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研究課題名(和文) フィジーの村落における自然災害対応と伝統的知識に関する研究

研究課題名(英文) Building Disaster Resilience with Indigenous Knowledge

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研究成果の概要(和文)：フィジー諸島共和国において、頻発する自然災害外は、農業や漁業などの生業や住居に被害をもたらす、村落の人々にとって生活や生計の維持を阻む脅威となっている。本研究では、村落を対象とし、地域の資源を用いたレジリエンスの向上のため、伝統的な災害対応の知識や技術を再確認するとともに、その活用可能性を検証することを目的とした。特に、災害に対して被害の大きい住居について、現地資源による自立的な住居再建への転換への必要性が明らかになり、伝統建築再建プロジェクトを通じて、村落内にて、自然資源、労働力、知識や技術が潜在し、その活用可能性が明らかとなった。

研究成果の概要(英文)：Fiji is widely recognized to be vulnerable to natural disasters due to its location and characteristics. In the light of resilience, indigenous knowledge that has been generated and accumulated over years in adapting to the local environment has the potential to enhance the capacity of the local people to cope with natural disasters. This paper explores the potential use of traditional housing as an alternative in rural Fiji where housing reconstruction depends heavily on the external assistance. Field study was carried out to understand current conditions and the potential of traditional housing construction in the modern context.

研究分野：地域研究

科研費の分科・細目：2601

キーワード：フィジー サイクロン 自然災害 伝統建築 伝統知識 自立的再建

1 . 研究開始当初の背景

Pacific islands are widely recognized to be vulnerable to natural hazards due to its location and characteristics as small island states. Despite this, the communities have survived the recurrent natural hazards and have accumulated the extensive knowledge and experience to cope with them. Although the benefits of indigenous knowledge within disaster risk reduction are begun to be recognized, only a few researches is available.

This paper takes up the issue of housings which are frequently damaged or destroyed by the seasonal cyclones and understand the indigenous knowledge associated with them in rural Fiji in a holistic way.

2 . 研究の目的

Fiji as a Pacific island is widely recognized to be vulnerable to natural hazards due to their location and characteristics as small island states. In addition to the frequent exposure to the meteorological and geological hazards, they are likely to be affected by the impact of climate change [1]. Their smallness and geographical isolation as the special disadvantages of Small Island states contribute to their vulnerabilities to the natural hazards. Moreover, contemporary global changes and local dynamic pressures plays are key role in shaping the local vulnerability [2]. Over the past ten years, some researchers and practitioners have shifted their focus more on the capacity of affected communities; what they can do for themselves with little or no external assistance. For over the hundreds of years, the Pacific communities had survived the recurrent natural hazards prior to the European contact by their own and their accumulated the extensive knowledge and experience have sharpen their lifestyle to cope with the natural hazards. In a recent study, Mercer emphasizes on the potential of the indigenous knowledge for the disaster risk reduction in the small island states [6].

The Republic of Fiji (Fiji) is one of the Melanesian countries located in the South Pacific (Fig. 1). It is prone to various natural hazards including cyclones which are considered as the most hazardous kinds in terms of the frequency and the

damage. The cyclones cause extensive damage especially on housing; and the provision of temporary housings and the support of reconstruction are the major challenge especially in rural villages due to the limited access. In order for affected people to restore their living environment, it needs to explore the alternative solutions that do not depend on the external assistance.

This paper begins with a review of the cyclone impacts on housing and identifies the needs for a locally based alternative solution. This leads to the assumption that adaptation of Fijian traditional housing can be one solution. Then the potentials of Fijian traditional housing construction are examined based on the field studies. Finally, this paper discusses the future direction to promote the Fijian traditional housings to enhance the capacity of people to cope with cyclones.

3 . 研究の方法

2.1 Focus on the local capacity

In the light of failure of development after the World War II, the researchers and practitioners have recognized insufficiency of externally introduced initiatives mainly with technological fixes and begun to emphasize on a participatory and decentralized development. There is a need not only to learn from the local people and respect their realities and priorities [7] but also to facilitate the internal originated development by highlighting their capacity. In the course of change in perspectives on development, a number of literatures pays attention to indigenous knowledge, highly detailed and complex information on the local environment, and advocates its applicability especially in the marginal environments [8].

2.2 Nature of indigenous knowledge

Although there is no single definition of indigenous knowledge, relevant literatures indicate several interrelated aspects which characterize the nature of indigenous knowledge. The indigenous (traditional) knowledge is the body of knowledge that is essential for the survival of the local people and is developed to respond to everyday demands of life, adapt to the biophysical environment and to achieve the sustainable livelihood in the physical, economical, and environmental constrains.

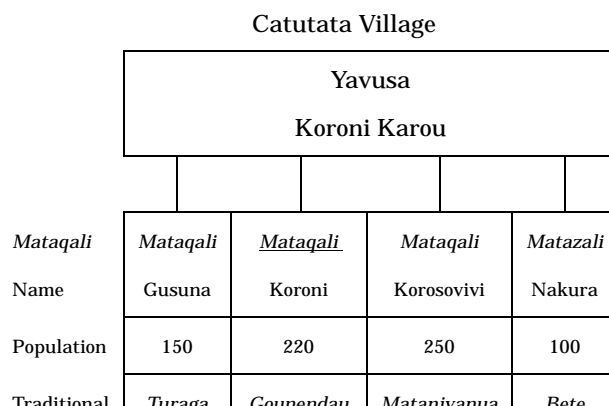
Indigenous knowledge is holistic and much complex: generated by local people to adapt to their environment, unique in a given society and context-dependent, dynamic and influenced by internal and external factors, and stored and transferred in traditional way. As the local people use a particular piece of knowledge only when it makes economic and socio-cultural sense to them, it is characterized as pragmatic and utilitarian. Indigenous knowledge reflects the complexity of reality and therefore should be considered to have a potential to provide local solutions.

4 . 研究成果

6.4.1 Knowledge and skill holders

Like other indigenous knowledge, knowledge and skills associated with the Fijian traditional housings are hardly documented, stored in the memories and activities and transferred through oral communication and practical experience. According to the interview, he obtained his knowledge and skills through experience when he used to assist his father who constructed a number of Fijian traditional housings for his village people in Cautata at a young age (S. Tawake,

personal communication, August 11, 2011).



Navala is one place where the people claim that both young and old have the knowledge and skills. Because all the people still live in the Fijian traditional housings in Navala, they carry out the construct on a regular basis and have passed down the knowledge and skills to the younger generations. There are one or a few people who have knowledge and skills still found in each village in present day. However, unlike Navala, they are relatively old. The master carpenter from Cautata who have the only person with knowledge and skills of Fijian traditional housing construction is at age of fifty five. It is probably similar in any other villages where the Fijian traditional housing construction is no longer carried out. The fact that only elderlies hold the knowledge and skills suggests that sooner or later they will be disappear from the villages.

6.4.2 Collective Work

As mentioned in the previous section, the material collection and the construction by hand required time, physically demanding works, and collaborative efforts. The recent construction of the Fijian traditional housings in the villages showed that they were still the result of collective work of the village. The construction process begin with a person or people who wish to construct a new one or to re-thatch the roof conveying the request to the chief who is in charge of organizing village meetings to discuss whether the construction is necessary. Once the village people agree, they decide who involve and what tasks each has as their communal work.

Beside the Fijian traditional housing construction, the communal work is widely practiced in the villages in the present

day. Each village has their own plan of communal work managed by turaga-ni-koro (village leader) to maintain and improve the living conditions of the village. All the members who stay in the village are obligated to participate in the regular communal work mostly held weekly or bi-weekly. In addition, there are numbers of community organizations such as youth group, women's group, church committee, or school committee that the people take a part in for the particular purpose in each village. The heavy involvement in preparation and participation in the ceremonies like funerals and weddings are also common. It suggests that the respect to communal demands still continue to be excised among village communities.

6.4.3 Natural Resources

The materials used for the Fijian traditional housings are obtained in and nearby villages. The people claim that natural resources necessary for the Fijian traditional housing are still available. The carpenters and fellow members have an extensive knowledge in their land and know exactly which plants are found in where. In addition to their agriculture and fishing based lifestyle in the village, it may be supported by their close relationship with their land.

In Fiji, about 83 percent of the land belongs to indigenous Fijians and each piece of land is registered to mataqali (clan) with a few exceptions where it is owned by other social unit such as yavusa (tribe). When an indigenous Fijian is born, the baby is registered to the Native Land Register as a member of his or her father's mataqali which means that he or she has entitle to the land as well as the responsibility on how to use the land and associated natural resources such as plants, animals and water.

Their idea of land can be explained by the concept of vanua which deeply embedded in the indigenous Fijian culture. The term of vanua (literally referred as land) include not only the physical dimensions but also the social and cultural system such as practices, traditions, customs, beliefs, and values associated with the land for the sake of achieving harmony, solidary and prosperity of vanua.

6.4.4 Summary

Considering the current situation of the Fijian villages, the factors that

necessary for the Fijian traditional housing construction (a) at least one person who has knowledge and skills, (b) a group of people who are willing to provide workforce and (c) natural resources still exist in the most villages. It suggests that Fijian traditional housing can be constructed as an alternative means to restore their living environment in the affected areas if people wish to do so.

7. CONCLUSION

While the Fiji is a small island country located in an area prone to natural disasters, the people in the rural areas are suffered from the reoccurring cyclones. One of the significant damages that cyclones cause is the destruction of housings due to its structural vulnerability. The housing reconstruction depending on the external assistance holds back from the restoration of their living environment. It needs to highlight the capacity to restore their living environment by their own. This paper focus on whether the Fijian traditional building can become an alternative.

It confirms that the Fijian traditional housings are constructed locally as long as there is (a) at least one person who has knowledge and skills, (b) a group of people who are willing to provide workforce and (c) natural resources and suggests that these conditions still exist in the most villages. Therefore, it concludes that Fijian traditional housing has the potentials to become an alternative means to restore their living environment in the affected areas; and it should be recognized. In other words, having people with the knowledge and recognizing the potential by them will enhance their capacity to recover from the natural disasters.

One of the challenges recognized is the possible loss of knowledge in the near future as the opportunities for Fijian traditional housing construction in present days are limited. In addition to emphasizing the potentials for enhancing capacity to cope with cyclones, it needs to be promoted in the ways that provides the values and benefits for the people and communities in the modern context.

Fijian traditional housing as a product of indigenous (traditional) knowledge is also holistic and complex and unique in a given society and context-dependent, dynamic and influenced by internal and

external factors, and stored and transferred in traditional way. Considering such nature of Fijian traditional housing, it should be understood in the local context and promote 'in-situ preservation' [10] by letting the people to find the values in the natural, socio-cultural, and economical context.

5. 主な発表論文等

(研究代表者、研究分担者及び連携研究者には下線)

〔雑誌論文〕(計 件)

〔学会発表〕(計 件)

〔図書〕(計 件)

〔産業財産権〕

出願状況(計 件)

名称:

発明者:

権利者:

種類:

番号:

出願年月日:

国内外の別:

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名称:

発明者:

権利者:

種類:

番号:

取得年月日:

国内外の別:

〔その他〕

ホームページ等

6. 研究組織

(1)研究代表者

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研究者番号:

(2)研究分担者

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研究者番号:

(3)連携研究者

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研究者番号: