

Indigenous Knowledge in Relation to Adapt To Climate Change: Opportunities and Challenges for Sustainable Development in Mekong Delta, Vietnam

Pham Xuan Phu^{1*} and Ngo Thuy Bao Tran²

¹Department of Rural Development and Natural Resources Management, Faculty of Agriculture and Natural Resources, An Giang University, a member of Ho Chi Minh City National University, Vietnam

²Department of Animal Husbandry and Veterinary, An Giang University, a member of Ho Chi Minh City National University, Vietnam

***Corresponding Author:** Pham Xuan Phu, Department of Rural Development and Natural Resources Management, Faculty of Agriculture and Natural Resources, An Giang University, a member of Ho Chi Minh City National University, Vietnam.

Received: September 20, 2021; **Published:** October 01, 2021

Abstract

Indigenous knowledge is considered as one of the most effective strategies in response to climate change issues for planning and policy at both local and national levels in Mekong Delta, Vietnam. Community based adaptation is able to reduce the vulnerability as well as improve the resilience of the local people to climatic variability and change. This research was carried out to explore the role and contribution of opportunities and challenges farmer's experiences using indigenous knowledge to adapt to floods in sustainable development in Mekong Delta, Vietnam.

Keywords: Climate change; Indigenous knowledge; Flood; Adaptation

Introduction

In An Giang province, local people influenced by the annual floods, especially the downstream of the Mekong River Basin, has been severely impacted by upstream disturbance due to presence of upstream reservoirs (Phu and Tran, 2014; UNDP, 2016; Thong and Helen, 2017). Some of *indigenous knowledge has successes in adapting climate change* (Warren, 1991; Joel Nelly 2017; Dube, 2018; Judith Ehlert 2010; Phu and Tran, 2018). However, there are no studies to refer to carry out *opportunities and challenges farmer's experiences using indigenous knowledge to adapt to floods in sustainable development in Mekong Delta, Vietnam: A case study in An Giang province*. Therefore, this study is necessary to be researched to propose effective and appropriate policies in order to reduce vulnerability in the context of climate change.

Research Objectives

The main purpose of the study is that to get a deep understanding about how climate change influenced the local people and the roles of indigenous knowledge in terms of building solutions to adapt with climate change effects.

The research will focus on the specific objectives below:

- To understand the influence of climate change the suitability of opportunities and challenges farmer's experiences indigenous knowledge and the ability of farmers to adapt to floods in different conditions.
- To understand the roles of indigenous knowledge which have been used to adapt with climate change effects.

Research Questions

- What is opportunities and challenges farmer's experiences indigenous knowledge in applying to floods of different zone?

- What are proposing solutions to conserve and enhance the livelihood strategies of flood affected people are using indigenous knowledge both effective and sustainable?

Research Methods

To achieve objectives provided, the studies were analyzed and evaluate the status of indigenous knowledge of farmers to adapt to floods in different conditions from different information sources. Both the quantitative and qualitative methods were carried out for survey such as: (i) Literature review, (ii) PRA(Participatory Rural Appraisal);(iii) In - depth interview; (iv) Questionnaires [1-3].

Results and Discussion

Opportunities of farmer's experience using indigenous knowledge to adapt to climate change in sustainable development in An Giang province, Mekong Delta, Vietnam

Indigenous knowledge of local people has been developed over time. Indigenous knowledge of local people collected from lesson experience through folk songs, proverbs, good practice farming patters in order to reduce the vulnerability due to floods, to enhance adaptive capacity by promoting livelihood strategies for adapting to climate change [4, 5].

Many generations have lived and cultivated on the same place, so they have learned a lot of knowledge coming from practice and their own knowledge has been passed generation to expand within the community. Based on their knowledge, they know well how to exploit the natural resources in the suitable ways and also to know how manage with change of climate change.

Indigenous knowledge contributed to reduce the vulnerability local government and the scientific baseline in disaster management.

Challenges farmer's experience using indigenous knowledge to adapt to climate change in sustainable development in An Giang province, Mekong Delta, Vietnam

The impact of climate change is complicated and irregular; it is no longer according to the natural laws. Therefore, local people cannot predict the complicated evolution of climate change to adapt effectively as before so that local people is high vulnerability [6].

It is needed to improve knowledge and encourage people to focus on combining indigenous knowledge with scientific knowledge in order to devise adaptation solutions that address newly occurring climate concerns.

Implication for Research and Policy

It is needed to recognize and preserve the remaining traditional knowledge to accurately predict and adapt to floods more efficiently and sustainably, [7] as well as facilitate the exchange and sharing of experiences between the people in the same and other localities.

In order to develop local knowledge effectively and sustainably in the future, community knowledge should be strengthened and combined with technological advances to help farmers adapt to environmental changes [8, 9].

Indigenous knowledge should be documented and learned and shared among local people to predict and adapt to flood changes and extreme weather events.

Indigenous knowledge should be integrated into farmer service system and technical transfer such as providing suitable seed varieties for local conditions.

Conclusion

Indigenous knowledge of local people has been accumulated over time. It is drawn from lesson experience through folk songs, proverbs, good practice farming patters. Indigenous knowledge of local people has been developed and adapted to climate change basing

on natural characteristics, environmental directive, sky features in order to reduce the vulnerability due to climate change. Indigenous knowledge of local people has helped them to plan their activities in their life more successfully.

References

1. Dube E and Munsaka E. "The contribution of indigenous knowledge to disaster risk reduction activities in Zimbabwe: A big call to practitioners". *Journal of disaster risk studies, water resources and rural development* 10.1 (2018): 498.
2. Joel F Audefroy and B Nelly Cabrera Sa´nchez. "Integrating local knowledge for climate change adaptation in Yucata´n, Mexico". *International Journal of Sustainable Built Environment* 6.1 (2017): 228-237.
3. Judith Ehlert. "Living with flood local knowledge in the Mekong Delta, Vietnam". PhD thesis. The University of Bonn (2010).
4. Phu PX and Tran NTB. "Climate change impact on the vulnerability of livelihood in Lower Mekong Basin". *Asia-Pacific Journal of Rural Development* 26.1 (2014): 31-36.
5. Phu PX and Tran NTB. Contribution of indigenous knowledge to adapt to floods in Mekong Delta, Vietnam (Case study in An Phu, Chau Thanh, Tri Ton districts, An Giang province). *International Journal of Latest Engineering and Management Research (IJLEMR)* 3.11 (2018): 18-31.
6. Thong T and Helen James. "Transformation of household livelihoods in adapting to the impacts of flood control schemes in the Vietnamese Mekong Delta". *Water resources and rural development* 9 (2017): 67-80.
7. UNDP. "Viet Nam drought and saltwater intrusion: Transitioning from emergency to recovery and analysis report and policy implications". (2016): 1-17.
8. Warren DM. "Using Indigenous Knowledge in Agricultural Development". *World Bank Discussion* (1991): 127.
9. The World Bank. Read from Work bank report, Indigenous knowledge for development, Knowledge and Learning Center, Africa Region (1998).

Volume 1 Issue 2 October 2021

© All rights are reserved by Pham Xuan Phu., et al.