

Fisherwomen's traditional knowledge, skills and experiences contribute towards strengthening resilience in rural communities in Fiji

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Introduction

Fisherwomen have extensive knowledge about their ecosystems and resources and are skilled in traditional fishing practices that have been passed down to them for generations, and through their own field experiences (Kitolelei et al. 2022). At the same time, women play a vital role in harvesting fish and other aquatic resources to sustain the needs of their families and to supplement household incomes (Thomas et al. 2021).

Women, as custodians of traditional knowledge on fishing, disseminate their knowledge, skills and field experiences to the younger generations, instilling within them the knowledge and skills required to make them self-sufficient and resilient to the changing environment (Kitolelei et al. 2022; Begg et al. 2023). This helps to decrease people's consumption of processed foods and protect them from the risks of non-communicable diseases (Begg et al. 2023). However, the roles and contributions of women at the household, community and economic level are often undervalued.

This article provides valuable insights from two elderly women (aged between 70 and 75 years) who have been engaged in fishing for more than five decades. The lived experiences of these women and challenges they have faced shed light on the strategies that can be used to strengthen the resilience of communities to the impacts of climate change. The ideas from these women can also contribute to the holistic management of terrestrial and freshwater resources in the Fiji's Labasa River catchment, as well as the marine resources in Cakaulevu Reef, which hold significant value in the lives of rural communities (Ramsar 2018).

The two women come from the midstream section of the Labasa River catchment in the Naduna area, located in Macuata Province on Vanua Levu, Fiji's second largest island.



Catch of the day, including crabs and fish from Naduna River. © Shereen Shabina Begg

This article explores the views of two rural fisherwomen on how they have used their traditional knowledge, skills and experiences to strengthen their climate resilience

The quotes in this article are part of the storytelling technique used by the author to expand her post-doctoral research on assimilating the traditional knowledge of fisherwomen in nature-based solutions to promote sustainable livelihoods and resilience to the adverse impacts of climate change. To enable a mixed representation of ethnic views, an Indo-Fijian woman belonging to the Hindu religion and an *iTaukei* (Indigenous Fijian) belonging to the Christian faith, were selected. While the *iTaukei* woman is still involved in fishing, the Indo-Fijian woman stopped fishing six years ago due to physical health issues.

Roles and contributions of women

Both women shared a little about how the roles and contributions of women in the Naduna area have helped them to be resilient in the face of climate change. They revealed that women have been engaged in small-scale fishing over the years to provide a source of protein in the diets of their families. The two women further explained that women mostly engage in freshwater fisheries closer to their village or community due to their domestic responsibilities; this is in opposition to men who are often involved in inshore and offshore fisheries, particularly in deepwater coral reefs. Besides caring for family members, nurturing their children, and preparing food, women across diverse cultures have also assisted in generating income and satisfying the basic necessities of their family members, including access to health, nutrition, water, electricity and education.

Use of a barter system as a resilience strategy

The women described how the barter system was used in the olden days by *iTaukei* and Indo-Fijian women in the Naduna area. They explained that when women caught plenty of fish, they traded these with other women within their village or community in exchange for other food items. The *iTaukei* woman stated that *"sometimes we caught more fish than we needed for our food. So we exchanged the fish for other food items we did not have in our house like dalo [taro], cassava [tapioca], breadfruit, vegetables, fruits like mandarin, banana and pawpaw, and for sugar. We did not need money to go to the shop and buy these food items. In this way, our family members had a variety of things to eat in one meal rather than only eating fish in lolo"*.

The Indo-Fijian fisherwoman also shared her story on using the barter system to cope with the difficulties that she faced in the past.

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Fish caught and cleaned by iTaukei women for a village gathering. © Shereen Shabina Begg

I remember about fifty years ago, my husband was jailed for a term of two years. I had to take up the entire responsibility of my family and had seven mouths to feed. I had an old mother-in-law and six small children to look after. My husband was the sole breadwinner in the family but when he went to jail, I had to take his place. It was hard to catch fish and sell. So I used to trade the fish with my neighbours in exchange for food items such as sugar, oil, rice, flour, dalo, cassava, vegetables, fruits, breadfruit, etc. This technique helped me to feed my children and mother-in-law as I could not go out and do farming or earn money. Three of my children were attending school and I paid their fees by borrowing money from my family members. The other three children were only one, three and five years old at that time. So, I had to stay home and look after my children and sick mother-in-law. Although we did not have money, I was able to feed my children and keep them alive until my husband returned home. Thus, my fishing skills helped me to lessen the hardships we were facing.

Both women said that this barter system had faded over the years in their village and community. The iTaukei fisherwoman stated that “people started to find jobs or other sources of income and forms of trade to earn a living in order to meet their everyday needs of food, water, electricity, children’s education and health”. The Indo-Fijian woman further explained how the barter system re-emerged as a resilience strategy to help the iTaukei and Indo-Fijian women in the village and community in the Naduna area to meet the basic human needs of their families during the pandemic:

During COVID-19, many people had lost their jobs or worked fewer hours. They could not earn enough to meet the needs of their family members especially if there was only one person earning money for the whole family. To meet the needs of family members, both iTaukei and

Indo-Fijian women relied on fishing. But it was hard to sell fish due to the lack of customers and there was a need to buy other groceries for household needs so we decided to exchange fish in return for other food items within our community and village. Since there were restrictions on movement during the pandemic, the exchange system helped us to obtain the basic food items we needed to survive.

Challenges faced by the women

The two women described the challenges that they have faced over the past decades in sustaining the basic needs of their family members, affecting their ability to be resilient to the impacts of climate change. According to the iTaukei fisherwoman, “all women in the Naduna area, whether iTaukei or Indo-Fijians, have faced similar problems over the years related to changes in the size and amount of fish being caught”. She further explained changes in fish size and catch over the years:

I have been fishing in the Labasa River with my mother-in-law since the age of 16 when I got married and moved to the Naduna Village. We mostly catch fish to feed our family and to get some income out of it. However, we also fish for cultural and social reasons. It is one of our ways of socialising. Over the last sixty years, I have observed that the size of fish has reduced. Before, we used to catch big-sized fish which would be enough for our entire family’s meals. The amount of catch in the past was also enough for our village functions. Nowadays, we hardly find good sized fish. Even for village gatherings, men have to go and buy fish or other food items from the shops to collect enough food for the gatherings. In my village, no one is allowed to catch under-sized fish because we think of our future generations. When we use fishing nets to catch fish, all sizes of fish are caught. We try to let go of the small fish but if they die, we just eat them but we don’t sell them.

The population of fish, prawns, kai, crabs and crustaceans in the river have decreased over the years. We have to fish for longer hours or even days and nights to catch enough fish for our own consumption and to sell the remainder to obtain some income to meet our small family expenses. Before we could catch fish easily but it is becoming harder nowadays. Our children who are involved in fishing also complain that it is a tiring and difficult task.

Both women revealed that they have been facing severe impacts of climate change over the years, which has made their lives harder. The iTaukei woman mentioned that their root crops are destroyed by heavy rain and flooding events. As a result, they have to buy processed foods such as tin fish, noodles, and other goods, or rely on disaster relief from the government and non-governmental organisations. The Indo-Fijian woman also discussed the adverse impacts of climate change on her family:

Bad weather has increased over the years making it harder to go fishing. We have to rely on alternative livelihoods or food sources. During the occurrence of tropical cyclones or floods in the cyclone season (November–April), we are unable to go fishing. Flooding has been a major issue in our area for years. We face damages to our houses and properties and there is an increased risk of diseases such as diarrhoea, typhoid, dengue fever. We cannot go fishing when the weather is bad. As a result, we do not have enough food to feed our family members. We also lose our means of living. This affects our health and interrupts our children's schooling. These impacts have increased over the years. I am advising my grandchildren to study hard and find jobs. They can fish for their own interest and to eat fish but not rely on fishing for income.

Both women highlighted that unsustainable anthropogenic activities are occurring in the Naduna area and upstream,

including illegal logging activities, gravel extraction, unsustainable agricultural practices (particularly the use of fertilisers), unsustainable fishing practices, and improper disposal of solid and liquid wastes into the waterways. The women also mentioned that riverbank erosion is a major issue in the Naduna area. The iTaukei fisherwoman explained:

There are no conservation efforts in Naduna to protect our freshwater environment. People continue to farm on riverbanks. As a result of riverbank erosion, the river has become very shallow and the population of fish has decreased. In the olden days, kai, eels, prawns, crabs, crustaceans, shellfish and freshwater fish were found and caught in abundance in the river. But nowadays people use chemicals and poison (duva) to catch fish and prawns from streams. In this way, they are polluting and depleting our food sources, and also poisoning our food and us. The catch is less and the sizes of fish are very small. Since we have more mouths to feed, we resort to buying processed foods such as tin fish to meet our dietary requirements.

Conservation efforts to promote ecosystem and resource management

The two women emphasised the importance of conserving and restoring the habitats and resources in the Naduna area. This would ensure that the ecosystems and resources continue to provide food and income to satisfy the needs of their families in a changing climate. They suggested that they could use the traditional knowledge of women, men and elders in the village and community to derive nature-based solutions to strengthen climate resilience. The iTaukei woman stated:

We can use our traditional knowledge and practices to protect our freshwater resources in the Naduna area. Many people are doing vegetable farming on riverbanks.



Fish caught by an Indo-Fijian woman, which will be sold. © Shereen Shabina Begg

They should perhaps do their vegetable farming a bit inland and trees should be planted on the riverbanks. Some villages upstream are also doing this. Elders in the village and community have traditional knowledge on which trees should be planted on the riverbanks to reduce erosion. In this way, people will still have their food source, and we won't face riverbank erosion.

The *iTaukei* fisherwoman also shared an example of the traditional practice of imposing *tabus* (no-fishing areas) in the *iTaukei* culture. She stated that “*in the past, tabus were imposed to temporarily close a section of a community's fishing ground for 100 days after a chief died, before a memorial feast was held. Tabus must be imposed again to protect our resources so that we can catch bigger-sized fish to meet our subsistence and income needs. It will also ensure that our grandchildren and great grandchildren are able to catch fish in future to eat and earn money by selling fish*”. The Indo-Fijian fisherwoman stated that since no one was allowed to fish when *tabus* were imposed, people bought fish or tin fish whenever they wanted to consume fish. Moreover, they relied on sugarcane and vegetable farming to earn a living. Overall, both women revealed that women in the village and community use their knowledge, skills and experiences to be resilient when conservation efforts are in place.

Conclusion

Understanding the knowledge, skills and experiences of fisherwomen helped to identify the challenges they face and the use of nature-based solutions to promote community resilience to the adverse impacts of climate change, and to build an equitable and sustainable future. Besides providing family care, affection and nutrition, women play significant roles in contributing to the sustainable management of ecosystems and resources. Women, together with men, contribute towards building sustainable livelihood options that meet the basic human requirements of income, food, water, electricity, education, health and well-being in a changing environment. The proper documentation and recognition of traditional knowledge and skills – along with the experiences of *iTaukei* and local men and women – would help to foster sustainable resource management and community resilience in other rural riverine communities that face similar challenges.

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