

INTANGIBLE CULTURAL HERITAGE IN THE CONTEXT OF DISASTERS AND CLIMATE CHANGE

A CASE STUDY OF A FISHING COMMUNITY IN VIET NAM

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INTRODUCTION

Viet Nam is very vulnerable to climate-related hazards especially storm and flooding. The central coastal area is considered as one of the most vulnerable regions. Therefore, many adaptation and disaster risk reduction related studies have been conducted in this region. However, limited attention has been paid to investigating the relation between natural hazards and Intangible Cultural Heritage (ICH).

In this study, we focus on assessing the potential risks of ICH in relation to climate-related hazards and the effectiveness of ICH in Disaster Risk Management (DRM) in the coastal province of Binh Dinh, in central Viet Nam. The area is well-known for good practices (compared to many other local communities) in preserving local rituals associated with offshore fishing activities considered as the main livelihood that are highly exposed to hazards at sea.

The main objectives of the study are:

- To identify the natural hazards that encounter the community in their life at home and in their offshore fishing activities.
- To examine the typologies of ICH of the coastal villages
- To assess the potential risks of ICH in relation to natural hazards and the effectiveness of ICH in DRM.

This study reveals the potential disaster risks that ICH encounters and highlights the significant role that cultural aspects play in Climate Change Adaptation (CCA) and DRM. Our effort also contributes to enhance community's awareness about the important role of ICH in DRM and provides valuable lessons about mobilizing culture for CCA and DRM.

STUDY AREA AND RESEARCH METHODOLOGY

The Fishing Community of Vinh Loi

The field research was conducted in the Vinh Loi fishing village of My Thanh commune, Phu My district, Binh Dinh province, and focused on three most populated

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hamlets including Vinh Loi 1, Vinh Loi 2 and Vinh Loi 3. These villages were identified based on our consultation with provincial partners working on ICH at the Department of Culture, Sports and Tourism of Binh Dinh province.

My Thanh commune has a natural area of 35.45 km² and consists of nine hamlets with 2,856 households and 12,148 people. The commune has multiple economic sectors including rice production, salt production, aquaculture and fishing with fishing and aquaculture accounting for 80% of the economic structure of the commune. Working age population was 5,073 persons in 2021, and the income per capita was 45,624 million Vietnamese Dong (VND) per person per year (around 2,000 USD) in 2021. The commune has 260 fishing boats, 219 of which have the capacity of over 90 horsepower (HP) with the total fishing production of 28,075 tons (Phu My District People's Committee, 2022).

Vinh Loi village was formed at the end of the 15th century (at the end of the Le Dynasty), and the beginning of the 16th century. The village is bordered by the sea to the east and the south, and De Gi lagoon to the west (Figure 1). Before the construction of De Gi bridge, the village was 'awarded' the name of 'Vinh Loi nation' as it was isolated from other nearby areas. In September 2022, just before our first field visit, the construction of De Gi Bridge that connects Cat Khanh commune (Phu Cat district) with My Thanh commune over De Gi seaport was completed, which reduced the travel time between the two communes by 40 minutes. In addition, the village used to be easily accessible by boat from the south of De Gi lagoon, where the fishing port is located. However, thanks to the new bridge, the village is now connected directly to the strategic coastal road DT639 of Binh Dinh province that was built to promote the development of marine economy and tourism (Figure 2).

The majority of the local population is officially known as Kinh people, which is the major ethnic group in Viet Nam. They speak the national language that is

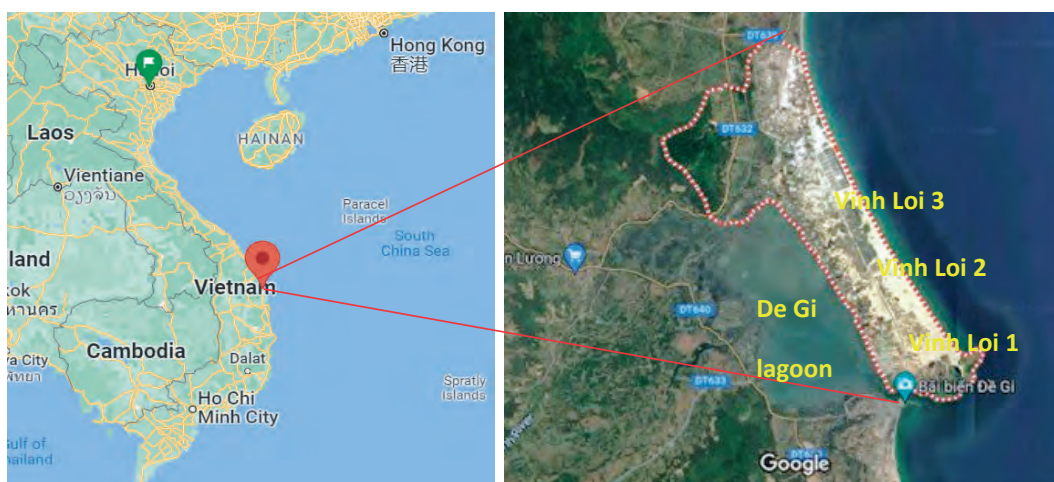


Figure 1 Location of My Thanh commune between the De Gi lagoon and the East Sea and the three hamlets of Vinh Loi 1, Vinh Loi 2, Vinh Loi 3 (Source: google map, accessed 27 February 2023; <https://www.google.com/maps>)



Figure 2
De Gi bridge
(Source: vnexpress, accessed 25 February 2023; <https://vnexpress.net/duong-ven-bien-gan-2-000-ty-dong-o-binh-dinh-4567892.html>)

Table 1 Population of Vinh Loi village and associated hamlets

Village	# of households	# of inhabitants
Vinh Loi 1	459	2,015
Vinh Loi 2	486	2,551
Vinh Loi 3	402	1,896
Total	1,347	6,462

Vietnamese³. The total inhabitants of these hamlets represent more than half of My Thanh commune’s population (Table 1). Offshore fishing is the most important livelihood of this community with 90% of households being fishermen. The other 10% earn their living from agricultural production (about 80 households in Vinh Loi 1 and 40 households in Vinh Loi 3 with about 1,000 m² of farmland for planting onion per household) and other activities. Some of these households alternate fishing and farming. A few households (17) in Vinh Loi 3 work on aquaculture (cobia and oyster farming)⁴.

The De Gi lagoon has a total water surface of about 1,390 ha. In the north and the southeast of the lagoon, there are mountains that act as windshields creating ideal shelters for boats. The lagoon receives water from the La Tinh River in the west and ravines from surrounding mountains. This is an anchoring place for fishing vessels from different districts of Binh Dinh province as well as of other nearby provinces, with frequent anchoring of vessels up to 2,000 (Figure 3).

3 In Viet Nam, Vietnamese language can also be referred to as ‘Kinh language’ when people want to distinguish it from the languages of other 53 minority ethnic groups.

4 Data was provided by the village heads in October 2022.



Figure 3
View of De Gi Lagoon from Co
Bac Temple
(Photo: Phan Phuong Anh, 2022)

Local housing is generally solid with 2,565/2,655 households (96.5%) meeting the standard housing as prescribed by the Ministry of Construction. The three hamlets of Vinh Loi have the highest percentage of solid house in the commune. The local communities are well connected with nine telecommunication stations serving the internet access needs of the entire commune (My Thanh Commune People's Committee, 2021).

Methods of Data Collection

The total fieldwork period was 15 days in October 2022, February and May 2023. The research team included an anthropologist, a climate resilience expert, a local ICH expert and a local research assistant (two men and two women).

The survey focused on practices of ICH and DRM. The main data collection methods included focus group discussion and in-depth interview. Focus group discussions with community actors were conducted to collect and verify information and to gather different opinions on the issues related to the practice of ICH in relation to community livelihood and relevant natural hazards. Groups usually consisted of four to five people including the representatives of the commune people's committee, the board members of religious institutions, fishermen, and women who carry out manual activities related to fishing such as repairing nets (Figure 4). Discussions covered hazards and climate-related disasters in relation to community livelihoods and ICH practices. Researchers interviewed several key informants such as the village heads, the members of the local committee for flood and storm control, members of mass organizations such as women union and youth union, local medical staff, the elderly and also young people involved in community activities, captains and crew members of fishing boats, ritual masters and ritual performers. All group discussions (about a dozen) and in-depth interviews (about forty) were recorded and transcribed for analysis, including some informal talks. Some informants were consulted multiple times. Observation method was also used during the field study especially during the most important fishing festival that takes place during five consecutive days in May-June 2023.



Figure 4
Vinh Loi women repairing net
(Photo: Le Thi Anh Nguyet, 2022)

We also gathered secondary data to better understand the local community, including information and documents on local geography, population, natural conditions, climate patterns, income levels, DRM at the district and commune levels, socio-economic development at the district and commune levels, the new rural program at the commune level, and other basic conditions. Finally, the study also referenced our previous research results related to local ICH and ICH safeguarding, climate adaptation and the role of living culture in risk reduction.

ICH IN THE COMMUNITY

Whale Worship and Fishing Festival

Fishermen's lives are grounded in religious beliefs and practices that are closely linked to their livelihood and their safety at sea. At the Vinh Loi fishing community, the most important ICH is the belief⁵ related to fishing activities facing two main risks including bad/unproductive catch and storms at sea. Like fishermen in many other places along the Vietnamese coast, Vinh Loi people worship whales, which is considered as their god who saves the life of seafarers in distress at sea. Whales are venerated as the tutelary god of fishermen and there is an elected management board (*Ban van*, literally 'Board-fishing village') representing all fishermen to take care of the cult. Associated with the belief of whale worship is the fishing festival (*le hoi cau ngu/le*

5 We distinguish 'belief' and 'religion'. While 'religion' refers to monotheism such as Buddhism or Christianity, 'belief' can embrace faith in many sacred powers such as ancestors, spirits, nature elements. Number of people in Vinh Loi are Buddhists but all beliefs that we observed and described in this paper are more popular than the monotheistic religion.

nghinh Ong). Apart from this communal worship, most fishermen venerate lost souls (*co bac*) every time before going to sea. Other water gods and deities are also venerated.

Fishermen's lives are imbued with the beliefs related to seafaring profession involving many dangers, especially cyclones and storms. First of all, they have a strong belief in the power of the whale. When a dead whale washed up on the beach of a fishing village, the villagers organize a whale burial and sacrifice it as they do for the (human) dead. The first man to find a whale body is considered the whale's son and carry out all funeral ceremonies and death rituals for the following three years as if the whale was his parent. The whole community would work together to bury the whale, which is usually done on high ground where the whale was found or near an existing whale temple. It is believed that the person and the community who find the dying/dead whale and conduct its mourning will be blessed.

Three years after the burial, whale bones are put in a small coffin and brought to worship at a temple called the mausoleum of God fish of the southern sea (*Ong Nam Hai*). The dead anniversary of the whale in the following years usually becomes a day for the fishing festival. The festival is associated with the whale worship, and many legends and cultural lines are still recorded in folklore. Many informants in Vinh Loi shared the stories of fishermen from sinking boats taken to the shore by whales. Whales are worshiped as the protector god of fishermen. When fishermen encounter dangers at sea caused by storms/cyclones, they pray for whales to save them. The power of whales is transmitted through such anecdotes that the dying whale often cries and whose tears can make people's eyes brighter and their bodies stronger, or someone had been punished after using a piece of whale bone to make medicine.

In Vinh Loi village, whales are worshiped at two sites: *Tu Duong* (literally, 'Worshipping Hall'⁶) and *Lang Ong Dai* (literally, 'Great Sir Mausoleum'). *Lang Ong Dai* (Figure 5) exists since 1791 as a whale temple worshipping all the whales died ashore in this area. One day, someone in the community was told in a dream that the biggest whale wanted to be worshiped separately. Therefore, *Tu Duong* was built so that *Lang Ong Dai* can be dedicated only to the great whale, while *Tu Duong* (Figure 6) becoming the place to worship all the other whales, water gods and underwater saints. The first royal decree that officially approved the whale worship in this village dates back to 1842 during the Nguyen dynasty. The building was subsequently damaged by wars and was rebuilt in 2009.

The fishing festival is organized on two occasions in a year, on the 10th of the first and the fourth lunar months. The first festival is held at *Lang Ong Dai* to ask for the God fish's blessing for a bountiful fishing year as well as for wealth, luck, and peace for the villagers. In addition to activities such as the ceremony of prayers, dancing and singing to celebrate the gods, and the ritual procession of boats, the festival often features a boat race among three Vinh Loi villages and *hat boi* (traditional opera)

6 In other parts of Viet Nam, especially in the northern regions, this word means the familial temple for the ancestor worship.



Figure 5
Whale carcass inside Lang Ong Dai
(Photo: Le Thi Anh Nguyet, 2022)



Figure 6
Whale temple (Tu Duong)
(Photo: Le Thi Anh Nguyet, 2023)

singing for several nights. The second festival is held at Tu Duong to venerate all the whales, which is the most important event of the year. It usually lasts for five days. Tu Duong plays a central role in the community's spiritual life. This site shelters a sacred drum. On the lunar New Year's Eve, *truong van* (head of the management board – *ban van* – of the sacred sites) beats the drums to celebrate the New Year. The drums are only played on the occasions of this New Year's Eve, fishing festivals, ritual days, and notably when there is a storm. When there is a storm, *ban van* will beat the drums to ask the whales to help the fishermen. It is said that the storm would stop coming and move to another area after beating the drums⁷.

Traditional Operas Performed During Fishing Festivals (Hat Ba Trao and Hat Boi)

Traditional ritual arts such as *hat ba trao* and *hat boi* singing are performed during fishing festivals. Although both terms include the verb *hat* meaning 'to sing', both performances are designed as a form of 'traditional opera', combining singing with

⁷ Interview with Do Nhu, Y., the head of the management board of the sacred sites in Vinh Lci (Do, 2022)

dancing. *Hat ba trao* is performed by fishermen as a pure ritual, while *hat boi* is played by traditional opera troupes outside the community as an entertainment and a part of the closing ceremony of the festival.

Ba trao singing and dancing

A special feature of the fishing festival is the singing and dancing of *ba trao* (literally, *ba* ‘hold’ and *trao* ‘row’ => ‘boat rowing’). *Ba trao* singing and dancing is practiced by a group of selected fishermen consisting of 24–28 persons (Figure 7). The *ba trao* scripts are similar across fishing villages and very close to the original script by *Nguyen Dieu*, a traditional script opera writer from the early 19th century. His script has been passed down through generations and used in many localities in the central coastal region (Nguyen, 2019). In Vinh Loi village, *ba trao* singers and dancers often used the hand-written script religiously preserved in the main whale temple (Figure 8).

In addition to praising the merits and expressing fishermen’s thankfulness to whales, the art of *ba trao* singing and dancing carries another equally important meaning,



Figure 7
Ba trao performance in front of whale temple at fishing festival (Photo: Ngoc Nhuan, 2023)

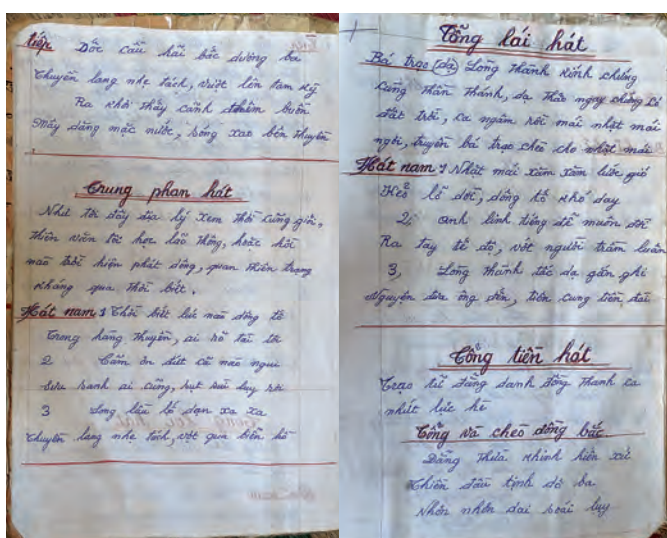


Figure 8
The script of *ba trao* (originated from 19th century) relates the hardship of fisherman work (Photo: Phan Phuong Anh, 2023)

which is the opportunity to express thoughts and feelings of fishermen facing the challenging life on the immense sea. In other words, *ba trao* singing and dancing reflects the desire for a peaceful and prosperous life of the coastal community (ibid.)⁸.

Hat boi

While *ba trao* is performed by fishermen in the community, *hat boi* is performed by an external troupe to entertain the community during the nights following the main ritual. The lyrics of this traditional opera contain general stories intended to teach social etiquettes, educate good behaviors, promote goodness and nobility, and criticize bad habits and vices. Each community chooses appropriate themes to perform at fishing festivals. In Vinh Loi village, the show takes place for five consecutive nights following the main praying ritual on the first day of the festival. *Hat boi* of Binh Dinh province has been inscribed in the national ICH representative list of Viet Nam in 2014.

Veneration of Lost Souls

Another important belief is the faith in the power of lost souls who have died at sea, in the water realm, and in the mountains and forests. Before each boat trip, fishermen always hold a worship at the wharf (*cung ben*) to pray for a safe trip and productive catch. When they return, they also give thanks to the lost souls regarding whether it was a productive trip or not. Offerings vary depending on the captains and always include a bit of salt and some uncooked rice/raw rice. Worshipping can be done at home on the day before the boat trip and always at the wharf before going to the sea as well as on the boat. At sea, when there is no sight for a good catch, fishermen can make a silent prayer to ask for help even if there is no offering.

Worshipping lost souls in Viet Nam is extremely important because it is believed that the dead have the power to punish and protect the living (Meeker & Phan, 2021; Sorrentino, 2018). For fishermen, this is even more true because of their constant fear of dying at sea. If that happens, their missing bodies become lost souls. Whales are venerated as fishermen believe that whales would take singing to boats and fishermen in distress to shore. While whales worshipping is rather a community practice, lost souls are worshipped by individual fisherman who always make offerings to lost souls at the wharf and on fishing boats before going to the sea. In Vinh Loi village, the spirits also have a communal site of worship called *Dinh Co Bac* (literally, 'Aunties and Uncles Palace')⁹. On the 8th day of the first lunar month, the responsible of the site (*chu so*) prepares offerings for the praying ceremony. People can also come to worship on their own for personal purposes.

8 *Ba trao* art performed in several localities belonging to Quang Nam province has been inscribed in the Viet Nam national representative list of ICH in 2013.

9 The worship site for lost souls can be found in other fishing villages in Viet Nam (Nguyen, 2022) while lost souls are venerated together with other gods and ancestors in family ritual events or in special occasion in the lunar calendar such as the 15th of the 7th month but they don't have a worship site.

In addition to these most important worshipping practices, fishermen believe in the protection of other deities and gods such as the council of the water gods venerated in *So Truong*, tutelary gods *thanh hoang* in *So Dinh*, goddesses (Lady of Jade *Ba chua Ngoc nho*) and the Lady of Creek *Ba chua Lach*) in Lady Temple (*Lang Ba*) situated at the mouth of the sea creek where fishermen pray for the protection for their trips, and finally the Lady of Jade (*Ba chua Ngoc lon*) and other deities at *So dam* located on the mudflat towards the sea. When whales die in the nearby sea, they are often washed up on this beach. Each worship site is placed under the responsibility of an elder who is selected annually by the management board (*ban van*).

Traditional Knowledge about Weather, Hazards, Fishing Environment and Fishing Techniques

Offshore fishermen, especially those who aged 50 and over, have or remember being imparted the knowledge about the marine environment, seafaring techniques and geography, the knowledge of fish (e.g., species, habits, migration), and the knowledge of predicting weather and hazard. For example, fishermen used to look at the stars, the moon and the direction of the mountains to steer their boats. They can rely on different sights in the sky (such as red sky, rainbow, stars flashing) to predict storms so take appropriate actions afterward.

A small number of Vinh Loi fishermen work in the De Gi lagoon and near the shore, and sell their catch at the local market, while offshore fishermen sell their catch at the nearest port to their fish grounds. There are around a hundred small fishing boats in the lagoon depending on the season. The nearshore fishermen in De Gi lagoon use traditional fishing techniques and know the lagoon environment very well. For example, they use wooden piles to fix and tie nets. When the tide recedes, the fish follows the current and runs into the net. At night, fishermen go to the lagoon to pull up their nets. There are around 60 fishermen registered for this type of fishing in the commune, but only 20 (randomly selected) are allowed within a year to catch fish in the lagoon in order not to deplete the resources. There are three periods (of five days each) of fishing per month in the lagoon. These periods are defined based on the tidal regime.

Although most fishermen know the above-mentioned traditional knowledge exists, only some can still cite verses containing such information. This knowledge is disappearing as young fishermen prefer using modern technologies to steer and fish.

CLIMATE-RELATED HAZARDS AND IMPACTS ON THE COMMUNITY AND IT'S ICH

Climate-Related Hazards and Impacts on Living Environment and ICH

According to most of the fishermen in Vinh Loi, given the characteristics of offshore fishing, climate hazards are not only considered in relation to their living environment but also to fishing grounds that are far away from their home.

In the study area, flooding, coastal erosion and storm/cyclone are the most significant hazards. According to the Commanding Committee for Disaster Prevention – Search and Rescue and Civil Defense of Phu My District, in 2021, there were nine storms at

sea, many cold air waves and strong winds that affected fishermen and boats in Phu My district (CCDPSRCD, 2022). Heavy rains in October and November caused five floods. Heavy rains at the end of December 2021 caused damages to housing, rice crop, transportation, infrastructures, livestock and aquaculture, with a total estimated loss of 55,850 million VND (2,372,557 USD). In 2022 (from January to September), there were four storms (one of which hit the community) and heavy rains. In particular, unusual rains from the end of March to the beginning of April (in the middle of dry season) caused damages to agricultural production and other sectors in the district. Examples of damages are: flooded rice field, river bank erosions, and the sinking of 20 boats. The total loss in the district in 2022 is estimated as 7,711 million VND (327,570 USD). The total annual rainfall in 2021 and 2023 is higher compared to the average of the last five consecutive years.

However, people in Vinh Loi said that they are living in a safer location compared to others. Their village is sheltered by seaside mountains and thus protected from storms. Floods are infrequent and usually last for a short time with no serious consequences. As Vinh Loi is located on a sandbank between the lagoon and the sea, flood water recedes very quickly. Local community members indicated that climate-related hazards have less impacts on local ICH.

Impacts on the places where ICH activities are practiced

Sacred sites in Vinh Loi have not been significantly affected by climate-related hazards. According to the people of Vinh Loi as well as the members of *ban van*, the community's worship sites are often located in safe areas. They also believe that their gods are sacred, bless these places, and keep them safe from the impacts of natural hazards. Therefore, only some small impacts were recorded.

- When a storm hit the community, a tree next to Tu Duong was knocked down. When the tree fell on the building, it broke a unicorn's head and two knife-shaped sculptures on the roof. This damage did not greatly affect religious practices, but costed about 8,000,000 VND (340 USD) to repair.
- During the northeast monsoon season from September to December, high humidity negatively impacted the surface and paint of the wall of the whale temple Lang Ong Dai. As a result, repainting is required every five or six years instead of over 10 years in other locations.
- Seawater is getting closer to some sites (especially at So Dam located next to the sea) due to high tide and storm surges, causing damage to the building's paint and the wooden and iron accessories. (Figure 9)
- Access to some sacred sites is often difficult during the cyclone season and sometimes even impossible when big cyclone events occur.



Figure 9

So Dam temple at the seaside of Vinh Loi, venerating Lach Lady (Ba Chua Lach). The building and accessories are damaged from prolonged contact with seawater (Photo: Phan Phuong Anh, 2022)

Impacts on sacred objects

Seawater evaporation caused by heat has impacted whale bones and may erode these bones which need to be wiped regularly and even require waterproof solutions¹⁰. In the sunny season (May–June), the management board carefully select a good day to take care of whale bones. One person is assigned to wipe the bones with antiseptic lime powder, wash them with alcohol, then dry them under the sun. As the whale bones are sacred objects, damage to these bones is a concern to the villagers that may affect the practice of whale worship.

Regarding the extreme events in the past, elders over 60 years remark the Typhoon Agnes, which was the biggest storm that occurred in 1984, killing nearly a thousand people in the Philippines and Viet Nam. Most houses in Vinh Loi were seriously damaged due to the violent typhoon and the weak house structure. Many fishing boats were also severely damaged, although people do not remember the specific figures concerning the damage. Local people said that miraculously, there was no damage to the main religious building in Vinh Loi thanks to the sacredness of their gods.

Offshore Fishing Affected by Storms

Many fishermen talked about the deadly Typhoon Linda in 1997. The tropical storm affected Myanmar, Indonesia, Malaysia and Cambodia, but the heaviest impact was in Viet Nam, causing more than 3,000 deaths. The typhoon made landfall in Ca Mau, the most southern province of Viet Nam. Around 60 fishing boats from Vinh Loi that were working at their fishing grounds in Kien Giang, one southern province next to Ca Mau, were affected by this storm. According to some informants, the Vinh Loi fishermen's boats were seriously damaged but all were safe because they reached shores, following the early warning before the event. Most of the dead were local fishermen in the Mekong Delta who were unfamiliar with the typhoon, because they are not a

¹⁰ In many places, fishermen paint whale bones, but people in Vinh Loi think that they should not do that.



Figure 10

Signboard at the front of Whale Temple (Lang Ong Dai) reminding fishermen to wear safety equipment and other regulations and rules

(Photo: Phan Phuong Anh, 2022)

common hazard in the southern regions of Viet Nam. The fishermen from Vinh Loi think that they were safe thanks to their skills, knowledge, and experience in dealing with the storms.

POSITIVE ROLES OF ICH IN THE COMMUNITY'S DISASTER RISK REDUCTION (DRR) AND RESILIENCE

In this section, we explore the way local ICH elements contribute to DRR and building community disaster resilience. Our study indicates that, ICH can be a good way to raising local awareness and improving capacity related to DRR, to strengthening social capital and cohesion as well as to providing mental and psychological reassurance.

Practices of worshipping the whale and other gods as a way for raising awareness:

Ba trao singing and dancing and other activities of the fishing festival and whale rituals remind people of the past disasters and the protection of the whale for fishermen in distress and these practices act as disaster warning. For example, *Ba trao* performances show the activities and labors of fishermen such as rowing boats, pulling nets, and how to deal with big waves of past storms or to describe the scene of a boat bringing the souls who died unjustly at sea and the whale spirit to the sacred places. The worship of water gods, goddesses, and lost souls remind people of potential disasters. In addition, these ceremonies are also good opportunities to raise fishermen's awareness about DRR. As their gathering places, worship sites can be used for disaster risk management capacity building activities or for providing DRM information to fishermen (Figure 10).

Whale worshipping rituals and festive events give psychological reassurance:

Worshipping whales and the other water gods gives fishermen psychological peace of mind when going to sea. According to the local fishermen interviewed, when there is an accident or storm occurring at sea, praying to the whales and the lost souls, water gods relieve people's anxiety and reassures their minds. The head of the management board told us that during the Typhoon Linda in 1997, he was in Kien Giang in the

South but survived because he prayed to the whales for protection, saying ‘I prayed to God fish and he helped me to find the shore (Do, 2022)’. He also talked about a young fisherman who was in danger during the Chanchu storm that hit Da Nang in 2006. He called his mother asking her to prepare an offering and go to *ban van* to pray to the whales for him, which saved him from this deadly event. Such practice is still very popular among the members of fishing community.

Whale worship institution structured around ban van strengthen community bond and social cohesion:

According to local fishermen, the existence of religious institutions and practices, especially the whale worship, has created and strengthened a community cohesion and intercommunal ties, which could contribute to disaster response and recovery. For instance, the head of the management board told that about 165 out of 200 boat owners have contributed to the public fund managed by *ban van*. Every year the board and boat owners hold a meeting to discuss each vessel’s contribution to the fund. This fund has been utilized to organize worship activities, preserve sacred sites, and support community members in need. In addition, given strong social links in the community, when a family or someone faces difficulties caused by natural hazards, other members of the community often provide some support in form of money or labor.

Traditional systems of cooperation create strong links and mutual support between fishermen:

Boat captains in Vinh Loi are usually boat owners. Their brothers and close relatives often invest in the same boats. Each offshore fishing vessel needs about 15–20 fishermen who often know each other. In many cases, these fishermen are not simply workers, but they are also invited to invest in fishing nets and accessories and thus receive benefits according to their investment. This labor structure is called *di ban*, literary ‘go-friend’ (go together with friend). Less successful boats need to hire independent workers and pay them a fixed amount agreed upon before the trip, which is called *mua ban* ‘buy-friend’ (work as hired labor). In both cases, when a crew member encounters difficult circumstances, he often receives support from others workers in the same vessel. In addition, forming a fleet of 3–4 or 6–7 boats called *tap doan* ‘corporation’ is a common practice. Owners of these boats often have blood relations¹¹ and practice the same fishing techniques but have no financial ties. They collaborate to support each other in catching fish and giving mutual support when some of them encounter difficulties, especially during the storm season. In recent years, this practice has been supported and encouraged by the government under the name of *to doi doan ket* ‘solidary unit’ as it is considered useful for fishing and rescuing when accidents occur at sea.

Knowledge of seafaring and survival skills:

In the past, local fishermen could use their traditional experiences and knowledge about the weather and the environment to prepare for and respond to storms. For example, traditional geographical knowledge helps fishermen know where to evacuate

11 There are around ten lineages in Vinh Loi.

when encountering storms at sea. They also used their knowledge related to the local environment and resources as well as local engineering skills in emergency situations such as making life vests from floating specimens. However, many local fishermen said that nowadays they rely mainly on modern technological equipment and early warning systems instead of traditional knowledge and skills to prepare for and deal with climate-related hazards. In our view, relying too much on technology and ignoring traditional experiences, knowledge and skills can be a risky strategy as weather-related events are becoming more and more unusual due to the impact of climate change, and early warning systems can be sometimes failed and or inaccurate.

STRENGTHENING ICH AND DISASTER RISK MANAGEMENT LINKAGES

At the commune level, local DRM activities are mainly managed by the government. Every year a DRM plan is developed and approved by the commune level of Commanding Committee for Natural Disaster Prevention and Control. However, local communities, fishermen, and representatives of religious institutions are rarely invited to participate in the development of the plan or even consulted about its content. In addition, this plan focuses mainly on reactive (rather than preventive) actions including emergency activities during disasters. Little attention has been paid to the protection of ICH elements such as whale temples and practitioners. As a result, there is no ICH-related content regarding local DRM plans. Up to now, the protection and maintenance of worship places where ICH is practiced or artifacts associated with ICH are mainly in the hands of the local fishermen and community associations such as *ban van* who have a limited capacity and resources. To safeguard these ICH elements in a sustainable manner, fishing community in Vinh Loi requires support from the local government. The first actions to be taken are: to integrate ICH into annual DRM plans, by planning for the protection of ICH and using religious institutions and religious platforms for capacity building, awareness raising and improving community cohesion; to mobilize better financial and equipment support to protect local temples; and to engage fishermen and *ban van* in the entire DRM processes including disaster preparedness, response, and recovery.

Besides, cultural management and DRM agencies have limited knowledge about the impact of climate-related hazards on ICH and the role of ICH in DRM. In addition, as they do not have opportunities to work together, strengthening the capacity of these agencies and improving the coordination between them are urgently needed. This should contribute not only to the protection of ICH, but also to the promotion of traditional knowledge and experiences in DRM of fishermen and to strengthen community cohesion and mutual support for disaster preparedness, response, and recovery.

CHALLENGES FOR LOCAL ICH

The practice of ICH in Vinh Loi has been mainly altered by factors other than climate-related risks, such as changes in fishing techniques and other development-related aspects. Changes in fishing techniques have resulted in less active participation of

fishermen in fishing festivals. In the past, the majority of fishermen joined the first fishing festival (on the 10th day of lunar new year) and stayed home to celebrate this event before going to sea. However, nowadays most boats depart on the 4th or 5th day of the Lunar New Year. Many fishermen today think that the worship of whales is the work of the *ban van* members who represent the entire fishing community, and their participation is not important as long as they contribute to the public funds according to community rules. In addition, factors such as the danger partly caused by climate-related hazards, frequent separation from home, and unstable income have been discouraging young people from pursuing fishing activities and contributing to and participating in local ICH activities. When being asked about the future of their children, fishermen families often express their wishes for their children to change jobs, even though nowadays it is less dangerous to go offshore thanks to larger vessels, better equipment, and better systems of weather forecast.

The construction of new infrastructures for the marine economy and tourism development impacts the labor structure of the villages, which causes potential changes in ICH practices. Many locals are optimistic about the tourism development, especially after the completion of the new bridge, expecting that such development will give their children more opportunities to work in the service and tourism sectors. In addition, most families having good income from fishing are investing in their children's education so that they can have better careers. The anchorage area of De Gi lagoon is being surveyed to build a new fishing port to replace the Quy Nhon fishing port in the near future, and the new port is expected to anchor more than half of the ships in Binh Dinh province (Binh Dinh Province, Department of Agriculture and Rural Development, 2022). This is another sector that will create new jobs in the area. The challenge for ICH is that, as a greater number of young people engage in other professions, they no longer have to contribute to the *van* institution and practice local fishing-related ICH. The knowledge and practices of local ICH related to fishing, therefore, may gradually disappear.

The knowledge about the marine environment and natural hazards is also in danger of disappearing because new technologies are now widely promoted and used. In the past, for instance, fishermen worked until the moon comes up and then rested at night. But today, they can still catch fish under the bright moon because they have the AIS (Automatic Identification System) locator to detect them. Boats are larger and often equipped with high-end technologies and accessories such as AIS locator, fish detector and commercial fishing nets. Technologies allow boats to go further, catch more fish, and also better predict natural hazards. Accordingly, most fishermen think that going to sea is now much safer even if weather-related events become increasingly extreme, and they tend to consider traditional knowledge less important. However, relying too much on modern accessories and technological applications may place fishermen in risky situations. In the event of malfunctions of technological equipment and accessories, traditional knowledge and skills of the elders would be useful for survival.

CONCLUSION

Fishermen's lives in Vinh Loi village are imbued with beliefs related to seafaring professions. Having the risk of encountering many dangers, especially climate-related hazards like cyclones and storms, beliefs and religious practices of the local fishermen are closely connected with their activities and life at sea. Vinh Loi's people worship whales, lost souls of those who died in the sea, water realm and forests, and other water gods and deities. They are considered as the most important gods who save the life of seafarers in distress at sea. These worship practices give fishermen psychological peace of mind when going to sea. ICH-related activities organized during fishing festivals are also the opportunities for disaster warning and raising awareness by reminding people and younger generations of the past experiences and potential hazards in the future. Religious institutions and practices, especially for the whale worship, have created strong links among fishermen and strengthened community cohesion and intercommunal ties, which contributed to the enhancement of social capital that is central to disaster response and recovery.

Traditional knowledge of the sea environment, climate patterns and natural hazards, and the experiences and skills related to fishing activities and responding to climate-related hazards are other forms of ICH that were frequently used by local fishermen while fishing at sea. However, such knowledge is disappearing due to multiple factors such as the promotion of modern technology in seafaring and fishing, better access to early warning systems, and the shift to other professions connected to new economic development opportunities. In our view, relying too much and only on technologies and ignoring traditional experiences, knowledge and skills can be a risky strategy as weather-related events are becoming more and more unusual due to the impact of climate change, and early warning systems can fail or become inaccurate.

Despite the potential role of ICH in DRM, the integration of ICH into DRM processes is still limited because of the lack of understanding about the role of ICH and the lack of mechanism for collaboration between ICH and DRM actors. Strengthening the capacity of DRM agencies in mobilizing ICH for DRM and of ICH practitioners in DRM planning and improving the coordination between these actors are urgently needed. These stakeholders should work closely together to integrate ICH into DRM planning and processes to mobilize better support to protect local temples and to engage fishermen and fishing institutions in the DRM processes and activities.

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