how, skills and practices that are developed,

sustained and passed on from generation to generation within a local or indigenous community. Indigenous knowledge (IK) is, broadly speaking, the knowledge used by local people to make a living in a particular environment (Warren, 1991). Terms used in the field of sustainable development to designate this concept include indigenous technical knowledge, traditional environmental knowledge, rural knowledge, local knowledge and farmer's or pastoralist's knowledge. Indigenous knowledge can be defined as a body of knowledge built up by a group of people through generations of living in close contact with nature (Johnson, 1992).

Local knowledge and the value of local knowledge in forest protection

Local knowledge has been making an important contribution in solving local and ethnic issues. This knowledge is considered creative products, initiatives and selected, handed down from generation to generation. Local knowledge of local ethnic minority people in the Central Highlands is very diverse such as social management, community, animal husbandry, curing for cattle, agricultural production and afforestation... associated with cultural space of mountains and forests in the Central Highlands. In each ethnic group in Viet Nam's the Central Highlands area, although there are different forms of customary laws, customs and regulations... but those knowledge are all sacred to protect green forests, protecting the pristine features of forests, biodiversity and ecological balance of mountains and forests. For example, the Ede ethnic people in the past have conceived that while the forest trees still have water wharves, the wharf is still in the village. Everyone in the village has to all keep the forest trees because they are the life source for the village. The customary law of the Ede people stipulates: Prohibit burning fire indiscriminately in the forest, anyone who causes forest fires will be severely punished; building houses is not allowed to cut big trees; entering the forest is not allowed to cut straight trees; chopping big trees must leave seedlings, do not cut down the sprouting trees, chopping one tree must plant seven trees, not clearing of trees for cultivation in areas with old forests and forests with big trees... H'rê ethnic group stipulates: do not to cut trees in areas where many dead trees, do not take plants that have vines; not be slash and burn, no grazing cattle upstream, and at the watershed of the village. Water taken from the vein source in the forbidden forest to be believed by the compatriots that will

help the rice better. Each member of the community are all self-conscious, respect and not violate into taboos, such as sacred forest zone, sacred water sources, sacred plants, sacred animals ... Customary laws of the Ma ethnic group prohibit all members of the village to damage sacred forest zones in any form, especially not cutting trees for timber, hunting, gathering, grazing cattle in sacred forests... The survey results of the research team show that: Currently, many localities in the Central Highlands have been harmoniously combining in intercropping many forestry trees and agricultural trees on a land area. It has been effective in maintaining vegetation, creating new landscapes and increasing soil fertility, limiting weeds, increasing water permeability and water retention, reducing erosion and surface leaching, limiting floods in the rainy season and maintaining water for the dry season, limiting forest fires, contributing to make sustainable ecological environment, limiting pests and diseases in plants

What is the role of indigenous knowledge in natural resource management

Indigenous knowledge (IK) is used at the local level by communities as the basis for decisions pertaining to food security, human and animal health, education, natural resources management, and other vital activities.

Most of the Earth's biodiversity is located in the territories of Indigenous Peoples - around half a billion people who collectively manage about a quarter of the world's land. Policymakers can no longer ignore the vast body of evidence showing that the traditional knowledge and rights of Indigenous Peoples and local communities are critical for addressing the crisis of biodiversity loss.

Recent research with Indigenous Peoples in Peru, Kenya, India and China shows that Indigenous values and worldviews promote balance with nature and social equity. Strengthening Indigenous knowledge and values can lead to effective, locally owned, equitable and cost-effective conservation outcomes and contribute to global development goals. However, Indigenous knowledge and values face multiple threats. In advance of the Convention on Biodiversity (CBD) COP15 in China, policymakers must fully integrate Indigenous knowledge and values across the new Global Biodiversity Framework (GBF)^[5].

2.2 *What is Indigenous knowledge system in*

Environmental management

Indigenous knowledge is generated by a particular society within a geographical area and transmitted from one generation to another so as to have history of an area or phenomenon, understand the background and offer solutions to the existing problems of that time.^[2]

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People often ask or wonder how intergartion of indigenous knowledge can contribute climate change mitigation? And how does indigenous knowledge help in environment conversation and protection.

By maintaining the balance of natural processes and promoting biodiversity, indigenous land management practices can help sequester carbon, reduce greenhouse gas emissions, and enhance the capacity of ecosystems to withstand the impacts of climate change.

"Indigenous peoples' traditional knowledge has informed how to practically ensure the balance of the environment in which they live so it may continue to provide essential services: such as water, fertile soil, food, shelter, medicines – to all life forms," says Drissi.

Stories, dances, songs, and ceremonies are important sources of knowledge in Indigenous cultures. It is important to keep in mind that resources may be non-textual in nature. For example, attending a ceremony or community event could be a learning resource as well.

One major conclusion is that the indigenous knowledge of local communities plays an important part in disaster risk reduction activities. The study also found that communities possess valuable capacities in the form of indigenous knowledge, which can empower them to deal with all kinds of hazards and disasters. The respect of traditional knowledge is generally recognized in development policies, the media and scientific literature. Traditional healers and medication made from plants play a vital role in the health of many people in Sudan and other African countries. Quite a lot of plant species have become vanished and some are in danger of extinction due to disorganized. Another opinion is also referred to

wars. reclamation, economic development policies, consequences of migration and other reasons have significantly destroyed the forestry ecocultural system in Central Highlands, Vietnam. Ecological environment has been ruined rapidly while cultural spaces have also been seriously damaged.

The Government's most recent policy on ethnic minorities, released in 2016, is the "Decision on Typical Support Policies for Socio-economic Development of Ethnic Minorities and Mountainous Areas 2017-2020". In addition, a series of National Target Programs for Poverty Reduction have been implemented, in which ethnic minorities are the main beneficiary group. Recently, the NTP on New Rural Development also addresses the ethnic minorities in remote mountainous areas. The overall objective of these policies is to foster sustainable poverty reduction and narrow the gaps between ethnic regions and other regions of the country while protecting and preserving ethnic cultures and customs.^[2]

Committee for Ethnic minorities affairs should perform state management functions for ethnic minorities and mountainous areas.

Department of education for Ethnic minorities should perform state management on education for ethnic minorities so as to have awareness of the importance of forest resources

3. Conclusions

In short, there are many ways for everyone to protect forest resources. We hope that the paper will be useful for minority community in perceiving the important forest resources. Through this article, the writer wants to send the message that forests are extremely valuable assets of the country if we know how to properly protect and exploit them so as to have a good canopy cover.

We also hope that through this article, we will partly contribute to forest protection, and at the same time, people living near the forest will have more income without having a negative impact on the resources outside the forest (Non-timber forest product - NTFP) after applying indigenous

knowledge in forest resource management in the central highland Viet Nam.

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