

# NATURAL HAZARDS AND THE SAFEGUARDING OF INTANGIBLE CULTURAL HERITAGE EXPERIENCES FROM THE ASIA-PACIFIC REGION

REPORT OF THE RESEARCH ON ICH SAFEGUARDING AND  
DISASTER RISK MANAGEMENT (FY 2020–2023)

International Research Centre for  
Intangible Cultural Heritage  
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Centre  
Under the auspices  
of UNESCO



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## PREFACE

The International Research Centre for Intangible Cultural Heritage in the Asia-Pacific Region (IRCI) was established in 2011 within the National Institutes for Cultural Heritage (NICH), Japan, as a Category 2 Centre under the auspices of UNESCO. Since its establishment, IRCI has conducted extensive projects to enhance research for safeguarding intangible cultural heritage (ICH) in the Asia-Pacific region, in cooperation with research institutes, museums, NGOs, and government sectors within and outside the region.

Research on ICH Safeguarding and Disaster Risk Management is a theme IRCI has been working on since 2016. This was around the same time that UNESCO initiated the discussions on ICH and emergencies, and within Japan, the revitalization of ICH after the Great East Japan Earthquake in 2011 was highlighted as part of the community's recovery. The first phase of the project ended in FY 2018 with the Asia-Pacific Regional Workshop on Intangible Cultural Heritage and Natural Disasters held in Sendai, Japan, with the adoption of 'Statements and Recommendations for Safeguarding ICH in Disasters and Mobilising ICH for Disaster Risk Reduction' that called for further research and collaboration between ICH and Disaster Risk Management (DRM) fields. This outcome document guided the development of the current phase of the project.

The second phase of the project started in FY 2020 amid the global crisis and disaster caused by the COVID-19 pandemic, which slowed down the start of project activities and limited our possible research to desk-based activities avoiding travel and interaction with communities. However, this difficulty led us to develop an alternative methodology to understand the disaster impact on ICH and the active roles of ICH in the DRM process through a desk study. In FY 2021, desk study was carried out in Bangladesh, Fiji, Indonesia, Mongolia, the Philippines, Vanuatu, and Viet Nam, and based on this desk study, researchers in these countries continued their cooperation in the project by conducting further research in specific communities in the following years. Case studies in Japan were also incorporated into the project, thanks to the cooperation of the Tokyo National Research Institute for Cultural Properties (Department of Intangible Cultural Heritage) and the Cultural Heritage Disaster Risk Management Center established in 2021 within the National Institutes for Cultural Heritage. Their engagement in the activities over the three years was indispensable for the success of the project. The entire project was financially supported by the Agency for Cultural Affairs of Japan.

In recent years, the effects of climate change have been a serious concern, and the Asia-Pacific region has experienced an increasing number of extreme hazards, some of which have resulted in disasters. In Japan, the year 2024 started with a catastrophic earthquake in Noto that caused a considerable number of casualties and significant damage to houses, roads, and other infrastructure. The region is known for various ICH elements including traditional lacquerware, and their revitalization and transmission as part of the recovery process will be critical. Even if we now have a better understanding and knowledge of ICH and disasters, it is not possible to entirely prevent an unexpected disaster from occurring. Therefore, it is extremely important to be better prepared for times of difficulty to

effectively safeguard ICH by assessing the potential risks.

This publication, composed of the results of the case studies that were carried out under the project, showcases a variety of ICH elements threatened by disasters, efforts for safeguarding, and challenges in improving DRM for ICH. The project summary provided by IRCI would be a useful reference for understanding the development of the effort for safeguarding ICH in the context of disasters, and for developing programmes and activities. It would be a great pleasure to see this publication become widely used and encourage further research projects integrating ICH and disaster risk reduction in the Asia-Pacific region and elsewhere.

Daisuke Machida  
Director-General  
International Research Centre for Intangible  
Cultural Heritage in the Asia-Pacific Region (IRCI)

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## ACRONYMS AND ABBREVIATIONS

<b>CCA</b>	Climate Change Adaptation
<b>Covid-19</b>	Coronavirus disease 2019
<b>DRM</b>	Disaster Risk Management
<b>DRR</b>	Disaster Risk Reduction
<b>FPIC</b>	Free, Prior, and Informed Consent
<b>ICH</b>	Intangible Cultural Heritage
<b>IRCI</b>	International Research Centre for Intangible Cultural Heritage in the Asia-Pacific Region
<b>NICH</b>	National Institutes for Cultural Heritage
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNISDR</b>	United Nations Office for Disaster Risk Reduction
<b>2003 Convention</b>	Convention for the Safeguarding of the Intangible Cultural Heritage



# UNDERSTANDING INTANGIBLE CULTURAL HERITAGE IN THE CONTEXT OF NATURAL HAZARDS AND DISASTERS

SUMMARY OF THE IRCI PROJECT 'RESEARCH ON ICH SAFEGUARDING AND  
DISASTER RISK MANAGEMENT' (FY 2020–2023)

Yoko Nojima<sup>1</sup>

## INTRODUCTION

Since 2016, the International Research Centre for Intangible Cultural Heritage in the Asia-Pacific Region (IRCI) has been conducting research on the theme of intangible cultural heritage (ICH) and disaster risk management (DRM) since 2016. This was also the period when UNESCO started to emphasize ICH in post-conflict and post-disaster situations<sup>2</sup>. In Japan, a significant number of efforts have been focused on the revitalization of local ICH practices in the Tohoku region after the Great East Japan Earthquake and Tsunami of 11 March 2011 (Takakura and Takizawa, 2014; Takakura and Yamaguchi, 2018; Hashimoto and Hayashi, 2016).

The initial phase of the project (FY 2016–2018)<sup>3</sup> involved exploring the relationship between ICH and disasters. While trying to better understand how ICH is damaged by various disasters, the project highlighted the positive aspects of ICH contributing to the post-disaster recovery of the communities as well as to better preparedness (Iwamoto, Ohnuki, and Nojima, 2018). The project also encouraged the participation of DRM specialists in the project activities, and the discussion at the workshop held in Sendai in 2018 led to the development of the 'Statements and Recommendations for Safeguarding ICH in Disasters and Mobilising ICH for Disaster Risk Reduction' (Iwamoto and Nojima, 2019).

Based on these recommendations, current phase of the project started in FY 2020. In 2020, the world was experiencing an unexpected and unprecedented crisis triggered by the COVID-19 pandemic, and the project took a rather slow start in developing its activities, as meetings with people and travelling were restricted for more than a year. Anticipating that the imposed international travel ban might last for a long period, IRCI needed to develop activities based on desk studies and online communications instead of planning case studies based on field research. This eventually enabled IRCI to develop a tool or methodology to estimate and understand how ICH could be

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1 International Research Centre for Intangible Cultural Heritage in the Asia-Pacific Region (IRCI)

2 UNESCO's initiatives began with the desk study (Wilson and Ballard, 2017), and eventually culminated in the adoption of the 'Operational principles and modalities for safeguarding intangible cultural heritage in emergencies' at the eighth session of the General Assembly in September 2020. <https://ich.unesco.org/en/operational-principles-and-modalities-in-emergencies-01143>

3 Preliminary Research on ICH Safeguarding and Disaster-Risk Management in the Asia-Pacific Region (FY 2016–2017), and the Asia-Pacific Regional Workshop on ICH and Natural Disasters (FY 2018).

impacted by disasters and how certain aspects of ICH could contribute to the process of disaster risk reduction (DRR). By creating a worksheet in the form of a table or matrix, the desk study was conducted in FY 2021 in cooperation with researchers and research organizations in eight countries: Bangladesh, Fiji, Indonesia, Japan, Mongolia, Philippines, Vanuatu, and Viet Nam, which enabled the collaborators of the project to have a better understanding of ICH in relation to natural hazards and disasters, including disaster risks along with how ICH would be affected and how it could play positive roles at what stage of DRM cycle. Subsequently, the project conducted case studies after reviewing the results of the desk study through online working sessions (FY 2022). In FY 2023, the results of the case studies carried out by the collaborators were brought together at the final workshop held in September 2023 to have in-depth discussion. This publication is the compilation of the outcomes of case studies conducted throughout the project and elaborated reflecting the final discussion at the workshop.

This introductory chapter summarizes these step-by-step activities, with the expectation that specific processes can be referenced as a guide for establishing baseline information and further activities. By reviewing the implementation of activities, this introduction also summarizes the current state of ICH safeguarding in the context of DRM, including possible tools and frameworks that could be utilized to develop plans and actions to safeguard ICH and mobilize ICH for the DRR of communities.

## **PROJECT ACTIVITIES**

### **Assessing the Potential Risks and Effectiveness of ICH in Relation to Natural Hazards and Disasters (FY 2021–2022)**

#### ***A desk study (FY 2021)***

This activity was designed to be carried out as a desk study to assess the potential risks and positive aspects of ICH in the context of natural hazards and disasters. As noted above, this was an alternative means of making progress in the project under circumstances largely constrained by the COVID-19 pandemic. To carefully examine the disaster risk of ICH and its effectiveness, different hazard types and ICH domains were examined individually. Importantly, the study considered the DRM cycle of preparedness, immediate response, and recovery, which correspond to before, during, and after a disaster, to identify how ICH would be damaged or become effective at what stage of the disaster process.

To facilitate this desk study, hazard/disaster types as listed in Table 1 were provided as options, and collaborators from the Asia-Pacific region selected three hazard types that were of great concern in their respective countries. To focus on the hazards and disasters affecting the environment and ecosystems, armed conflict was excluded from the scope of the study.

**Table 1** Hazard/disaster types listed for the study

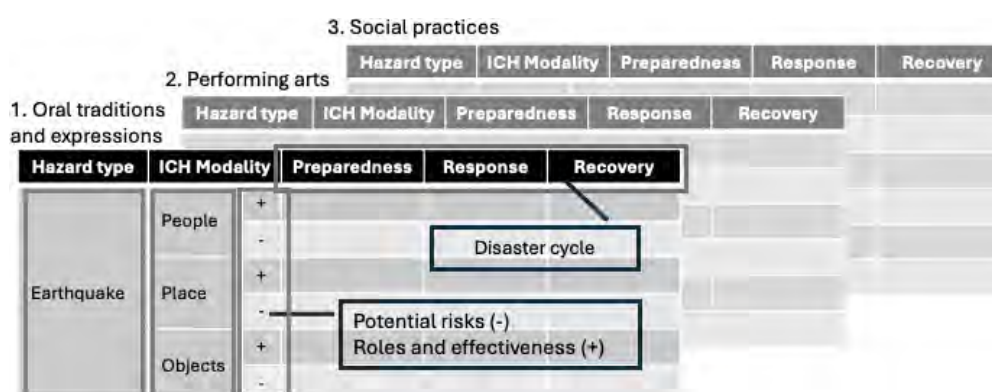
Earthquake	Coastal erosion	Insect/animal infestation
Volcanic Eruption	Cyclone/typhoon	Epidemic
Landslide	Tornado	Others
Snow/Ice-related hazard	Flooding	(including man-made hazards)
Tsunami	Drought	
Storm surge	Wildfire	

Expecting that the disaster impact and the role of ICH would differ depending on the nature of ICH, this study treated a wide range of ICH separately, following the five ICH domains distinguished in the Convention for the Safeguarding of the Intangible Cultural Heritage (the 2003 Convention). They are:

- 1) oral tradition and expressions
- 2) performing arts
- 3) social practices, rituals, and festive events
- 4) knowledge and practices concerning nature and the universe, and
- 5) traditional craftsmanship.

Furthermore, the following three modalities were proposed to closely examine ICH elements: **people** who are at the core of any ICH knowledge and practice; **place** including sites, facilities, and environments that supply natural resources related to the practice; and **object** or instruments associated with the practice of ICH, including raw materials.

Incorporating all these factors, tables or worksheets as shown in Figure 1 were developed and used in the study. Researchers from the Asia-Pacific region who participated in the project (see Table 2) selected three types of hazards/disasters, and filled in the tables for all five ICH domains.



**Figure 1** Worksheet structure and component

The basic structure of the worksheet is shown in front. For each disaster type, five separate sheets corresponding to different ICH domains were created.

Filling out these tables for specific hazard/disaster types was considered helpful in understanding the potential risk of disasters on ICH in a holistic manner, especially how and what aspects of ICH would be damaged by a certain type of disaster, and at what stage of disaster it would happen. The consideration of the disaster process is extremely important for ICH, because there are many instances in which elements of ICH have been rather negatively impacted in the process of post-disaster recovery and reconstruction, as typically found in the influx of external materials and objects as part of disaster-relief and recovery assistance, replacing existing local materials and associated practices (e.g. traditional architecture replaced by modern houses with bricks and metals or wooden boats replaced by fibreglass boats, leading to the loss of knowledge and practice).

This exercise was also considered effective in recognizing the active roles of ICH, which serves as a baseline for developing specific plans for mobilizing ICH for community-based DRR. In addition, it is also expected that contributions from various countries in the Asia-Pacific region will refine the quality of this ICH–hazard/disaster table, which, ultimately, will become a reference and general tool for identifying ICH risks in the context of natural hazards and disasters.

#### ***Online workshop based on the desk study (FY 2022)***

The results of the desk study conducted in seven countries in the Asia-Pacific region were shared through an online workshop, which was divided into two sessions held on 5 August 2022 (Session 1) and 7 September 2022 (Session 2)(Annex 1). In Session 1, the participants focused on the impact of natural hazards and disasters on ICH and how to safeguard ICH from disasters. In Session 2, in contrast, participants discussed active roles of ICH for DRR.

In addition to the reports and discussions on these themes, R. Kodani of the Cultural Heritage Disaster Management Center, National Institutes for Cultural Heritage, Japan, introduced its activities and efforts to safeguard ICH in Japan as an icebreaker for the workshop. Recalling the first notable effort in which bulls used for traditional bullfights were rescued at the request of a local community hit by the Chuetsu Earthquake in 2004, he outlined how ICH safeguarding has developed in Japan as part of heritage rescue programmes and the ongoing effort of the center to develop a strategy for safeguarding ICH at all stages of disaster risk management (DRM)<sup>4,5</sup>.

While the importance of social practices, rituals, and performing arts for enhancing community cohesion as well as traditional crafts as a means of re-establishing livelihoods in the recovery process was reconfirmed, a wide range of ICH was

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4 Kodani, R. (2022). Commitments of the Cultural Heritage Disaster Risk Management Center (CHDRMS) to Safeguard Intangible Cultural Heritage against Disasters. A paper presented at Session 1 of the Workshop of the Research on ICH Safeguarding and Disaster Risk Management, Online, 5 August 2022.

5 A further refined version of the DRM framework for ICH developed by the center was presented by T. Goto, a researcher associated with the center, at the final workshop in September 2023, which has been included in this volume.

considered effective for disaster preparedness, such as oral traditions, songs, and performances to convey messages regarding how to prepare for and respond to a specific type of disaster; traditional food preparation and storage to survive times of disaster; and a wide array of traditional knowledge and practices predicting climate-related hazards. However, such knowledge and practices that could potentially contribute to community resilience require the processes of transmission and enactment to be effectively utilized as a means of DRR. Given that such knowledge is often on the verge of disappearing due to modernization, market economies, and associated lifestyle changes, it is important to revisit and safeguard such elements by developing and implementing community-based action plans.

### Field Research Assessing the Potential Risks and Effectiveness of ICH in Relation to Natural Hazards and Disasters (FY 2022)

After holding an online workshop and reflecting on the desk study results, each collaborator conducted field research to assess the risks and positive aspects of ICH in the context of natural hazards and disasters at the community level. All the researchers who undertook the desk study continued their commitment to and research for the IRCI project (Table 2). Reflecting on the results of the desk study, the

**Table 2** List of researchers in the Asia-Pacific region contributed to the project through case studies

Country	Researcher	Affiliation	Focus of case study
Bangladesh	Saifur Rashid	Dhaka University	Impact of coastal erosion and flood on ICH in Sunamganj and Shyamnagar Upazilas
Fiji	Melaia Tikoitoga	Ministry of iTaukei Affairs	ICH in Koro and Bua provinces affected by cyclones
Indonesia	Benny Usdianto	RedR Indonesia	The roles of performing arts and other ICH in DRR in Bantul district
Mongolia	Saruul Arslan	National Center for Cultural Heritage	Traditional knowledge, techniques, and practices associated with herding in eastern region in relation to drought, <i>dzud</i> , and wildfire
Philippines	Fatima Gay J. Molina	Mobilizing Futures Interdisciplinary Research and Development	Ifugao ICH in relation to hazards such as cyclones, landslides, flashfloods, and earthquakes
Vanuatu	Edson Willie	Vanuatu Cultural Centre	ICH of Ambae communities affected by volcanic eruption and evacuation
Viet Nam	Phan Phuong Anh	Vietnam National University	Fishing-related ICH in Binh Dinh province and climate hazards (flood, inundation, storm, cyclone, salt-water intrusion, temperature change)

researchers selected specific research locations and communities concerned with ICH and certain types of hazards/disasters, and their research plan was submitted to IRCI immediately after the online workshop in September 2022.

For the purpose of clarifying and guiding the direction of research, general guidelines (Annex 2) were provided by IRCI, with the following goals:

- 1) Identify varieties of ICH in the community, including knowledge and practices related to DRR.
- 2) Identify the disaster risks faced by the community in general, and assess associated risks on ICH.
- 3) Raise awareness among community members and ICH practitioners on a) disaster risks for their own ICH, and b) elements of ICH that are helpful for DRR.
- 4) Discuss with the community a) how to reduce the risk of disaster that would damage ICH, and b) how to utilize ICH for the community's DRR, to develop action plans.

By carrying out case studies focusing on specific communities, ICH elements, and hazard and disaster risk situations, it was expected that the methodology used for the desk study would be refined to serve as a tool to understand the community's ICH and associated disaster risks, which should be a critical step for communities to safeguard their own ICH. At the same time, collaboration between the ICH and DRM fields was encouraged, especially in the process of working in the communities, as such opportunities for dialogue were expected to contribute to the development of practical action plans for ICH safeguarding and DRR. This research should have required close interaction with and the inclusion of local communities, as community members play a primary role in identifying their ICH and how their ICH might be affected by disasters. An important role of researchers in such research activities would be to reorganize a wide range of knowledge and practices held by community members to facilitate discussions on how to safeguard their ICH from disasters and how to utilize their ICH to enhance their resilience.

Actual fieldwork was carried out in the respective countries from October 2022 to February 2023, and the field report was submitted to IRCI by the end of FY 2022 (March 2023). Due to various limiting factors such as the budget, human resources, and the time that could be spent for undertaking research in the field, it was difficult to achieve all the goals as targeted in the project. However, these case studies reflected a wide range of ICH situations affected by various hazards and disasters, including cases indicating adaptation to changing climates and environments. The findings of the case studies were brought together to the final workshop in FY 2023 for comprehensive discussions summarizing the project, and the field report was eventually elaborated as a research paper to be included in this volume.

## **Research on ICH Safeguarding and Disaster Risk Management: Final Workshop (FY 2023)**

### ***The workshop structure***

The final workshop, 'Research on ICH Safeguarding and Disaster Risk Management: Final Workshop' was organized in Nara during 27–29 September 2023 to have

comprehensive discussions for safeguarding ICH from disasters and mobilizing ICH for DRR, while sharing the outcomes of case studies conducted in FY 2022. The workshop was organized in cooperation with the Cultural Heritage Disaster Risk Management Centre under the National Institutes for Cultural Heritage (NICH), and the Nara National Research Institute for Cultural Properties was used as the workshop venue.

Since the inception of the desk study in FY 2021, collaborating researchers in the Asia-Pacific region have taken the same steps following the common guidelines developed by IRCI. Therefore, this workshop was designed as an opportunity to discuss, among these collaborators and a few resource persons, issues and challenges for developing community-centred actions for ICH safeguarding and DRR in the Asia-Pacific region and to further elaborate the framework for safeguarding ICH against disasters. The main presentations and discussions among participants were held in the first two days, while the last day was spent on an excursion related to heritage restoration techniques in Japan and experiencing the heritage-nature linkage (see Annex 3 for the programme of the first two days and the list of participants).

On DAY 1, the results of the field research were presented by project collaborators in the Asia-Pacific region. The workshop was also an opportunity for them to obtain feedback on their research and exchange opinions, which encouraged them to revise their report as a research paper (see the following contributions in this volume for the final output of the case studies). In the final session of the day, a special report was provided by the Cultural Heritage Disaster Risk Management Centre sharing its efforts to establish the DRM framework for ICH at the national level, which could be seen as one of the best models reflecting the efforts for and experiences of rescuing ICH after various disasters that hit Japan (see the contribution by Goto, this volume).

### ***Group discussion: steps and tools to enhance community's capacity to safeguard ICH and mobilize ICH for DRR***

DAY 2 began with a breakout session in the morning. Reflecting on the experiences and outcomes of their case studies, all participants, including collaborators and resource persons, were divided into two groups (A and B) to discuss feasible steps for enhancing the community's capacity to safeguard its own ICH and/or mobilize ICH for community-based DRR. The outcomes of the group discussions are summarized as follows:

Group A proposed the importance of having an ICH inventory as a baseline and the step-by-step identification of threats/challenges, potential roles of ICH, priorities of ICH, opportunities for safeguarding, and feasible actions to be implemented. To facilitate these procedures, various tools and guidelines would be necessary to develop ICH inventories, safeguarding plans, risk and vulnerability assessments for the ICH sector, and integrated ICH-DRM plans that should be community-based. While the first two are general tools for safeguarding ICH, the other two require further examination and elaboration. Opportunities for safeguarding ICH could include existing ICH management policies and the willingness of communities to promote their heritage, where DRM aspects could be incorporated. Existing DRM planning and programmes at the community and national levels could also provide opportunities



for ICH safeguarding. As feasible actions to be taken, Group 1 listed the documentation of ICH practices and traditional knowledge to raise awareness among young people; the support for the communities to get their ICH inscribed on the national list; the programming of capacity-building on DRR for ICH practitioners; and the application of a community-based DRM approach for the better integration of ICH and DRR.

Group B listed the following steps and opportunities for the transmission of ICH as significant: strengthening ethnic identity; utilizing technologies for ICH transmission; replication of systems such as Philippines' School of Living Traditions, rewriting/sharing mythologies, dramas, games, and songs so that children can understand them; organizing festivals combining new approaches to introduce ICH to the younger generation; organizing forums using children's games with partners/representatives of ICH; integrating ICH in information and educational campaigns for DRR; and composing scripts and poems to disseminate DRR messages. To mobilize ICH for community-based DRR, the following steps and ideas were suggested: integrating ICH in DRM planning; organizing a technical working group bringing together DRM and ICH practitioners; officially combining DRM and ICH plans; utilizing evacuation centres as storage space for ICH; replicating village resilience programmes (found in Indonesia and the Philippines); developing local and national risk mapping; integrating the process of free, prior, and informed consent (FPIC) in DRM consultations; and institutionalizing the integration of ICH such as early warning systems in DRM. The proposed tools included: the development and circulation of factsheets covering the history of disasters with scientific information; recordings of ICH, including social media and visual ethnographies; utilization of scripts, poems, and games to disseminate DRR; utilization of ICH maps to facilitate discussion; and the development of policy briefs for the government to promote revenue generation for ICH.

### ***Experts' reflection and final discussion***

Before proceeding to the final discussion, two experts provided reflections. As an ICH expert who has been working with UNESCO in the development and implementation of programmes for ICH in emergencies as well as the guidance note for living heritage and climate actions, Chris Ballard (Australian National University) introduced the 'People, Place, Story' model to look into heritage (Wilson and Ballard, 2017) that has been tailored for the capacity-building programmes of UNESCO to understand ICH and disasters. Acknowledging the interwoven nature of tangible and intangible heritage, he emphasized the importance of understanding how ICH is articulated and transmitted, and thinking about which aspects of ICH practices are impacted.

The reflection by Vu Canh Toan (ISET–Vietnam), a DRM specialist and collaborator on the case study in Viet Nam, expanded the focus of discussions on climate change and human factors, such as urbanization and deforestation, which have made hazards more extreme, frequent, and unpredictable. According to him, there is no framework that is sufficiently easy to facilitate better ICH–DRM integration and collaboration. He noted that there are still knowledge gaps for ICH–DRM integration: insufficient DRM knowledge and capacity in the culture sector, and a simplified understanding of ICH and traditional knowledge and limited attention to the social capital aspect of ICH in



the DRM and climate change adaptation (CCA) sector. He also clarified the importance of understanding not only risk but also vulnerability to build resilience, which to ICH researchers sounded like an effective concept to better understand the situation of ICH in relation to disasters.

Subsequently, the final discussion started by asking questions on the collaboration between ICH and DRM, and how ICH could be successfully integrated into DRR. At the government level, participants noted factors such as a limited capacity for intersectoral cooperation and insufficient understanding of ICH among administrators. Institutionalizing the participation of ICH specialists in the national framework for DRR could be seen as a positive move. Considering that the Sendai Framework for Disaster Risk Reduction (UNISDR, 2015) mentions cultural heritage but not ‘intangible’ cultural heritage, some participants called for further advocating the importance of ICH and strengthening the cultural sector’s own framework for DRR. Furthermore, considering that ICH is related to tourism, urban planning, and resilience, a multidimensional approach involving various sectors would be plausible.

Several opportunities for ICH–DRM integration have been mentioned. For instance, community-based DRM could be an ideal ground for integrating ICH, as it requires the process of risk and vulnerability assessments by local communities. Indigenous knowledge is extremely important in discussions on climate change adaptation (CCA). This context could provide an opportunity for ICH, because indigenous knowledge is ICH. The discussion then shifted to the issue of local/indigenous/traditional knowledge, with a participant questioning why it would be necessary to introduce a new term such as ICH into the discussion on CCA, when alternative terms such as traditional knowledge were already in use. In response, it was pointed out that the term ICH is much broader and includes a wide range of knowledge and practices and that using the term ICH could encourage a systemic understanding of knowledge.

It was also pointed out that some ICH elements highlighted in the presentations as effective for DRR, such as climate knowledge, agricultural knowledge and practices, and food preparation, are often not considered as heritage by communities, as they are a part of daily life. In this respect, DRM, CCA, and SDGs are all good opportunities to advocate that these mundane everyday activities all ICH. Towards the end of the discussion, there was an encouraging comment highlighting the power of communities, stating that traditional knowledge, social knowledge and cohesion, and resilience could not be supplied by the government.

## **A WAY FORWARD**

The safeguarding of ICH in the context of disasters and emergencies has made considerable progress over the past 10 years or so. The most notable development would be the emphasis on the preparedness phase, in addition to supporting the restoration and revitalization of ICH in the post-disaster response and recovery phases. In this project, activities were designed to enhance the community’s capacity and awareness concerning their ICH and disasters so that community members and ICH practitioners could be more aware of the disaster risk faced by their ICH and be better

prepared for potential disasters in the future.

Interestingly, somewhat similar frameworks have been developed: by IRCI as used in this project, by Ballard as used in the UNESCO capacity-building programme, and by the Cultural Heritage Disaster Risk Management Center in Japan (Goto, this volume). All have attempted to examine and safeguard ICH by considering the DRM cycle of preparedness, response, and recovery. Major differences were in how ICH was examined. The ‘People, Place, and Story’ model being developed by Ballard and Wilson (2017) would have the most comprehensive view of heritage, acknowledging tangible-intangible and the importance of articulation and transmission. In the current project, however, IRCI decided to simply distinguish ‘People, Place, and Object’ as components of ICH. In the model elaborated by Goto, ‘Opportunity’ has been added to ‘People, Place, and Object’. Having such multiple models might be confusing, but the significance of these models is that they enable us to carefully examine how an element of ICH is structured and identify the aspects that are vulnerable to disasters. In the desk study phase of the project, it was recognized that examining every ICH domain was painstaking and time-consuming. However, if the number of ICH elements is limited to a specific element, it would be more straightforward to assess the potential risk. It is hoped that the model used in this project could be further examined and refined as a tool for assessing potential risks and/or effectiveness to be better prepared for future disasters.

Even though this project has finally come to an end, there are still many challenges in integrating ICH with DRR, as pointed out in the discussion of the final workshop. It is encouraging that some participants expressed their willingness to inform their governments about including ICH within the national DRM framework. However, further capacity-building programmes are necessary to strengthen the national capacity to safeguard ICH from disasters. Further collaboration between ICH–DRM is also necessary to mainstream ICH as an effective tool for enhancing community resilience. As noted in the discussion, climate change would be a good opportunity to tackle this aspect, and IRCI intends to apply its knowledge and expertise to address ongoing climate change, emphasizing the role of ICH as a driver of adaptation and resilience.

## **ACKNOWLEDGMENTS**

This project was implemented by IRCI as part of the activities of the International Collaborative Project for the Safeguarding of Cultural Properties, commissioned by the Agency for Cultural Affairs, Japan, for FY 2020–2023.

The following researchers in Japan supported the development of project activities, especially in the early stages: Taku Iida (National Museum of Ethnology), Shosuke Sato (International Institute of Disaster Science, Tohoku University), Hiroki Takakura (Center for Northeast Asian Studies, Tohoku University), Tomo Ishimura (Tokyo National Research Institute for Cultural Properties). Ryusuke Kodani and Tomomi Goto of the Cultural Heritage Disaster Risk Management Centre, NICH, cooperated in the project by providing case studies from Japan and co-organizing the workshop. Collaborating researchers from the Asia-Pacific region, namely, Saruul Arslan (National Center for Cultural Heritage, Mongolia), Fatima Gay J. Molina (Philippines), Phan Phuong Anh (Vietnam National University), Saifur

Rashid (Dhaka University), Melaia Tikoitoga (Ministry of iTaukei Affairs, Fiji), Benny Usdianto (RedR Indonesia), and Richard Shing and Edson Willie (Vanuatu Cultural Centre) enthusiastically continued their commitment to the project from the desk study in FY 2021 to the publication of this volume, and made significant contributions. Chris Ballard (Australian National University) and Vu Canh Toan (Institute for Social and Environmental Transition–Vietnam) also provided productive comments during the final workshop reflecting their expertise. The project also benefited from occasional reporting and exchanges with UNESCO.

Finally, the implementation of the project over four years would not have been possible without the engagement of IRCI staff members. In particular, Masami Okabe and Kazue Sasaki (both former associate fellows at IRCI) should be acknowledged as project coordinators who actively supported this research project by developing project activities and communicating closely with collaborators and resource personnel.

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## Annex 1

### Programme and the List of Participants of the Online Workshop of the Research on ICH Safeguarding and Disaster Risk Management Project (5 August and 7 September 2022)

#### Programme

##### **1st Session** 5 August 2022 13:00–16:00 (JST)

Time	
13:00–13:05	Opening remarks IWAMOTO Wataru, Director-General, IRCI
13:05–13:20	Introduction to the workshop NOJIMA Yoko, Head of Research Section, IRCI
13:20–13:50	Commitments of the Cultural Heritage Disaster Risk Management Center to Protect Intangible Cultural Heritage from Disasters KODANI Ryusuke, Supervising Manager, Cultural Heritage Disaster Risk Management Center, NICH
13:50–14:00	Findings from the 2021 survey (1): Disaster risks threatening ICH OKABE Masami, Associate Fellow, IRCI
14:00–15:50	Round Table Discussion Theme: <i>How to safeguard ICH from disasters?</i>
15:50–16:00	Announcement of the 2nd session

##### **2nd Session** 7 September 2022 12:00–15:10 (JST)

Time	
12:00–12:05	Introduction to the 2nd session
12:05–12:15	Findings from the 2021 survey (2): Effectiveness of ICH for disaster risk reduction OKABE Masami, Associate Fellow, IRCI
12:15–13:55	Round Table Discussion Theme: <i>Mobilising ICH for disaster risk reduction</i>
13:55–14:05	– break –
14:05–15:05	Discussion in preparation for field research
15:05–15:10	Closing remarks IWAMOTO Wataru, Director-General, IRCI

### List of Participants

Name	Title and Affiliation
Asia-Pacific participants	
Saruul ARSLAN	Specialist, National Center for Cultural Heritage, Mongolia
Fatima Gay MOLINA	Founder, Mobilizing Futures Interdisciplinary Research and Development, the Philippines
PHAN Phuong Anh	Senior lecture, Department of Anthropology, Vietnam National University, Viet Nam
Saifur RASHID	Professor, Department of Anthropology, University of Dhaka, Bangladesh
Melaia TIKOITOGA	Senior Administration Officer, Development Services Division, Ministry of iTaukei Affairs, Fiji
Benny USDIANTO	Chief Executive Officer, RedR Indonesia
Edson WILLIE	Heritage Manager, Vanuatu Cultural Center, Vanuatu
Resource person in Japan	
IIDA Taku	Professor, National Museum of Ethnology
National Institutes for Cultural Heritage (NICH), Japan	
KODANI Ryusuke	Supervising Manager, Cultural Heritage Disaster Risk Management Center
GOTO Tomomi	Researcher, Cultural Heritage Disaster Risk Management Center
ISHIMURA Tomo	Head, Audio-Visual Documentation Section, Tokyo National Research Institute for Cultural Properties
Secretariat: International Research Centre for Intangible Cultural Heritage in the Asia-Pacific Region (IRCI)	
IWAMOTO Wataru	Director-General
NOJIMA Yoko	Head of Research Section
OKABE Masami	Associate Fellow
Dudko Anastasiia	Associate Fellow
Sasaki Kazue	Associate Fellow

## Annex 2

### Guidelines for Field Research Assessing the Potential Risks and Effectiveness of ICH in Relation to Natural Hazards and Disasters

- 0) Obtain community's consent before interviewing people
- 1) Understand the locality and community situations
  - Geographical settings: natural and social environment, accessibility, etc.
  - Baseline information such as population, history, economy, etc.
- 2) Identify potential disasters and prioritize hazard types more concerned by the community members
  - Listing past disaster experiences and having hazard maps would be helpful.
- 3) Identify ICH in the community
  - Five domains of ICH as outlined in the Convention may be used to explain the concept of ICH.
  - Note that ICH is not limited to the elements that are inscribed on the List of the Convention, but includes any knowledge, skills and practices that are held and transmitted by people for generations and are part of their culture and livelihood.
  - In this process, also identify the ICH elements that are particularly important for the community.
- 4) Identify disaster risks of ICH in the community, or how disasters affect the practice and transmission of ICH
  - After identifying ICH in item 3) above, discuss with community members what aspects of ICH would be affected (people/place/object), how, and at what stage of disaster (before/during/after).
- 5) Based on information obtained in above item 4), discuss with community members and ICH practitioners how they could reduce the risks they have on their ICH, and possible actions to be taken to this end.
- 6) Identify ICH that could play positive roles in the community's DRR and resilience
  - Note that the knowledge and practices that are useful for DRR are often not considered as ICH. The result of desk survey may be helpful in identifying such ICH.
- 7) Based on information obtained in above item 6), discuss with community members how such ICH could be mobilized for enhancing community resilience, and possible actions to be taken.
- 8) Consider if the discussions initiated in items 4) and 6) above could be further elaborated to develop a strategy for safeguarding ICH from disasters, and/or community-based DRR incorporating ICH and its safeguarding.

### Annex 3

#### Programme and the List of Participants of the Final Workshop of the Research on ICH Safeguarding and Disaster Risk Management Project (27–29 September 2023)

##### PROGRAMME SCHEDULE

DAY 1 27 September 2023	
9:30–	Registration
10:00–10:10	<b>OPENING</b> Opening remarks by: <i>MACHIDA Daisuke, Director-General of IRCI</i> <i>DUONG Bich Hanh, UNESCO Beijing Office</i>
10:10–10:25	<b>INTRODUCTION TO THE WORKSHOP</b> <i>Yoko NOJIMA, IRCI</i>
10:25–12:10	<b>REPORTING OF THE RESULT OF FIELD RESEARCH (1)</b> 25 minutes presentation, followed by 10 minutes Q&As
1025	ICH Safeguarding and Disaster Risk Management in Bangladesh: A Study Assessing the Potential Risks and Effectiveness of ICH in the DRM Context <i>Saifur RASHID, University of Dhaka, Bangladesh</i>
1100	Field Research on ‘ICH Safeguarding and Disaster Risk Management’ Mongolia: Addressing ‘Dzud’ as a Natural Hazard through Safeguarding and Disaster Risk Management <i>Saruul ARSLAN, National Center for Cultural Heritage, Mongolia</i>
1135	Intangible Cultural Heritage in the Context of Disasters and Climate Change: A Case Study of a Fishing Community in Central Vietnam <i>PHAN Phuong Anh, Vietnam National University, Hanoi</i> <i>VU Canh Toan, Institute for Social and Environmental Transition – ISET Vietnam</i>
12:10–13:10	Lunch Break
13:10–15:30	<b>REPORTING OF THE RESULT OF FIELD RESEARCH (2)</b>
1310	Fiji (online) <i>Melaia TIKOITOGA, Ministry of iTaukei Affairs, Fiji</i>
1345	Assessing the Potential Risk and Effectiveness of ICH in Relation to Natural Disasters, A case study of West Ambae, Penama Province, Vanuatu <i>Edson WILLIE, Vanuatu Cultural Centre</i>
1420	The Roles of Performing Arts and Intangible Cultural Heritage in Relation to Disaster Risk Reduction in Indonesia <i>Benny USDianto, RedR Indonesia</i> <i>OKABE Masami, Urban-Culture Research Center, Osaka Metropolitan University</i>

1455 Safeguarding ICH: An Ethnographic Study of the Ifugao Experience in the Philippines  
*Fatima Gay J. MOLINA, Mobilizing Futures Interdisciplinary Research and Development*

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15:30–15:45 Coffee/Tea Break

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15:45–16:45 **SPECIAL REPORT**  
Disaster Risk Assessment and Prevention for ICH: Introducing the activities of Cultural Heritage Disaster Risk Management Centre, Japan  
*GOTO Tomomi, Cultural Heritage Disaster Risk Management Center*

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16:45 End of DAY 1

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**DAY 2 28 September 2023**

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9:30–12:00 **BREAKOUT SESSION**  
Ideas for developing community-based action plans and measures for safeguarding ICH and incorporating ICH for community's DRR, including possible tools  
- Participants are divided into 2 groups

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12:00–13:00 Lunch Break

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13:00–14:00 **DISCUSSION (1)**  
Possible processes and tools for safeguarding ICH in the context of disasters  
Presenting the result of breakout session (15 minutes presentation x 2), followed by discussion

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14:00–14:40 **REFLECTION BY EXPERTS**  
*Chris BALLARD, Australian National University*  
*VU Canh Toan, Institute for Social and Environmental Transition – ISET Vietnam*

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14:40–14:55 Coffee/Tea Break

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14:55–16:30 **DISCUSSION (2)**  
Challenges to be addressed in the future, such as:  
- further strengthening the collaboration with DRM field;  
- perspectives to cope with/adapt to the ongoing climate change; and so on

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16:30–16:45 **CLOSING**  
Closing remarks by:  
*KOHDZUMA Yohsei, Director, Cultural Heritage Disaster Risk Management Center*  
*MACHIDA Daisuke, Director-General, IRCI*

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16:45 Workshop closed

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## LIST OF PARTICIPANTS

Name	Affiliation
<b>Collaborators in the Asia-Pacific Region</b>	
Saruul ARSLAN	National Center for Cultural Heritage, Mongolia
Fatima Gay MOLINA	Mobilizing Futures Interdisciplinary Research and Development, Philippines
PHAN Phuong Anh	Department of Anthropology, Vietnam National University, Viet Nam
Saifur RASHID	Department of Anthropology, University of Dhaka, Bangladesh
Melaia TIKOITOGA	(online participation) Ministry of iTaukei Affairs, Fiji
Benny USDIANTO	RedR, Indonesia
Edson WILLIE	Vanuatu Cultural Centre
<b>Resource persons</b>	
Chris BALLARD	Australian National University, Australia
DUONG Bich Hanh	UNESCO Beijing Office
IIDA Taku	National Museum of Ethnology, Japan
OKABE Masami	Urban-Culture Research Center, Osaka Metropolitan University
VU Canh Toan	Institute for Social and Environmental Transition, Vietnam
<b>National Institutes for Cultural Heritage (NICH), Japan</b>	
KOHDZUMA Yohsei	Cultural Heritage Disaster Risk Management Centre
KODANI Ryusuke	Cultural Heritage Disaster Risk Management Centre
GOTO Tomomi	Cultural Heritage Disaster Risk Management Centre
ISHIMURA Tomo	Tokyo National Research Institute for Cultural Properties
<b>IRCI Secretariat</b>	
MACHIDA Daisuke	Director-General
NOJIMA Yoko	Head of Research Section
ISHITSUBO Naoki	Chief Executive Clerk
YAO Teruki	Executive Clerk
IKEDA Akiko	Associate Fellow
TSUJI Takashi	Associate Fellow
YAMAMOTO Hitomi	Associate Fellow



# INTANGIBLE CULTURAL HERITAGE IN THE CONTEXT OF DISASTERS AND CLIMATE CHANGE

A CASE STUDY OF A FISHING COMMUNITY IN VIET NAM

Phan Phuong Anh<sup>1</sup> and Vu Canh Toan<sup>2</sup>

## 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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1 Department of Anthropology, University of Social Sciences and Humanities (USSH), Viet Nam National University (VNU), Hanoi.

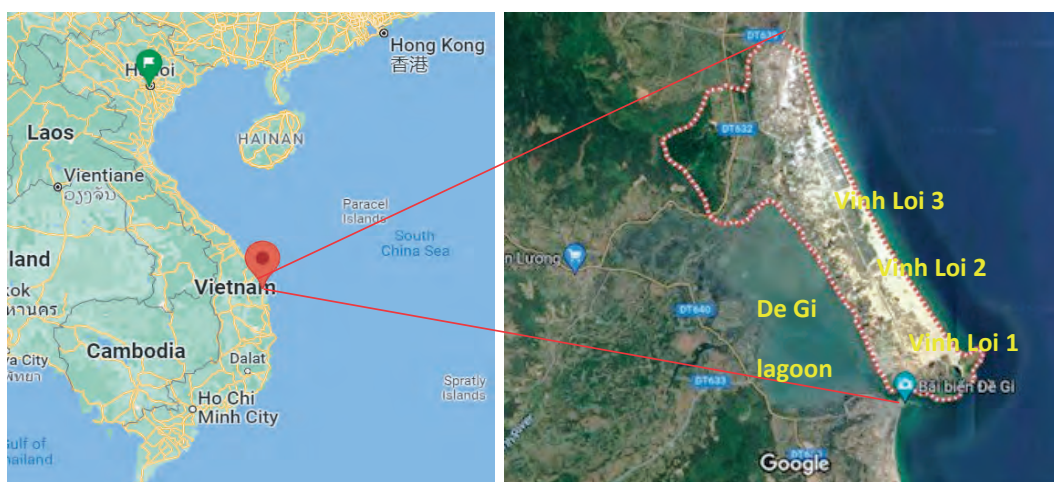
2 Institute for Social and Environmental Transition (ISET)

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 km<sup>2</sup> 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

Vietnamese<sup>3</sup>. 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 m<sup>2</sup> 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)<sup>4</sup>.

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 belief<sup>5</sup> 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'<sup>6</sup>) 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)

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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 drums<sup>7</sup>.

### **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

<sup>7</sup> 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.

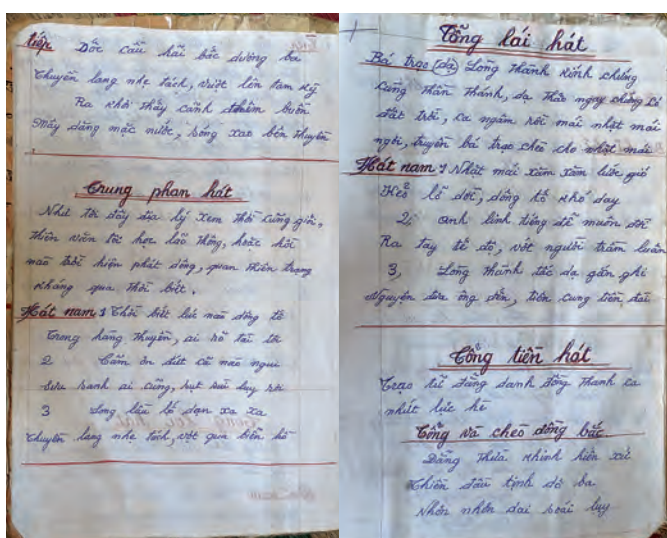
### **Ba trao singing and dancing**

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.)<sup>8</sup>.

### **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')<sup>9</sup>. 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.

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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 solutions<sup>10</sup>. 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

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<sup>10</sup> 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 relations<sup>11</sup> 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

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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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# ICH SAFEGUARDING AND DISASTER RISK MANAGEMENT IN BANGLADESH

## A STUDY ASSESSING THE POTENTIAL RISKS AND EFFECTIVENESS OF ICH IN THE DRM CONTEXT

Saifur Rashid<sup>1</sup>

### OBJECTIVE OF THE CASE STUDY

This case study aims to understand the dynamics of relationship between climate change-induced hazards and the intangible cultural heritage (ICH) practice in the Northeast Haor Basin, southwest coastal and south-central region of Bangladesh. To supplement this general objective, the present case study focuses on the following issues:

- a. What are the general cultural heritage practices in the regions?
- b. How have climate change and climatic hazards affected different ICH practices in the regions?
- c. How do different ICH practices help different disaster risk reductions?

### METHODOLOGY

The methodology of this study is anthropological in nature, with the goal of understanding the relationship between cultural heritage practices and climate change in three different ecological regions out of six climate hotspots of Bangladesh: Sunamganj Upazila in the Northwest Haor Basin, Shyamnagar Upazila in the southwest coastal region, and Tungipara and Nazirpur Upazila in the south-central Region. The study's major data-collection methods include focused ethnographic observation, key informants' interviews/in-depth interviews, and focus group discussions.

The first stage of the study has entailed observing and documenting the region's diverse living and cultural heritage practices, such as traditional knowledge and customary behaviors that are used to cope with the effects of climate change. Based on ethnographic observations, the study team have conducted in-depth interviews with residents of the selected areas during the second field trip to learn how people perceive and experience the effects of climate change on their cultural heritage practices. The focus group discussions have facilitated the researchers to get better understanding how climate change has been influencing cultural heritage practices and how communities have been responding to these impacts. To validate the data, all data gathered during the study, including recordings, images, videos, and observation notes, have been transcribed and triangulated among different tools and respondents. Finally, the researchers have categorized and thematically analyzed the filtered data to see the interrelationships between the relevant themes and patterns.

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## FINDINGS AND DISCUSSION

We have discussed different ICH practices in Sunamganj of northwest region, Shyamnagar of southeast coastal region, and Tungipara and Nazirpur Upazila of south-central region. Based on our fieldwork in these three regions, we have discussed how different ICH practices have historically helped people to respond to different climatic hazards.

### **The Case of Sunamganj Upazila**

Flash floods, erosion, and hailstorms are the most common climatic catastrophes in Sunamganj Upazila in the northeast Haor Basin. The distinctive natural character of this region includes one of the largest back swamp lakes in Asia. During summer and winter, this basin-like topographical depression is usually dry. However, during monsoon, the entire area gets submerged due to heavy rainfall and flooding and transforms into a large wetland (Oxbow Lakes) (Suvra, 2021). But the rapid changing climatic conditions and natural disasters, such as an unprecedented flash flood of last few consecutive years, has been posing challenges to the ICH practices of Sunamganj. However, some of the ICH practices also have been found effective in responding to some of the challenges of climate change (Table 1).

### ***Traditional performing arts***

This region is considered very rich for its number of oral and performance based cultural practices. These are the major source of entertainment for the Haor people and convey various art forms: mythology, folklore, and traditional knowledge systems. *Baul Gaan*, *Jatrapala*, *Palagaan*, *Ghatugaan*, *Puthipath*, and *Bhatiyali Gaan* are the most notable cultural traditions in this region (Wahab, 2007). A major part of the folk literature collection *Moimonshingho Geetika* is associated with the Haor of Sunamganj. *Jatrapala* is a genre of folk theatre in which local performers play historical and mythological dramas. *Palagan*, on the other hand, is a traditional style of singing combat that is remarkably similar to western rap songs. *Puthipath* describes myths and stories from ancient scrolls and scriptures. *Bhatiyali Gaan* is another essential cultural heritage component of the Haor people of Sunamganj, which translates to 'song of the downstream'. *Bhatiyali Gaan* reflects the inner desires of the Haor people. The rise and fall of the water level are inextricably linked to these performing arts. The regular practice of these art forms is hindered by the long stay of uncertain flashflood water.

*Baula or Baul gaan* of Sunamganj area is one type of musical genre based on the sense of identity, a way of recreation based on the philosophy of humanity, solidarity, and mental peace. Some of the local *Bauls* share valuable insights into the traditional performing arts of the region, including some of which are dying and those that have been revived. According to them, *Baul Gaan*, a genre of traditional folk song plays a significant role to create a joyous atmosphere in the hamlet, foster social cohesiveness and carry themes of love, peace, and devotion to God that purify the soul and keep people from doing evil. They also discuss the demise of the performing arts, citing religious fundamentalism and a lack of patronage as reasons. Another local leader also sheds light on the diverse performing arts of Sunamganj and expresses his

**Table 1** Impact of climate change on the ICH practices of Sunamganj

ICH Domain and practice	Impact of Climate Change
<p><b>Oral traditions and expressions</b> Folklore; Myth; <i>Biyer Geet</i>; <i>Hason Geet</i>; <i>Kiccha Shiluk</i></p>	<p>Myths and folklore are related to indigenous knowledge systems and the natural environment. Climate change’s detrimental impacts on the local ecology make it harder to connect environmental folklore and mythology. Again, due to climate change migration, the number of individuals carrying on these oral traditions is declining in certain locations.</p>
<p><b>Performing arts</b> <i>JatraPala/ Pala</i>; <i>Palagan</i>; <i>Ghetugan</i>; <i>Puthipath</i>; <i>Bhatiyali Gan</i>; <i>Baula gan</i>; <i>Ghatugan</i>;</p>	<p>The performers of <i>Jatrapala</i>, <i>Palagan</i>, and other performing arts in this area make their living mostly from agriculture and other natural resource-based professions. However, climate risks, such as exceptional floods and rains, have had a negative influence on these people’s overall well-being, making it difficult for them to simply make a living, let alone conduct creative acts. As a result, the <i>Jatrapala/Pala</i> practise is in danger.</p> <p>These performing arts have traditionally been staged at different times of the year as part of the Haor people’s creativity and entertainment. However, the yearly calendars have become harder to manage due to frequent seasonal fluctuations.</p> <p><i>Bhatiyaligan</i> is a folk music type peculiar to this region’s ecosystem. Therefore, environmental difficulties undoubtedly hamper the spontaneity of this folk song.</p> <p><i>Baula Gaan</i> is a musical practice that represents sense of identity and serves as a form of recreation grounded in a philosophy centered on the principles of humanity, solidarity, and mental peace. It also embodies a call for collective unity and prosperity. Despite that <i>Ghatugan</i> is no longer a thriving practice among the Haor community, it has significant historical roots in their tradition and culture. <i>Ghatugan</i> involves a collection of musical groups that used to provide entertainment to the Haor community during extended periods of flooding with their songs and dances.</p>
<p><b>Social practices, rituals, and festive events</b> <i>Nabanna Utshab</i> (local harvest celebration)</p>	<p>The <i>Baishakhi Mela</i> and the <i>Nabanna Utshab</i> are associated with New Year celebrations and harvesting the first crop of the year. However, inhabitants have gotten accustomed to having their crops ruined by abrupt floods due to the Haor basin’s uneven and unpredictable water flow in recent decades. As a result, the festivities are hampered.</p>
<p><b>Knowledge and practices concerning nature and the universe</b> Fishing knowledge</p>	<p>Climate change has influenced the Haor region’s floral and faunal resources. Furthermore, many fishing communities are abandoning fishing as a result of the extinction of several fish species in this area. This situation reduces the number of people who can pass on fishing-related traditional knowledge.</p> <p>On the other hand, Ethnomedical approaches such as <i>Kabiraji</i> rely primarily on the floral resources and plants available in the area. Ethnomedical techniques like <i>Kabiraji</i> and <i>Boiddi</i> have been affected due to the extinction of numerous therapeutic plants.</p>
<p><b>Traditional craftsmanship</b> Boat making; <i>Alpona</i> Painting; <i>Jaal</i> (net weaving)</p>	<p>Boats are traditionally built from wood obtained from neighboring forests. On the other hand, inadequate wood supplies have had an influence on traditional boatbuilding craftsmanship. As a result, several boat makers have stopped building boats and switched to constructing steel-body boats. The change in traditional boat-making has affected related practices such as ceremonies, <i>Alpona</i> painting, and many others.</p> <p>Fishing technologies and waterbodies account for a significant portion of traditional Haor handicraft. The Haor people are finding it difficult to retain their traditional fishing techniques due to the tremendous ecological effect of climate change. There aren’t as many fish in Haor as there previously were. Many of the fish species have become extinct. This shortage has had a severe influence on the region’s fishing practices and, as a result, related craftsmanship such as <i>Polo</i>, <i>Kuin</i>, and <i>Jaal</i> making.</p>



concern about its disappearance day by day. He mentions some of the extinct performing arts, such as *Ghetu gaan* (traditional performance unique to Haor region), and others that are on the verge of becoming extinct, such as *Bulabuli*, *Baghai Shinni*, and *Puthipath*. He also talks about the heritage festival of *Pona Tirther Mela* (fair of *Pona Tirtho*), which has been going on for ages and attracts hundreds of thousands of people for the holy bath. However, some performing arts have been revived with the support of the government and local cultural activists. *Dhamail* (a ritualistic song and dance performed by women) is one such example, which was on the verge of extinction but has now been patronized by the government and actively promoted countrywide.

It is emphasized that *Baul Gaan* has a power to motivate people to live in harmony within the local environment and help to minimize the threat of climate change with its themes of love, peace, and devotion to God. Some of the traditional performing arts are still helping people to stay together and to provide solace during times of catastrophe, such as floods or storms. Indigenous knowledge and technology including the use of natural building materials and water management techniques can provide essential knowledge and skills for adapting to climate change.

#### ***Challenges faced by boat makers and their quest for alternative livelihoods***

The relationship between people and boats is as old as the settlement history in this area. Different beliefs, rituals, and practices are associated with boats among various communities in this area. However, climate change has affected the region's unique ecology, directly influencing the territory's cultural heritage traditions. For example, the boat making tradition in Sunamganj is based on woods, yet boat making woods are difficult to come by owing to severe climate change consequences. As a result, the number of traditional boat builders is decreasing daily, as is the knowledge system supporting them. Many other cultural heritage activities are linked to boat building; for example, painting *Alpona* (consisting of colored motifs, patterns, and symbols that are painted on walls or floors with paints) on the body of the boat is an essential component of beautifying transport vessels, and as traditional boatbuilding declines, so does this traditional art.

Different sorts of boats are designed for transporting sand, stones, fishing, and tourist and passenger crossing. Everyone in the hamlet is familiar with the boat-building process, which they inherited as a skill. This low-lying area known as Haor region is close to the Surma river and is very prone to flooding during the monsoon, resulting in a high demand for boats.

The base of a boat is made of Kuma tree wood, and the side is made of Mango tree wood. After the boat's framework is completed, it is transported to *aalong*, a specialized house for shaping and processing boats. This is a tin-shed house with no sides. Boats are sent there and positioned in the middle of the home, with bamboo or wood poles placed on top and fastened to the roof. It is kept there for a while (Figure 1).

Boats are in high demand for three to four months of the year, making it a seasonal





**Figure 1**  
Boat making in Sunamganj  
(Photo: Mustafizur Rahman Rahaat)

industry. As a result, after the peak season, most of the boat makers get out of work for the rest of the year, struggling to support their families. Due to this situation, some of the traditional boat makers are trying to find alternative livelihoods when the situation changes.

### ***Climate change and the disappearance of traditional fishing practices and craftsmanship***

Besides boat making, fishing has been historically playing a significant role in the life and livelihood of the Haor people of Sunamganj Upazila. To catch fish, people have devised fishing gears/equipment including *jaal*, *bagura*, *kucha*, *polo*, *aour*, and *kuin*. These gadgets are still manufactured in rural areas. However, these devices require wood, bamboo, canes, threads, and other materials, and these natural resources are becoming increasingly difficult to get from the locality. Climate change has an impact on the abundance of fish in the river as well as the water levels in the *haor* (wetland ecosystem) on which the fishermen rely for a living during the monsoon season. It is also leading to a loss of catch and a reduction in income.

### ***The role of oral tradition: kiccha and shiluk***

The decline in interest in *kiccha* (folk tales) and *shiluk* (riddle) among younger generations could be potentially related to climate change. Flooding is common in the Haor region. The customary way of life in this region is being interrupted by the increased frequency and intensity of floods caused by climate change. Many families are compelled to relocate or migrate to other locations in search of work, which might result in the extinction of cultural traditions and practices such as *kiccha* and *shiluk*.

Furthermore, the younger generation may be more engaged in dealing with the immediate climate change issues, such as floods, rather than engaging in conventional storytelling or riddle-solving activities. As a result, the Haor region's cultural heritage, including *kiccha* and *shilluk*, is at risk of extinction as younger generations become estranged from their traditional roots. These *kiccha* and *shiluks* convey knowledge on environment in the forms of proverbs. For example, one of the *kiccha* conveys message that, if water arrives early in the *haor* and destroys all the crops, there is a high probability of flood in that year.

Traditional cultural traditions such as *kiccha* and *shiluk* must be preserved in order to protect the region's cultural heritage and maintain a sense of identity and community resilience in the face of climate change. As the Haor region continues to feel the effects of climate change, efforts should be made to sustain and promote traditional cultural traditions in order to strengthen community relationships and foster a sense of cultural continuity and pride.

Furthermore, the elders can use *kiccha* and *shiluk* to pass on essential flood preparation, response, and recovery information and guidance. They can use these traditional mediums to teach the next generation about their community's history and culture, as well as key life values. During times of crisis, *kiccha* and *shiluk* can enhance community togetherness and social peace. These activities have the potential to bring people together and give a sense of shared cultural identity and belonging, which can be beneficial in developing resilience and coping with the effects of floods and other climate-related disasters.

### **The Case of Shyamnagar Upazila in Satkhira**

Cyclones and tidal surges are frequent in Shyamnagar Upazila of Satkhira district in the coastal zone of Bangladesh and are frequently affecting the people's lives and livelihoods. Salinity intrusion significantly impacts people's livelihoods, followed by temperature rise and drought. High tides, riverbank erosion, and waterlogging also have wreak havoc on the local lives and livelihoods (Figure 2).

Climate change has significant impacts on the Gabura Union's traditional farming and other ICH practices in Shyamnagar Upazila. The primary occupations of farming and fishing families of this area are also frequently hampered by rising salinity, soil



**Figure 2**  
Gabura Union Shyamnagar.  
Upazila  
(Photo: S.K. Abdullah Al Mamun)

degradation, and river erosion. As a result, traditional crops and indigenous knowledge associated with farming are gradually disappearing, forcing the community to shift to other means of subsistence. Boat making, which is also an important part of Gabura’s culture, is facing difficulties because of resource scarcity, making it difficult for boat makers to continue their traditional practices. In contrast, the region’s vernacular architecture is evolving and adapting to environmental conditions, providing a sustainable alternative for the community. These situations highlight the need for long-term disaster response strategies that address the community’s specific needs and preserve cultural heritage while adapting to changing environmental conditions. Without such safeguards, the community’s way of life and ICH practices will perish (Table 2).

**Table 2** Impact of climate change on the ICH practices of Gabura union in Shyamnagr Upazila

ICH Domain and practice	Impact of Climate Change
<b>Oral traditions and expressions</b> <i>Pachu bibir kahini; Bilkis Porir kahini; Nantu Paloaner kahini</i>	Indigenous knowledge systems and the natural environment are linked through myths and folklore. The negative effects of climate change on local ecosystems make it more difficult to connect environmental folklore and mythology. Again, owing to climate change migration, the number of people who keep these oral traditions alive is dwindling in some areas.
<b>Social practices, rituals and festive events</b> Tree plant; Sandbag piling; Sacred Ponds; <i>Mahfil</i> ;	Tree plantation and sandbag piling are community practices to reduce river erosion. Gabura people protect some ponds and consider them sacred as they provide them resources throughout the year. <i>Mahfil</i> mostly has religious grounding. It helps people reduce tension and anxiety.
<b>Knowledge and practices concerning nature and the universe</b> <i>Bonbibi ritual; Gazi, Kalu and Champabati ritual; Fishing Knowledge</i>	Indigenous knowledge practices are linked to several ecological components, which have been impeded in recent decades. Inland water bodies have become saline as a result of rising salinity, reducing the quantity of inland fish. Unfortunately, soil salinity has increased as well, affecting traditional saline-sensitive herbs, crops, and medicinal plants. This predicament has put fishing knowledge and traditional healthcare systems that rely on indigenous medicinal plants in danger. Massive river erosion has driven traditional knowledge keepers to leave their locations.
<b>Traditional craftsmanship</b> Boat making; <i>Golpatar Ghor</i>	Due to rising salinity, there has been a decline in the production of natural raw materials, affecting crafts such as bamboo and wood-work and boat making. Massive river erosion has harmed potter villages and their ability to acquire specific clayed soil for artistic purposes. Many craftsmen have shifted to other regions and abandoned their conventional livelihood tactics as a result of river erosion.

### **Climate change impact on traditional farming and ICH practices**

Gabura is located in the Sundarbans area of Bangladesh (the world’s largest mangrove forest). It is a semi-island Union Parishad in Shyamnagar Upazila. The main agricultural crop of this area is rice. Three types of rice are cultivated in Gabura. Changes due to climate change in the Sundarbans area have significant impacts on the culture of this region.

Traditionally, people in this area have relied on agriculture, fishing, and the

Sundarbans forest's resources. However, locals can no longer produce traditional crops due to rising salt levels in the soil, since they are extremely sensitive to salinity. Also, increased salinity in water bodies limits inland fishing. Moreover, many people are moving to other areas due to river erosion and facing hardship to maintain traditional subsistence strategies. Because these local people are the major bearers of cultural practices, this outmigration poses a significant danger to the region's traditional knowledge system and many other ICH activities (Rashid and Hasan, 2020).

In 2007 and 2009, Bangladesh was hit by Cyclone Sidr and Cyclone Aila, causing widespread saline water flooding and increased soil salinity. This made it difficult for farmers to grow traditional crops, leading to a decrease in traditional farming. The government introduced salinity-tolerant rice, but many locals couldn't afford it. As a result, rice cultivation has become limited to certain areas such as Gainbari, Chandnimukh, and Dumuria in Gabura Union.

Consequently, the residents of Gabura are facing challenges in farming traditional inland fish due to increased salinity and river erosion, leading to a decrease in arable land. Many are moving away from farming and migrating from the area. In response to climate change, a different indigenous knowledge-based farming method of floating agriculture, known as *dhap* or *baira*, has been reintroduced in some villages of the region, where it has been used for over 300 years. It has been noted that many villages in this area are currently reintroducing this approach to cultivate paddy in areas that are susceptible to salinity (Rashid, in press). While the people of Gabura have yet to adopt this technique, there is growing awareness of its benefits, and many are eager to implement it in their region.

There are two significant consequences of climate change on the ICH practice in the area. First, most traditional knowledge associated with nature and cultivation is becoming extinct. During our field study, we have found only one person under twenty-five aware of the traditional farming and cultivation methods. The second impact is on the festivities associated with harvesting. It was a tradition in Gabura, like many other places in Bangladesh; *Nobanno*, or the festival for the new harvest, has been a long-practiced traditional festival that is not observed anymore in Gabura.

### ***Boat making in the face of climate change and resource scarcity***

In recent years, fishing in the Kholpetua river has been the primary source of income for Gabura Union people, with over 70% of the population engaging in this industry. Fishing is primarily concerned with catching various species of shrimp and prawns, which are then sold in local markets. Boat-making is an essential traditional practice in Gabura related to fishing, and each person typically uses their little boat to catch fish in the river. However, climate change has resulted in the extinction of long-lasting trees formerly used for boat building. The prohibition on cutting trees from the Sundarbans, a protected mangrove forest, has made it difficult for boat makers to acquire wood (Figure 3).

To overcome the scarcity of suitable wood for boat building, boat makers in Gabura are now predominantly using easily accessible woods, notably rain trees. These boats,



**Figure 3**  
Fishing in Kholpetura River  
(Photo: S.K. Abdullah Al Mamun)



**Figure 4**  
Boat making in Gabura  
(Photo: S.K. Abdullah Al Mamun)

however, are less sustainable than traditional ones, posing a big challenge to the boat-building community. Furthermore, the widespread use of power boats has been worsening the situation. Some of the community's master boat builders are now too old to continue building boats (Figure 4).

A professional boat builder in the neighborhood, voices concern about the scarcity of suitable wood for boat construction. He emphasizes that, once there was no restriction on taking wood from the forest in the past, it is now prohibited, but they must continue to make boats for a living because it is their only expertise. He also remarks that they try to protect the forest so that it may provide them with wood and food in exchange. The community recognizes the importance of protecting the forest for future generations and appreciates the decision to restrict forest cutting.

It is important to note that boats are critical to the community's survival during storms when the area gets submerged for days. There is an urgent need to investigate alternate, sustainable livelihood methods and encourage responsible boat-building practices to safeguard the community's indigenous ways of life.

### ***Adaptation and evolution of vernacular architecture in response to environmental conditions***

*Golpatar ghor*, also known as nipa palm homes, is a type of indigenous vernacular style found in the coastal region of Gabura Union in Shyamnagar Upazila. These dwellings are constructed using flexible nipa palm, also known as *golpata* locally





**Figure 5**  
Golpatar Ghor in Gabura  
(Photo: S.K. Abdullah Al Mamun)

providing natural insulation that keeps the houses cool in summer and warm in winter. This trait is especially essential in the coastal region's tropical environment (Figure 5).

The use of nipa palm also reduces building costs and makes reconstruction simple and inexpensive after a disaster. Skilled artisans called *ghoramis* play a vital role in preserving and passing down this ancient architectural practice. Additionally, *golpatar ghor's* design elements make it resilient to coastal climatic threats, such as cyclones and seawater infiltration, due to its height, material, and construction. The dwellings, for example, are typically twelve feet high and six feet wide, letting air circulate easily and lowering wind pressure during a cyclone. The walls and floors are built with mangrove trees and mud, making them resistant to coastal salinity.

*Golpatar ghor's* roof, made of nipa palm lasts 12–16 months, making maintenance and replacement simple when needed. The use of nipa palm is environmentally beneficial as it is a renewable resource abundant in the region. This traditional architectural practice has evolved to adapt to the region's climate and has become an essential element of the community's identity, providing a unique heritage and practical solution to climate concerns.

Moreover, *ghoramis'* use of asbestos sheets for house construction in Gabura represents a shift in vernacular design methods in response to changing environmental conditions. While this deviates from traditional building procedures, the use of asbestos sheets improves building resilience and contributes to community sustainability by lessening the negative effects of climate change. Additionally, the use of asbestos sheets enables rainwater retention, a departure from traditional practices, showcasing how modifications in vernacular architecture methods can help preserve ICH. This shift in building approaches demonstrates the ability of these ICH practices to adapt and evolve in response to changing environmental conditions, ultimately contributing to community sustainability and cultural continuity.

### ***ICH and resource management***

Gabura residents rely on rainwater and surrounding ponds for drinking water due to the high salinity of deep tube-well water. They collect rainwater during the monsoon and store it in large drums, tanks, and asbestos roofs for consumption throughout the year. Large households typically use saved water for four months, while small families

can rely on it for six months before resorting to gathering water from freshwater ponds, such as Drishti Nandan in Gabura's Sora area, where precautions are taken to maintain water quality. The installation of a protective fence by local villagers demonstrates their recognition of the pond's significance and their efforts to conserve it. This reliance on rainwater and ponds can be seen as a form of traditional ecological knowledge emphasizing the balanced use and conservation of natural resources. The ponds also hold social and cultural value, serving as gathering places for the community and hosting various cultural events.

Additionally, the area is rich in cultural heritage, with folklore, myths, and rituals connected to the Sundarbans mangrove forest. Sundarbans-dependent people have some common rituals, such as the belief in *Bonbibi*<sup>2</sup>, a sacred forest deity. The locals consider *Bonbibi* to be the Sundarbans' guardian spirit. When honey collectors, wood collectors, or fishers visit the jungle searching for protection from Royal Bengal Tiger, they call on *Bonbibi*. Besides *Bonbibi*, people dependent on the Sundarbans seek protection from *Gazi*, *Kalu*, and *Chompabati*; three other forest deities. The legend of *Gazi*, *Kalu*, and *Chompabati* is well-known in the southwestern coastal area. *Pachu Bibir Kahini* (Story of *Pachu Bibi*), *Bilkis Porir Kahini* (Story of *Bilkis Pori*), and *Nantu Paloaner Kahini* (Story of *Nantu Paloan*) are three well-known Shyamnagar's folk myths in the region.

#### **Indigenous knowledge and community traditions as resilience building strategies**

Gabura is regularly hit by cyclones and other climate-related disasters. Gabura's people have established traditional indigenous knowledge that has been passed down from generation to generation and is used to foretell upcoming cyclones. Elders of Gabura rely on observing the movement of different fish in the river and unusual bird movements to predict impending storms and cyclones. Additionally, the inhabitants make efforts to alleviate the impact of rising water levels on river erosion. They participate in tree planting and sandbag construction along the riverbank. These community-driven activities aid in reducing the impact of natural catastrophes on the community (Figure 6).

During major natural disasters, the government provides a nearby shelter for the Gabura people. The shelter is a critical response mechanism that plays a significant part in disaster response. Gabura residents seek safety in this government shelter and try to stay close to one another (Figure 7).

Before a disaster, religious institutions such as mosques play a key role in notifying people about government-issued warnings about impending calamities. Most warnings are broadcasted through the mosque's microphone. Gabura is predominantly occupied by Muslim inhabitants who have integrated religious practices with cultural heritage practices. One such practice is the *Tafsirul Quran Mahfil*, which entails congregations from neighboring villages listening to speeches delivered by religious leaders. Central to these gatherings is the act of praying to God for protection against impending environmental disasters. These gatherings provide the Gabura community with a

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2 *Bondurga* and *Bondevi* are two alternate names for *Bonbibi*.



**Figure 6**  
Sandbags for mitigating river erosion  
(Photo: S.K. Abdullah Al Mamun)



**Figure 7**  
Cyclone shelter in Gabura  
(Photo: S.K. Abdullah Al Mamun)



**Figure 8**  
Gathering in *Tafsirul Quran Mahfil*  
(Photo: S.K. Abdullah Al Mamun)

means of reducing tension and anxiety associated with past and future disasters (Figure 8).

### **The Case Study of Tungipara Upazila in Gopalganj and Nazirpur Upazila in Pirojpur**

The country experiences heavy monsoon rains along with frequent tropical storms in its southern coastal zone that cause frequent occurrence of floods every year. The extent of flooding for all areas of the country is likely to increase by 2050.

Major challenges due to climate change are: floods, drought, river-bank erosion,



sea-level rise and salinity intrusion, cyclones and storm surges, and increase in the magnitude and frequency of mega floods. These issues of climate change have made the life of rural people extremely challenging. The people affected by climate change have taken various measures for their survival and are trying to adapt to the situation. Tungipara and Nazirpur are demonstrating an outstanding example of climate change management through the practice of floating agriculture.

### ***Impact of Climate Change on ICH***

Impact of climate change on ICH is summarized on Tables 3 and 4. Climate change has drastically impacted agriculture in the south-central region, submerging land for seven to eight months annually and increasing salinity levels, affecting traditional crops and environment in Tungipara and Nazirpur. This has disrupted environmental narratives, mythology, and oral traditions, leading to a shift in livelihoods and cultural heritage. Furthermore, climate-induced migration is resulting in a decrease in the number of people who are maintaining the oral traditions such as *Jaari Gaan*, *Shari Gaan* (native operas) and performing arts such as *Jatrapala* (a form of theater) and Puppetry. Due to the changing climate and ecological situation, some of the traditional arts of these areas are becoming less relevant. The changing livelihood patterns, influenced by climate change, have led the artisans of this performing art to switch to different occupations.

This alteration in cultivation methods has not only transformed the agricultural landscape but also has disrupted cultural practices associated with rice cultivation. The celebratory tradition of *Nabanna*, marking the harvest season and the arrival of new rice, has waned in the absence of abundant rice cultivation. Furthermore, the customary creation of various rice-based cakes, known as *pitha*, during the harvesting season, has become a rare occurrence. The scarcity of new rice cultivation has led to the extinction of these vibrant cultural practices. Despite these challenges, certain ICHs are helping the community to build resilience against the climate-related issues.

### ***Impact of ICH practice to resilience in the context of climate change***

In the last few years, flood water has been clogged for almost seven to eight months in Gopalganj and almost ten months in Nazirpur because of climate change. This changing climate situation and environment lead to changing the conventional way of farming and agricultural processes of Nazirpur people. Compounding the challenge, escalating salinity levels have disrupted the cultivation of traditional crops. Though this area is not so close to coastal areas, according to the farmers, salinity is increasing slowly here. So, the conventional monsoon vegetables are not growing now. In response to these adversities, farmers have turned to age-old traditional knowledge, embracing floating agriculture as an innovative solution to grow crops and vegetables. Basically, they use water hyacinth to make a bed on clogged water and grow vegetables here. They even sell floating beds in neighboring districts because of the availability of water hyacinth. Floating agriculture was basically practiced on a small scale before but now almost every farmer in these areas practices floating agriculture (Figure 9).

**Table 3** Impact of climate change on the ICH practices of Tungipara Upazila in Gopalganj

ICH Domain and practice	Impact of Climate Change
<p><b>Oral traditions and expressions</b> Folklore, myth, <i>jari gaan</i> (native opera), <i>shari gaan</i> (native opera)</p>	<p>Climate change is causing a disturbance to the traditional knowledge of indigenous communities that is linked to myths and folklore about the natural environment. The negative impacts on local ecosystems are disrupting the relationship between environmental narratives and mythology. Furthermore, climate-induced migration is resulting in a decrease in the number of people who are maintaining these oral traditions in certain areas.</p>
<p><b>Performing arts</b> <i>Jatrapala</i>, Puppet Dance</p>	<p>The people in the area used to take pleasure in <i>Jatrapala</i> and Puppet Dance. However, due to the changing climate and ecological shifts, some of these traditions are becoming less relevant. The changing livelihood patterns, influenced by climate change, have led the artisans of this performing art to switch to different occupations.</p>
<p><b>Social practices, rituals, and festive events</b> Agricultural practices, <i>Nabanna Utshab</i>, special prayers (<i>milad/ dua mahfil</i>)</p>	<p>Climate change has significantly altered the agricultural dynamics, leaving vast expanses of land submerged for approximately 7-8 months each year. Compounding the challenge, escalating salinity levels have disrupted the cultivation of traditional crops. In response to these adversities, farmers have turned to age-old traditional knowledge, embracing floating agriculture as an innovative solution to grow crops and vegetables. This shift has had profound implications on the staple crop, rice, as farmers are no longer able to cultivate it in the waterlogged lands. Instead, they have adopted cultivating plants on floating beds. This alteration in cultivation methods has not only transformed the agricultural landscape but also has disrupted cultural practices associated with rice cultivation. The celebratory tradition of <i>Nabanna</i>, marking the harvest season and the arrival of new rice, has waned in the absence of abundant rice cultivation. Furthermore, the customary creation of various rice-based cakes, known as <i>pitha</i>, during the harvesting season has become a rare occurrence. The scarcity of new rice cultivation has led to the fading away of these once vibrant cultural practices. In the face of unpredictable harvests and changing ecological phenomena, farmers have incorporated special prayers into their rituals. Events such as <i>dua mahfil</i> or <i>milad</i> are organized before the commencement of cultivation or during periods of unexpected yield fluctuations. These prayers signify the profound connection between the farming community and the natural environment, seeking divine intervention for improved agricultural production. The evolving ecological challenges have not only necessitated changes in agricultural techniques but also have prompted a reevaluation of longstanding cultural practices. The resilience of farmers in adopting floating agriculture demonstrates their ability to adapt to the changing climate. Simultaneously, the modification of social rituals underscores the profound impact of ecological shifts on the cultural fabric of the community.</p>
<p><b>Traditional craftsmanship</b> Boat making, fishing equipment</p>	<p>The persistent impact of climate change has led to a situation where the area is submerged for a significant duration, necessitating a shift in transportation methods. In response to increased flooding, boats and small trollers have emerged as the primary modes of transport for the local population. Recognizing the need for alternative transportation, residents have begun crafting and selling boats and small trollers within the local market. Historically, the community relied on the manual creation of fishing nets (<i>Jaal</i>) and bamboo fishing traps to sustain their livelihoods. In the face of escalating water levels, there has been a noticeable transition from traditional methods to contemporary solutions. Electric nets have become a prevalent choice among the local people.</p>

ICH Domain and practice	Impact of Climate Change
<b>Knowledge and practices concerning nature and the universe</b> Fishing knowledge, floating agriculture, agricultural knowledge	<p>Due to climate change, many people have left farming and started rearing livestock and poultry, and fisheries.</p> <p>Floating agriculture, an ancient practice traditionally carried out on a small scale, has gained increased attention. This age-old technique, now widely adopted in the area, involves utilizing natural resources such as bamboo and water hyacinth to create floating beds for vegetable cultivation. Residents often sell these floating beds to neighboring districts like <i>Pirojpur</i>.</p> <p>As an alternative income source and a way to face the impacts of climate change impacts, people practice floating agriculture extensively nowadays.</p> <p>Since the water in the rivers and canals has severely increased, people often use trollers instead of boats to travel. The use of trollers has resulted in the erosion of riverbanks due to water flow and pressure of water. Therefore, land is decreasing day by day.</p>

**Table 4** Impact of climate change on the ICH practices of Nazirpur Upazila in *Pirojpur*

ICH Domain and practice	Impact of Climate Change
<b>Oral traditions and expressions</b> Folklore, myth	<p>Climate change has impacted on the local ecology and the traditions.</p>
<b>Performing arts</b> <i>Jatrapala</i>	<p>People used to enjoy <i>Jatrapala</i> (a special kind of local drama) and <i>Kiccha</i> (special local stories) in winter. But these are no longer practiced and have been replaced by concerts.</p>
<b>Social practices, rituals, and festive events</b> <i>Nabanna Utshab</i> (local harvest celebration), <i>Milad/ Dua mahfil</i> (special prayers arranged by a household or community), Baithakata floating market	<p>Due to climate change the agricultural land remain underwater almost the whole year. Therefore, farmers cannot grow rice in the lands for which they cultivate plants on floating beds. Since farmers do not grow plenty of rice, they do not celebrate the <i>Nabanna</i> now. Moreover, different kinds of cakes (<i>pitha</i>) made with new rice in the harvesting season is no longer seen in this area.</p> <p>Farmers often arrange special prayers (locally known as <i>dua mahfil/milad</i>) for better production before starting cultivation or when they do not get expected harvest.</p> <p>The locals arrange floating market on the Saturdays and Tuesdays and sell their products there. It has also been a site for tourism.</p>
<b>Traditional craftsmanship</b> Boat making, <i>Jaal making</i> (net weaving), Mat woven with <i>beti</i> (a type of tree used to make mats)	<p>Due to climate change, the area is underwater most of the time for which the main transport for this area has become boat or trollers. People make boats and small trollers and sell them in the local market. On Saturdays and Tuesdays, people sell boats in the floating market.</p> <p>People used to make fishing nets (<i>jaal</i>). Climate change has resulted in the increase of water in the locality for which people nowadays use electric nets imported from the capital Dhaka and hence, people do not make nets as much as they used to.</p>
<b>Knowledge and practices concerning nature and the universe</b> Fishing knowledge, floating agriculture, <i>atchala ghar</i> (special type of two-storied house made with tin)	<p>Due to climate change, many people have left farming and started rearing livestock and poultry, and fisheries.</p> <p>As an alternative income source and a way to face the climate change impacts, people practice floating agriculture extensively nowadays.</p> <p>One of the major attractions of the locality was <i>Atchala Ghar</i> made by the locals. <i>Atchala Ghar</i> is a two-storied house made of tin. The upper floor was generally used to store the grains. Because of climate change, the locality remains under water almost the whole year for which farmers cannot grow rice in the lands. Therefore, they do not need to store grains for which <i>Atchala Ghar</i> is now nothing but a hassle to them. So, they are now uninterested in making these types of houses.</p>



**Figure 9** Floating agriculture (left); newly made floating bed on clogged water using water hyacinth (right) (Photo: Tahsin Momin Antor)

### ***Impact of ICH ensuring food security, woman empowerment and economic stability in a changing climate situation***

Farmers in this region have turned to floating agriculture, an age-old ICH practice, due to the climate change disaster. The traditional agriculture in this region used chemical fertilizers, but floating agriculture, an ancient cultural practice, allows farmers to produce organic food without chemicals and ensuring food security. They also practice fish farming under the floating beds, producing both protein and vegetables in the same space. Various vegetables like gourd, bean, cucumber, lady finger, pumpkin, different types of radishes, cabbage, capsicum, broccoli, pepper are grown on the floating beds, and after harvest, they share their products with neighbors and relatives. Furthermore, the practitioners have recently introduced a new vegan feast celebration after the harvest, which has helped to strengthen their social bonds. In Nazirpur, farmers cultivate *sheola*, a type of green algae, as part of their floating farming practices.

Making a floating bed is a process where the participation of both male and female members of the family is needed. Male members of the family usually ready the beds, and female members prepare the seedlings and process the *meda* (small balls where seeds are sown at first) (Figure 10). For these tasks, they typically hire both male and female daily laborers from their local areas. This provides economic assistance to the local people in the face of changing climate conditions, leading to economic empowerment and ensuring gender equality and participation. Unlike other areas practicing floating agriculture, farmers in Gopalganj only grow and sell vegetables and spices on floating beds. In Nazirpur, farmers only grow plants and sell them in wholesale markets. It is called *charar byabsha* (wholesale plant business) locally (Figure 11).

### ***Impact of ICH in sustainable resource management and sustainable solution***

Floating agriculture, an ICH, serves as a resilience strategy amid changing climatic conditions. Despite disruptions in natural resource management due to climate change and prolonged floods, the increasing adoption of floating agriculture offers a sustainable solution. Water hyacinth, locally known as *kochuripana*, typically considered waste, becomes a vital element in creating floating beds. After six to eight months, when the floating bed expires, the decomposed *kochuripana* residue, known



**Figure 10** *Meda* where seeds are sown  
(Photo: Tasnim Khan Lamisa)



**Figure 11**  
Baithakata Floating Market  
(Photo: Tasnim Khan Lamisa)

as *pochla/pocha*, transforms into a valuable organic fertilizer. This residue is used on other farming lands, and a significant portion is preserved for the next year's floating agriculture. The creation of round balls called *meda*, incorporating *pochla/pocha* and other elements, establishes small seedbeds for sowing vegetable seeds. This innovative practice not only addresses environmental challenges but also contributes to efficient resource management within the community.

The introduction of floating agriculture in Tungipara and Nazirpur demonstrates a proactive and innovative approach to climate change mitigation and adaptation. Local farmers have adopted the practice based on their traditions and the community's culture and wisdom. This practice is now considered as environment-friendly, sustainable, and profitable in Bangladesh and also for other countries facing similar types of climate change conditions. This unique approach highlights Tungipara's and Nazirpur's significance in the broader context of climate change management, and also positions it as a model for other regions facing similar challenges. The focus on floating agriculture serves as evidence of the community's resilience and adaptive capacity in the face of climate-related adversities (Figure 12).

## KEY FINDINGS OF THE STUDY

The study in the above-mentioned three selected ecological regions has narrowly focused on various ICH elements belonging to the broad five domains categorized by UNESCO. Due to time and budget constraints, the study could not cover all the elements in each of the domains mentioned in the 2003 convention. But some of the domains that are covered by the present study have significant connections with multiple domains in terms of knowledge, technology, beliefs, rituals, and practices. Some of the key findings of this study are given below:





**Figure 12**  
*Atchala Ghar*  
(Photo: Tasnim Khan Lamisa)

- 1) Climate change and natural disasters pose significant challenges to the ICH practices of communities in Sunamganj, Sathkhira, Gopalganj and Nazirpur.
- 2) Some ICH practices are playing a vital role in responding to various climate change situations/challenges, while others are endangered and/or are going to be extinct due to adverse impacts of climate change.
- 3) Case study findings clearly show that some of the traditional performing arts have been helping to raise awareness of climate change and to promote sustainable practices, and motivating to adapt to the new situation developed due to climate change.
- 4) The ICH elements belonging to different domains have been playing different roles in the development of social and cultural spaces for building social harmony and peace during the crisis, disaster and other critical moments. Some of the performing arts, rituals and practices are significantly helping the communities of all these three locations to build strong social cohesion among the community members and giving motivation to help each other during the crisis.
- 5) Some of the elements are helping the local community to strengthen social bonding, helping each other, building resilience, and finding options for alternative livelihoods. Many of their indigenous technology have been already lost, or some new technologies have newly innovated to adapt to new situation.
- 6) The evolving vernacular architecture provides a sustainable alternative to

traditional farming and fishing practices that are no longer viable due to rising salinity, soil degradation, and river erosion.

It is important to note that the current study cannot be generalized to understand the overall scenario of Bangladesh as it was conducted in only three specific local areas of the country. However, the findings can be transferable to other similar contexts. Also, it was not possible for the researchers to conduct in-depth fieldwork during any ongoing climatic disaster due to limitation of time and budget, which could possibly draw a broader understanding of the research interest. To better understand the ongoing dynamics between ICH and climate change in these regions, a longitudinal ethnographic study is essential.

## CONCLUSION

In conclusion, we can say that both climate change and natural disasters are significantly posing challenges to the ICH practices of the communities in Bangladesh, such as those in Sunamganj, Shyamnagar, Tungipara, and Nazirpur Upazila. But at the same time, some of the long-lasting ICH elements are also helping to cope with the changing climatic conditions and to respond to various challenges caused by climate change and disaster. Some of the traditional performing arts are helping the local communities to raise awareness of climate change and promote sustainable practices. Innovation of saline friendly cropping, floating gardening, preserving rainwater for drinking, roof gardening, roof top food savings, traditional water cooling, boat building by local materials and others are helping the local people maintaining their life and livelihoods during floods, cyclones and other climatic disasters. The evolving vernacular architecture provides a sustainable alternative to traditional farming and fishing practices that are no longer viable due to rising salinity, soil degradation, and river erosion. To ensure the preservation of these ICH practices and the sustainability of these communities, there is a need for long-term disaster response strategies that can address their specific needs and can support alternative livelihoods. By doing so, we can help to create a more resilient and sustainable future for these communities and their ICH practices.

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# ASSESSMENT OF THE IMPACT OF NATURAL DISASTERS ON INTANGIBLE CULTURAL HERITAGE IN EASTERN REGION, MONGOLIA

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## BACKGROUND

This paper examines and assesses Mongolia's intangible cultural heritage related to natural disasters based on a field survey conducted in the eastern region of Mongolia.

Mongolia has a high elevation, with a cold and dry climate. It has an extreme continental climate with long, cold winters and short summers, during which most precipitation falls. Mongolia's climate is characterized by extreme variability and short-term unpredictability in the summer, and the multiyear averages conceal wide variations in precipitation, dates of frosts, and occurrences of blizzards and spring dust storms. Such climate poses severe challenges to human and livestock survival. Official statistics list less than 1% of the country as arable, 8 to 10% as forest, and the rest as pasture or desert. Natural landscapes are characterized by alternating natural hazards such as extreme temperature fluctuations, severe storms, droughts, forest fires and *dzud* (National Statistics Office of Mongolia, 2022).

Mongolia is vulnerable to over ten natural hazards and disasters, including drought, *dzud*, floods, desertification, earthquakes, and human and animal infections. Unfortunately, the country experiences an average of 3,200 disasters and accidents each year, resulting in the loss of over 180 lives and the damage amounting to 89 billion Mongolian tugrik. Nonetheless, the situation has not yet escalated to a 'serious' natural disaster as it has not caused significant environmental changes, impacted people's lifestyles, destroyed values, or resulted in mass casualties (National Emergency Management Agency of Mongolia, 2023).

## Hazards Profile

In our research, we have identified four hazards and disasters that could potentially harm Mongolia's intangible cultural heritage (ICH). These hazards include drought, wildfire, earthquake, and *dzud*. Among these risks, we have highlighted *dzud* as the primary natural hazard that can have a significant impact on Mongolia's cultural identity. Our decision to focus on *dzud* is based on the data gathered from various sources, including the National Emergency Management Agency, the National Statistical Office database, and the Information and Research Institute of Meteorology,

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## Hydrology and Environment.

*Dzud* is a meteorological occurrence in which severe winter storms ensue as temperatures plummet below  $-46^{\circ}\text{C}$ . The phenomenon is typified by a dearth of summer rainfall and a rugged winter characterized by copious amounts of snow, leading to the death of a substantial number of livestock. Winter storms, in this context, are found to be associated with periods of drought, exacerbating the animals' susceptibility to harsh weather conditions. In addition, malnourishment can weaken herds, increasing the losses and reducing future productivity. It is important to note that the consequences of *dzud* can have significant economic and social implications, particularly in the areas where livestock serves as a primary source of income. Mongolians use the following five terms to distinguish different types of *dzud*, which are well recognized (Figure 1):

- ***Tsagaan (white) dzud*** results from high snowfall that prevents livestock from reaching the grass. It is a frequent and serious disaster that has caused a great number of deaths.
- ***Khar (black) dzud*** results from a lack of snowfall in grazing areas, leading to both livestock and humans lacking water. This type of *dzud* does not occur every year, nor does it affect large areas. It mostly happens in the Gobi Desert region.
- ***Tumur (iron) dzud*** results from a short wintertime warming, followed by a return to sub-freezing temperatures. The snow melts and then freezes again, producing an impenetrable ice-cover that prevents livestock from grazing.
- ***Khuiten (cold) dzud*** occurs when the temperature drops to very low levels for several days. The cold temperature and the strong winds prevent livestock from grazing; the animals have to use most of their energy to keep warm.
- ***Khavsarsan (combined) dzud*** is a combination of at least two of the above types of *dzud*.

Mongolia is vulnerable to frequent steppe fires caused mostly by human actions. Grasslands depend on seasonal fires for growth, but the current approach to fire-fighting is largely preventive, which endangers the stability of natural ecosystems. The



**Figure 1**

White *dzud* occurred in Khentii province, eastern region in Mongolia, 2023 (Photo: Eagle TV)

ecological systems are fragile, with low soil depth, making it susceptible to erosion. Climate change has worsened the situation, with increased heat and cold extremes, droughts, and reduced water availability, affecting the pastoral industry.

Approximately 35 percent of the Mongolian workforce depends on herding for a considerable portion of their livelihoods, while about 63 percent of rural households' assets are livestock. Livestock herding accounts for approximately one-third of the employment in Mongolia (National Statistic Office of Mongolia, 2022). The worsening of food security and the potential rise in poverty levels may prompt an increase in rural-to-urban migration. These risks are more likely to have an adverse impact on ICH.

It is improbable that natural disasters caused by severe hazards will significantly affect individuals living in sparsely populated areas who rely on livestock. However, the increasing frequency of natural disasters and global climate change necessitates the establishment of a disaster risk reduction plan within the ICH to prepare for, prevent, and respond to emergencies in the future.

## **GEOGRAPHICAL BACKGROUND OF EASTERN REGION OF MONGOLIA**

Eastern Mongolia can be classified into two distinct regions. The northern region presents a magnificent taiga landscape with pine forests, rugged mountainous terrains, and robust rivers. Alternatively, the southern region marks the eastern periphery of the great Gobi Desert.

Eastern Mongolia is also famously known as the 'land of cranes' due to seven crane species, including some scarce, nesting by the rivers and lakes in the region during summer.

The vast grasslands of Dornod and Sukhbaatar provinces are a prime location for observing the migration of enormous herds of black-tailed gazelles seeking greener pastures.

The steppe landscape spans 860,000 km<sup>2</sup>, with a sizable portion of the land being government-owned pasture used by approximately 20,000 nomadic herder families residing in small communities scattered across the eastern area. These pastoralists rely on the fragile steppe landscape and its numerous ecosystem services, from grass to water to wildlife.

## **OVERVIEW OF THE INTANGIBLE CULTURAL HERITAGE IN EASTERN MONGOLIA**

Throughout history, the vast and boundless steppe of Eastern Mongolia has been the cherished home of multiple ethnic groups, including the Khalkha, Buryat, Zakhchin, Dariganga, Barga, and Uzemchin (Figure 2).

The never-ending expanse of the eastern Mongolian steppe is adorned with lush, feathery grass that sways gently in the breeze. The nomadic Mongols' unrelenting efforts to safeguard and preserve this unspoiled land for future generations signify



**Figure 2** Map of eastern Mongolia, with the location of research areas (Khentii, Dornod, and Sukhbaatar provinces) (Source: Information and Research Institute of Meteorology, Hydrology and Environment)

their deep-rooted nomadic philosophy and profound understanding of nature. The nomadic philosophy of Mongolia is deeply rooted in a profound understanding and reverence for nature. It emphasizes the importance of living in harmony with the environment and has been passed down through generations of Mongolian nomads. This philosophy is based on the principles of sustainability, respect for nature, and an appreciation for the interconnectedness of all living things. The Mongolian nomads' way of life reflects a deep understanding of the natural world and how humans can coexist with it.

The Integrated State Database of Cultural Heritage of Mongolia reports 11,189 registered ICH practitioners, as well as 277 ICH registered elements. Notably, the eastern region, comprising the Khentii, Dornod, and Sukhbaatar provinces, only accounts for 1,561 registered ICH practitioners, representing a mere 14% of the total (National Center for Cultural Heritage of Mongolia, 2023).

We have selected the eastern region of Mongolia, which includes the provinces of Dornod, Khentii, and Sukhbaatar, based on the data we collected during the desk study conducted in 2021-2022. Our focus is on natural hazards such as *dzud*, heavy snow, drought, and wildfire in the context of disaster reduction and their relation to the ICH elements of various domains.

The ICH domains and elements we have identified are:

1. Social practices, rituals, and festive events:
  - Mongolian nomadic rituals and customs
  - Customs associated taboos
2. Traditional techniques, knowledge, and practices concerning nature and the universe:
  - Traditional knowledge and practices of protecting and preserving nature

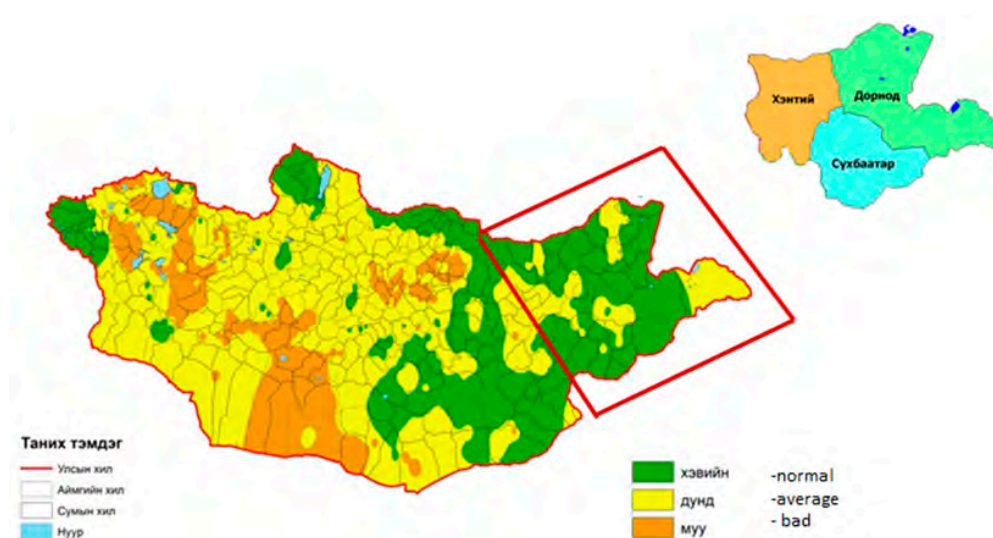
- Traditional knowledge and practices of observing and studying nature
  - Traditional knowledge and practices of choosing new pasture
  - Traditional knowledge and practices of observing and studying livestock
  - Traditional astronomical knowledge
  - Traditional knowledge and practices of naming places
3. Traditional knowledge and techniques:
- Traditional knowledge and techniques of preparing white (milk) dairy products
  - Traditional knowledge, treatment, and medicine
  - Traditional knowledge and methods of rearing and educating children
  - Traditional knowledge of observing the sky and forecasting weather
  - Traditional knowledge of observing plants and pasture
  - Traditional knowledge of observing animals and birds

## RESEARCH AREA AND METHODOLOGIES

The study aimed to examine natural disasters in Mongolia, specifically focusing on the *dzud*, a multifactorial natural hazard.

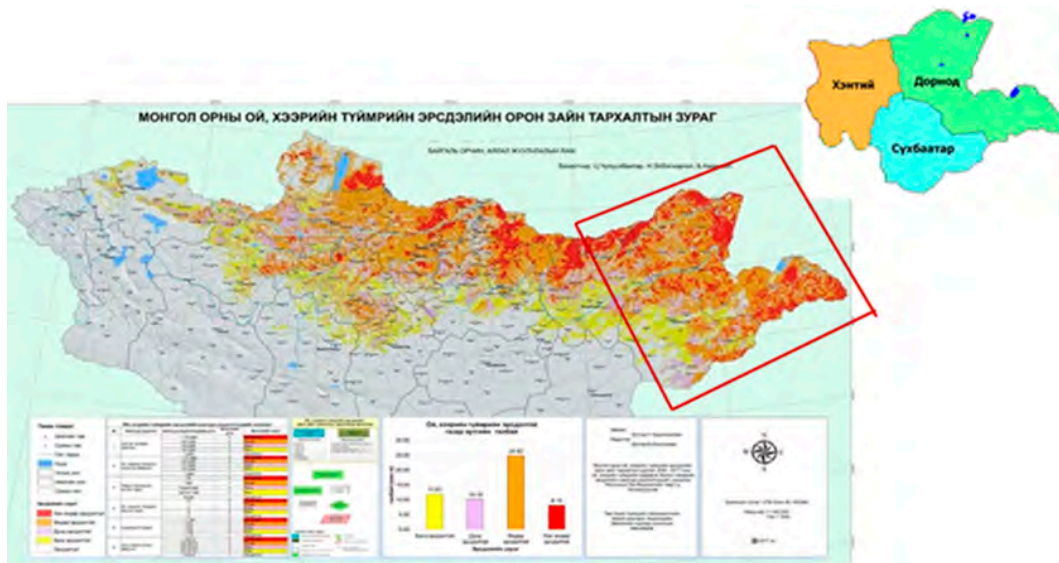
The research utilized the data from the National Emergency Management Agency and the Information and Research Institute of Meteorology, Hydrology and Environment to identify three natural hazards: drought, wildfire, and *dzud* (Figure 3-5).

The study focused on the ICH in Eastern Mongolia, which exhibited good grazing capacity during the summer of 2022. However, this region is in a high-risk area for wildfires, with some places having a moderate risk of *dzud*. Some areas may also experience little or no snowfall, resulting in black *dzud* that leads to livestock mortality due to a lack of water and reduced grazing capacity.

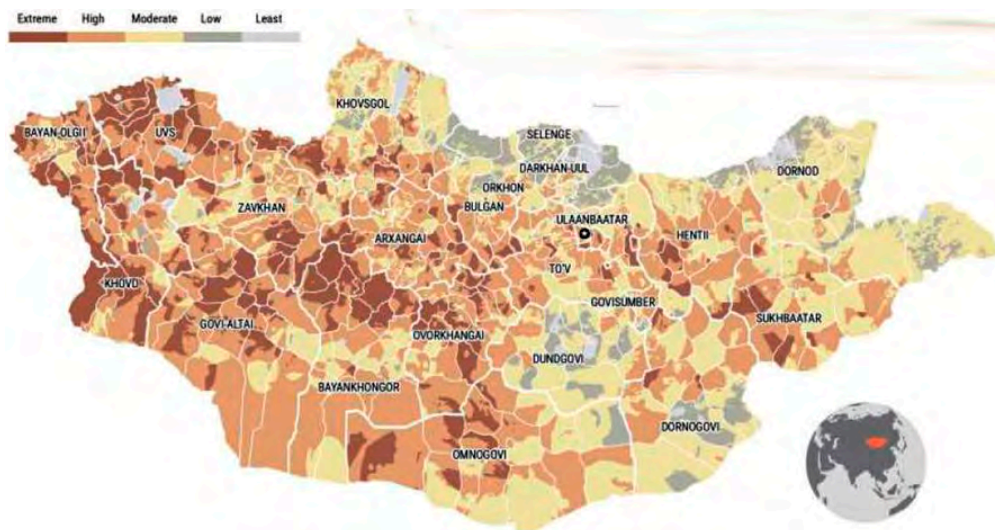


**Figure 3** Drought and desertification map 2022 (Source: Information and Research Institute of Meteorology, Hydrology and Environment)





**Figure 4** Wildfire, forest and steppe fires map 2022-2023 (Source: Information and Research Institute of Meteorology, Hydrology and Environment)



**Figure 5** *Dzud* risk map as of 3 February, 2023 (Source: Information and Research Institute of Meteorology, Hydrology and Environment)

The study also aimed to assess the impact of natural disasters on the ICH in the eastern region. To achieve this, the research had three main objectives: firstly, to observe the types and frequencies of natural disasters in the study areas; secondly, to explore the community's traditions, customs, beliefs, culture, religion, and lifestyles within the study area; and finally, to assess the impact of natural disasters on the ICH of the study area.

The research was conducted extensively with local communities, including in-depth interviews with key informants and focus groups. Purposive sampling was leveraged to

carefully select areas that natural disasters, including wildfires, *dzud*, and droughts, have severely impacted.

The primary data collection method employed in this study was semi-structured interviews with herders and renowned practitioners of the ICH domains such as social practices, rituals, festive events, traditional techniques, knowledge and practices concerning nature and the universe, traditional knowledge and techniques, and traditional knowledge and techniques associated with herding livestock.

Interviewees were randomly selected from the Dornod, Khentii, and Sukhbaatar provinces. All interviewees were over 45 years old, native to the region, and had experienced several natural disasters. Semi-structured interview questions were utilized to explore aspects such as natural hazards and disasters, religion, beliefs, customs, traditions, and lifestyles of the locals.

### **ASSESSMENTS OF THE IMPACTS OF DISASTERS ON ICH**

The herders in these regions possess extraordinary expertise in adapting to natural occurrences such as drought, wildfire, and the notoriously harsh *dzud*. Their herding lifestyle and traditional way of living have enabled them to amass a vast amount of knowledge and experience. They remain highly vigilant and constantly monitor weather forecasts from the Information and Research Institute of Meteorology, Hydrology and Environment, paying particular attention to the Malchin (Herders) TV. Moreover, they rely on their traditional knowledge to predict weather patterns by closely observing nature and their livestock. With such exhaustive preparation, they are always well-equipped to confront these phenomena head-on, minimizing the damages and ensuring their survival.

However, the impact of natural hazards on the environment cannot be disregarded. The country faces various effects due to climate change, such as drying up rivers and vast plains, melting glaciers and permafrost, and increasing dust storms and floods. These changes make it challenging to predict and forecast the weather, and recovering from disasters requires significant resources.

The country faces a persistent drought and harsh winter conditions, with dire consequences for livestock and herders. During the summer season, livestock typically benefit from the growth of pasture, grass, and crops, resulting in weight gain. However, in 2022, some regions' moisture deficits caused by drought have reduced livestock productivity and overgrazing due to the migration of pasture land. This has resulted in poor pasture quality, making it arduous for the animals to accumulate sufficient reserves. Furthermore, the thick snow cover and low temperatures during the winter pose a significant challenge for livestock accessing grazing grounds, resulting in death from hunger, exhaustion, and cold. Pregnant livestock are at risk of miscarriage or death, and young animals have a high likelihood of dying, particularly during the typical peak period of *dzud* from February to April. The impact and aftermath of the *dzud* devastate many herding households, often resulting in increased urban migration to cities such as Ulaanbaatar and the province center.



The elderly herders dwelling in rural areas have voiced their concerns about the natural hazards that have arisen due to climate change. They bemoan the impact of climate change on all the rivers, vast plains, glaciers, and permafrost. What were once flowery plains now teem with wormholes, and the skies, once clear, are now polluted. Climate change has triggered numerous changes in nature, both in Mongolia and worldwide. The light rains in summer and autumn that once provided coverage for the entire country have vanished altogether, and the increase in dust storms in spring and summer has led to a dearth of moisture.

The persistence of prolonged drought and severe winter events, or *dzuds*, can have debilitating consequences for livestock and pastoralists, necessitating extensive disaster recovery measures. Such interventions entail significant time and resource investments.

In the face of the combined disasters of drought and *dzud*, herders are confronting many challenges. These include:

- The deterioration of pasture and water supply, the need to move away from one's home, or pastoral winter migration to another land can be costly and difficult to find.
- The decrease in animal fat gain, yield, and quality and the falling prices of livestock and livestock products due to quality deterioration. The latter results in a significant reduction in the income of herders, affecting their ability to prepare for winterization and increasing losses due to poor winter-spring livestock.
- The availability of consumer goods becomes challenging, and the acquisition costs increase.
- Psychological stress and depression have become prevalent, increasing health and related costs.

Therefore, it is crucial to address these issues and provide sustainable solutions to mitigate the adverse effects of these challenges.

Numerous interviewees strongly believe ICH is critical in predicting natural phenomena and taking appropriate measures to mitigate their impact. The customs and traditions of Mongolian nomads represent a vast knowledge system that has been developed and passed down over generations. A range informs this system of factors, including geography, climate, herd structure, rituals, and symbolism. Mongolians closely observe all visible and audible signs to predict climate and natural changes.

Mongolian nomads have moved seasonally for centuries to allow nature to recover and prevent environmental risks like overgrazing and soil deterioration. They migrate with their herds across the four seasons, adapting to their surroundings based on the composition and distribution of their herds. These customs reflect the nomads' way of life and serve as a practical measure of natural phenomena.

For instance, they closely observe the sky and weather patterns, using sun signs rounded with the circle like 'sun-stuffing' or 'three suns out' to predict snowfall and

harsh winter weather. In regions with camels, they even follow the direction in which the camel looked and laid on New Year's Day to predict good weather.

As the Mongolian saying goes, animals are an actual book to read the sky, and nomads use their behavior to predict and prepare for natural phenomena.

The loss of Mongolian traditional knowledge is a matter of grave concern, and it is crucial to ensure its uninterrupted transmission. Familiarizing future generations with traditional knowledge and spreading it is of paramount importance.

During the course of the interview, it was brought to attention that a comprehensive approach is required to mitigate potential risks in Mongolia. This approach should include:

- The evaluation of the livelihoods and disaster preparedness of herders,
- Precise selection and monitoring of drought and *dzud* risk indicators,
- Guaranteeing ample storage of forage to prepare for increased drought,
- Apprenticeship training for young herders regarding the traditional knowledge of observing Nature and herding.
- Efficient *otor* winter migration of herds, and
- Provision of veterinary services.

Moreover, it is recommended to incorporate traditional knowledge related to natural phenomena in disaster preparedness training. Emphasis should be placed on preventive measures to minimize the damage caused by heavy snowfall and cold weather. Additionally, proactive measures must be taken to mitigate the risks associated with environmental changes in Mongolia as a result of climate change, which can result in significant loss of livestock and crop stability.

## CONCLUSION

Mongolia is one of the countries with the harshest climates in the world. Its summer lasts only two months, followed by a long winter with temperatures that can drop as low as minus 50 degrees Celsius.

Although natural disasters may not significantly impact Mongolians' living in sparsely populated areas with their livestock, global climate change and the frequency of natural phenomena such as *dzud* and drought are increasing daily.

The primary drivers of urban migration in Mongolia are the losses caused by *dzuds* and the subsequent loss of livelihood options. However, it is important to note that not all disasters have the same impact on the population. *Dzuds* are complex events that interact with various factors such as ecology, socio-economics, institutions, and physical characteristics.

Many studies have shown that families with a large number of animals are more resilient and recover more quickly due to their new births and the ability to sell, as well as being more mobile as they do not have to bear the cost of moving their herds.

On the other hand, small households cannot afford to increase their herd size to enhance personal resilience due to the high cost of fodder and their family needs. Consequently, low-income families are at risk of falling into poverty traps, facing disaster if their herd is lost, and are more likely to suffer from forced migration.

Notably, households following the pastoralist way of life have developed effective traditional methods and practices to cope with natural phenomena. These sustainable approaches enable these households to adapt to challenging environments.

According to historical data, it turns into a national-level disaster whenever *dzud* occurs in Mongolia with its pasture cattle breeding. The disastrous consequences of *dzud* have some definite relationship with the previous year's grassland yield. It is proved by much evidence that most disastrous *dzud* events mainly occur after a droughty summer-autumn period. If the summer is droughty and arid, the *dzud* should be expected to happen even if there is not so much snowfall in winter. If the grassland yield were sufficient in summer, the *dzud* conditions would not be formed even if much snow would fall in winter.

Establishing a disaster risk management program is of utmost importance in preparing for, preventing, and responding to emergencies. Furthermore, including ICH in disaster reduction and resilience is essential to mitigate the impact of natural hazards. This approach seeks to safeguard a community's cultural and societal components, which are often overlooked in disaster management. It is crucial to incorporate ICH into the disaster reduction and resilience planning process, as it allows for a comprehensive approach to disaster management that prioritizes the preservation of cultural heritage.

The field research team has developed recommendations for Mongolian official bodies and international organizations working in the intangible cultural field. These recommendations are as follows:

- Intensify research efforts on ICH and natural disasters. Conduct continuous field research to understand natural disaster risks and their impacts better.
- Include detailed disaster management regulations in sectorial laws to protect cultural heritage during disasters. Essential to consider the Law on the Protection of Cultural Heritage.
- Include the traditional knowledge in the disaster preparedness and mitigation training of the National Emergency Management Agency.
- Increase public awareness and promote traditional knowledge.
- Provide and strengthen social security for ICH practitioners.
- Implement specific measures that support ICH practitioners and communities during any disaster or risk.

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# ROLES OF INTANGIBLE CULTURAL HERITAGE IN RELATION TO DISASTER RISK REDUCTION IN BANTUL DISTRICT, SPECIAL REGION OF YOGYAKARTA, INDONESIA

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## INTRODUCTION

The Bantul District in the Special Province of Yogyakarta, Indonesia, lies in the active subduction zone of the Indo-Australian and Eurasian tectonic plates, with its southern side adjacent to the Indian Ocean. According to the Local Disaster Management Office of the Special Region of Yogyakarta (2021a, 2021b), the geological position of Bantul, coupled with its geographical location, leads to occurrences of some natural phenomena such as earthquakes, tsunami, volcanic eruption, floods, and extreme weather.

Earthquakes are recurrent and affect the life and livelihood of local people. The last earthquake on the 27th of July 2006 had major impacts on Bantul. Past distant disaster events are not easy to locate in records but are transmitted through mythology, old scripts<sup>3</sup>, or songs (Reid, 2012). Such transmission indicates that intangible cultural heritage (ICH) plays important roles among the people for continuous knowledge of disaster in their vicinity and the probability of its reoccurrence in the future. ICHs, commonly referred to as *kearifan lokal* or local wisdom (Aldiansah, 2021), are known among disaster management (DM) practitioners. After the tsunami in Aceh in 2004, DM practitioners, academics, and other associates in disaster risk management (DRM) activities have paid increased attention to ICH, such as popular the *smong* in Simeulue Island (Suciani et al., 2018).

According to the Population and Civil Registration Office of the Bantul District (2022), the population of Bantul is 964,245 (479,742 males and 484,503 females). The entire population faces earthquake threats. The active Opak faults crosses Bantul from the south to northeast and causes recurrence of earthquakes. The earthquake that occurred in 2006 claimed over 5,000 lives and devastated/damaged thousands of homes and affected the livelihood of the population. A total of five villages are located in Bantul, namely Parangtritis, Tirtohargo, Srigading, Gadingsari, and Poncosari, which are located by the coastline and face the potential threat of both earthquake and tsunami (Daryono, 2020).

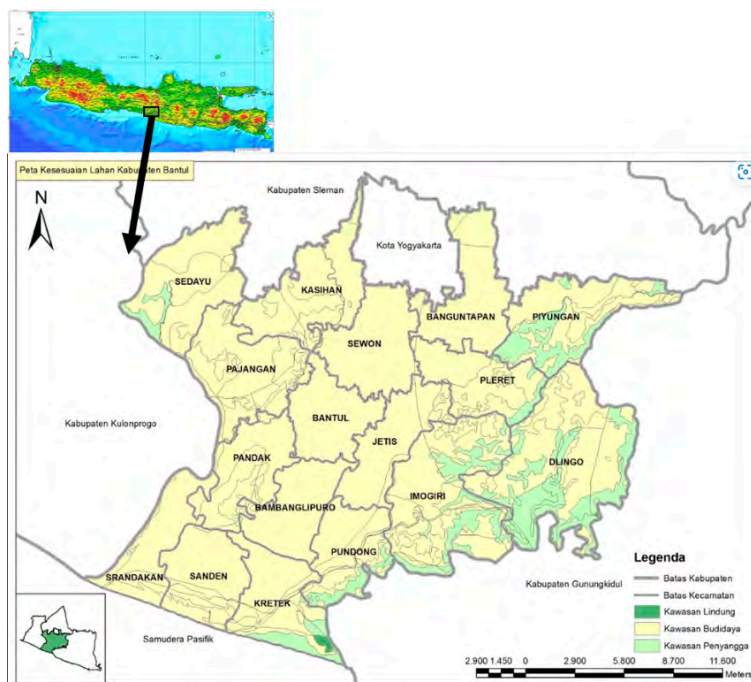
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1 RedR Indonesia

2 Urban Culture Research Center, Osaka Metropolitan University

3 *Babad in Sangkakala* is a Javanese manuscript presented in prose and discusses history of Java in the mid-18th century.





**Figure 1** Map of Bantul District in the Island of Java (Source: 5studiomagnificent5.blogspot.com)

## OBJECTIVES

This research aims to understand ICHs in Bantul related to disaster risk reduction (DRR) and to clarify such relationship. This research is focused on selected ICHs that are clearly related to disaster. This research intends to determine the following: 1) associated risks of the selected ICHs in Bantul, 2) the relationship of ICHs to DRR, and 3) the effectiveness of ICHs for DRR purposes.

## METHODOLOGY

The research was conducted in Bantul District from November 2022 to February 2023. Qualitative research methodologies based on literature reviews, data collection, interviews, and focus group discussions (FGD) were applied (Creswell, 2014; Sugiyono, 2010). Based on questions such as ‘What are the risks of ICH in Bantul?’ ‘What is the relationship between ICH and DRR?’ and ‘How effective is ICH for DRR activities?’, the collected data and information were analysed and interpreted via a descriptive analysis technique to identify the aspects related to ICH and DRR.

Based on literature reviews, the research team selected three ICH elements: *labuhan* (a traditional ritual ceremony), *joglo* (vernacular traditional Javanese architecture), and *ketoprak* (a local theatre). The selection of these three ICH elements considered their relationship with the DRR. The team conducted interviews with seven ICH practitioners and five individuals in the community and FGD involving six ICHs and six DM practitioners.

In addition to the existing literature, the information used was limited to the selected resource persons of the interviewees and participants in the FGDs and as such, the findings are subjective. As initial findings, the results of this research are open for further study for the purpose of strengthening community disaster preparedness measures and revitalizing ICHs in Bantul.

## INTANGIBLE CULTURAL HERITAGE (ICH)

### Labuhan in Bantul

*Labuhan* in Javanese means to wash out offerings. *Labuhan* originates from the story of the first Sultan of the Mataram Kingdom in Yogyakarta, Panembahan Senopati, who united with the mythological figure of *Ratu Kidul* or Queen of the South Sea/Indian Ocean in the 16th century (Reid, 2012; Soelarto, 1980). The union resulted in protection for the King, the kingdom, and the people.

According to the Ministry of Education and Culture (2018), *labuhan* is conducted to pay respect to the founders of Mataram Sultanate on every 30th of Rajab in the Javanese calendar. There are two types of *labuhan* still practiced. *Labuhan Alit* is an annual ceremony for the celebration of the Sultan's birthday, and *Labuhan Ageng* is held every eight years. *Labuhan* is held at Parangkusumo Beach in Bantul, Merapi Volcano in Sleman, Dlepih Kahyangan in Wonogiri, and the summits of Lawu Mountain in Sragen. A ritual ceremony begins at the Sultan Palace and then proceeds to four locations: Parangkusumo beach, Merapi volcano, Dlepih, and Lawu mountain.

The offerings used in *labuhan* consist of the Sultan's personal items (nails, hair, and used clothes), umbrella, flowers, food, and fruits, each of which implies a particular significance (Soelarto, 1980). At the end of the ceremony, the offering is washed out to sea and immediately grabbed by the attending people who believe that the items provide good luck. The ceremony is believed to bring peace, safety, and prosperity; if neglected, it may cause calamities. The Sultanate continues to exercise *labuhan* annually.

### Associated risk of labuhan

*Labuhan* reflects a social function in people's lives that becomes hereditary for those living in Yogyakarta. Usman (2023) states that the majority of the local people



**Figure 2**

*Labuhan* Ceremony in Parangkusumo Beach in Bantul (Source: TribunJogja.Com/Santo Ari)

continue to believe that *labuhan* is a means to express gratitude and request the Almighty for safety from all kinds of calamity, which include earthquakes and tsunamis. New inhabitants on the southern coast of Bantul who have no familiarity with the ceremony and monotheists may not exhibit such a belief or perception.

As an ICH element, *labuhan* is a ritual tradition that does not face a direct threat from any disaster, but a possible disruption from vandalism by individuals or groups. Therefore, *labuhan* is at less risk of fading away.

### **Relation to DRR**

Yulianto's (2018) recent geo-mythological study explains that tsunami occurred around 400 years ago, a time that presumably coincides with the founding of the Mataram Sultanate. The presence of *Ratu Kidul* may be associated with a metaphor of large waves.

Suraji (2023) assumes that people nowadays cannot relate *labuhan* and *Ratu Kidul* directly to any tsunami event. The perception is confirmed by the fact that there is neither publicly available record nor witnesses in the community from any generation to refer to. Nevertheless, the wish expressed during *labuhan* ceremony is to be free from any calamity, including the threat of tsunami.

### **Effectiveness**

Since the development of the National Tsunami Early Warning System (InaTEWS), science and technology have been employed as the basis for the development of the knowledge and monitoring, decision-making, dissemination of warnings, and community response (UNISDR, 2006). Ayyub confirms that warning dissemination technology connects the local warning operation centre at the Local Disaster Management Office to the sirens installed in the communities. In the Bantul District, this local warning system is tested regularly on the 26th of every month to ensure its function. The Local Disaster Management Office and the National Agency for Disaster Management implemented the Disaster Resilient Village programme. This programme develops village level's risk analysis, actions plan, early warning system, evacuation plan, contingency plan, and DRR village forum. Communities show willingness to receive products of the InaTEWS and use them to strengthen village disaster preparedness measures.

The annual *labuhan* ceremony and the mythology of *Ratu Kidul* may constitute reminders and opportunities to promote DRR towards reoccurrence of earthquakes and tsunami. Discussions with DRM practitioners reveal that there is a lack of systematic approach to utilising mythology for DRR purposes. Local wisdom has been discussed in different forums, but its implementation remains minimal. This opinion is also relevant to the National Agency for Disaster Management, which on different occasions encourages the employment of local wisdom or ICHs to complement science and technology for socialisation in communities. Relevant mythology can be embedded in disaster preparedness activities in a package that is appropriate for the local culture to gain acceptance. Efforts are needed to find effective ways to utilise mythology for different purposes in DRR activities.

## Joglo

*Joglo* is a traditional Javanese wooden house commonly found in the Special Region of Yogyakarta, Central Java, East Java, and Bali provinces, and has the tectonic character of vernacular architecture of craftsmanship transmitted through generations (Gunawan et al., 2017). *Joglo* are characterised by a pyramidal roof shape (*tajug*) which inhibits hot air from flowing down to the functioning rooms underneath and is thus responsive to the tropical climate (Alvin et al., 2019). The roof is supported by four main pillars (*saka guru*), surmounted by a structural element of two main beams (*sunduk* and *kili*) and a high multibeam frame (*tumpang sari*) (Tjahjono, 1999). The heavy weight of the roof stabilises the pillars (Prihatmaji, 2007), each of which is placed on a stone or wooden pedestal (*umpak*) to function as a foundation to bear the heavy structure (Mainah, 2017). During an earthquake, the four wooden pillars of *joglo* function as the core structure to withstand the lateral forces (Prihatmaji, 2007). Each connected joint uses a mortise and tenon (*purus*) system to lock the joints of the pillars and beams, which allows the joints to adjust flexibly. The overall system allows *joglo* to be of a knockdown construction.

*Joglo* is usually made from teak wood, which is known to be strong, durable, but costly, and is associated with the traditional dwellings of Javanese noble or wealthy families, either in urban or rural areas; thus, *joglo* indicate high social status (Kustianingrum, 2009). A total of 12 variant shapes of *joglo* exist (Gunawan et al., 2017) and each has artistic and old-fashioned elements. *Joglo* are commonly used for family houses, pavilions, or halls. People generally adopt *joglo* structure for houses, made of teak or other lower quality of wood (jack fruit, palisander). The three main components of *joglo* as a house consist of *pendapa* in the centre used as a living room, *dalem ageng* at the rear for family rooms, and *pringgitan* as corridor connecting the *pendapa* and *dalem ageng*. *Gebyok* of assembled wooden panels is used for the walls and room separators.

### Associated risk

Having a reputation as a safe structure, many old *joglos* survived the devastating earthquake in Bantul in 2006 (Mainah, 2017) and some past occurrences. The interviewees admitted that *joglo* is a strong and traditionally artistic structure, yet it is costly to construct and maintain (Dakung, 1998; Dharmasanti, 2020). Constructing *joglo* requires considerable land space, which is currently a challenge for many families. Many families tend to adopt contemporary designs of cemented houses for



**Figure 3**

The Structure of *Joglo*

(Source: <https://www.mebelamara.com/2016/04/struktur-joglo.htm>)



**Figure 4**  
A *Joglo* for Dwelling  
(Source: <https://courtina.id/>)

practical reasons, less costly and easy maintenance, flexible room divisions, and adjustable designs against available land space.

Aside from using *joglo* for houses, people build new *joglos* or reuse old *joglos* to function for different public purposes: offices, pavilions, galleries, restaurants, or performance halls. New and reused *joglos* maintain the principles of the structure, with some modifications of cemented walls instead of wooden panels. *Joglo* continue to be adopted given its reputation as a safe structure and for preserving traditional artistic values.

#### **Relation to DRR**

According to Mainah (2017), two resistant earthquake systems of *joglo*: 1) the joints between the beams, the pillars, and the pedestal move flexibly, and 2) the weight of the roof on the pillars stabilises in response to earthquake tremors. Alvin (2019) suggested the adaptation of the knockdown design of *joglo* architecture and found that it meets the Sphere Minimum Standard criteria related to the effectiveness (expandability, responsive to local custom and climate) and the efficiency (knockdown, expandability, aftershock resistant) to be applied in constructing temporary shelters.

Interviewees estimate over 50% of *joglo* survived the earthquake in 2006. The main structure of *joglo* remains standing, and the damaged parts are due to the unstable ground.

#### **Effectiveness**

The number of *joglo* erected in Bantul increased for different functions. The originality of some *joglo* is maintained, while others have undergone modification. Pamela (2023) observes that after the 2006 earthquake, a shift was observed in the use of *joglo* structures in Bantul from a family house to public purposes (café, hotels). Modification or simplification of parts of the architecture design is done not only to fit in the land area and to minimise the building cost but to keep the main structure (roof, pillars, pedestals). The joint system technique in *joglo* is also useful for other woodworking jobs.





**Figure 5** Process of Constructing *Joglo* (Source: Alvin 2019)

Sriyono (2023) states that woodworkers require technical knowledge and skills of the *joglo* system for an earthquake-safe building construction and in furniture making. Socialisations of Javanese architecture guidelines were held after the 2006 earthquake for rehabilitation and reconstruction work. The events improved the knowledge and interests of the people regarding Javanese construction, including *joglo*. Further similar informal technical knowledge dissemination is still needed for young woodworkers. People's interest in Javanese architecture using low-cost wood shall be encouraged.

### **Ketoprak**

The word *ketoprak* is onomatopoeic and is derived from the sound *kethok* and *prak* of beating a *lesung* (rice pounder), the main instruments used during traditional plays and performances. *Ketoprak* was a travelling commercial theatre. However, with the advent of many other forms of entertainment, the commercial theatre format has become obsolete and is now often performed by local people for their own entertainment and some are commercial in town.

Nurseto (2023) states that *ketoprak* is performed for between two and three hours by a group of local artists displaying talent and skills with improvisation and spontaneity on stage. A group of *ketoprak* usually has a director, script writer, crew, and cast of no less than 15 persons; in a festival, it involves approximately 50 people. *Ketoprak* is characterised by the artistic components of storytelling, singing poems, the repertoire of *gamelan*, traditional outfits, manners, and stage setting. The themes of *ketoprak* often adopt stories based on old kingdom themes or daily life performed in a classic Javanese fashion. *Ketoprak* may also be formed spontaneously by talented members in villages for the purpose of celebrating public events, and the stories chosen vary from old themes with improvised contents and emphasising specific important messages for the public.

### **Associated risk**

As *ketoprak* performances tell Javanese classic stories, they usually attract older audiences and a few younger people. Repeated stories and monotonous performances add to the gradual decrease in audience size over time. According to Nurseto (2023), this has caused the frequency of *ketoprak* performance to decrease since 2000, and consequently led actors to leave their groups. As such, *ketoprak* faces risk to fade.





**Figure 6**  
Ketoprak performed by FKKB on the 20th of May 2023  
(Source: Benny Usdianto)



**Figure 7**  
Ketoprak festival in Yogyakarta  
(Source: SKTV net Official)

Regeneration is considered one of the most important processes in a *ketoprak* group (Diani, 2020). Problems in regeneration were also strongly discussed among ICH practitioners during FGD. *Ketoprak* groups discontinue as they are unable to attract the interests of young people and are not sufficiently responsive in terms of new form and creativity.

According to conservators, the documentation of *ketoprak* preserves values which are important for study and development. Lieke (2023) states that ICHs are often preserved inflexibly, which inhibits the development of ICHs. Knowledge about different media and digitalisation for documentation is necessary to allow development and adaptation for continuous preservation.

#### **Case Study: Communication Forum of Ketoprak in Bantul District**

Established in 2004, the Communication Forum of Ketoprak in the Bantul District (FKKB)<sup>4</sup> is a forum with 17 members of smaller *ketoprak* groups from all the 17 sub-districts in Bantul. FKKB was formed to continue the *Wahyu Manunggal* Group, which has been popular since its establishment in Bantul in 1989. The group experienced difficulties in replacing actors and members and was later abandoned. Other *ketoprak* groups experience similar difficulties in terms of regeneration.

The FKKB is intended to become a venue for dialogue among *ketoprak* actors for the sustainability of *ketoprak*; new initiatives by its members to make *ketoprak* more

4 Forum Komunikasi Ketoprak Bantul

attractive are accommodated. FKKB also serves as an open space for the public to learn about arts performance. The forum envisages the regeneration of *ketoprak* actors by conducting open recruitment to reach up to 70% of people under the age of 40 to participate. Recruiting the young are viewed to endure their participations in performances for longer period.

Nurseto (2023) states that *ketoprak* is not simply a performance but is instrumental in communicating ethical messages or good practices to the public. A specific message is formulated and presented in the dialogue. For example, when performing the story of *Cendani*, FKKB wrote a script concerning an outbreak of plague in a village that caused conflict in the community until a local hero appeared and found a solution. The performance won the award for the best script in a *Ketoprak* Festival sponsored by the Special Region of Yogyakarta in 2022.

### **Relation to DRR**

The practitioners claim that, while *ketoprak* is not directly related to DRR, it has been utilised in post-disaster phases for entertainment purposes or psychosocial healing activities for the survivors: for example, during the post-earthquake in Bantul in 2006, and the Merapi volcano eruption in 2010. In commemoration of the Bantul earthquakes in 2021, 2022, and 2023, *ketoprak* was also used to tell stories related to disaster management; the players included government officials of the Bantul District.

### **Effectiveness**

The presence of many *ketoprak* groups in Bantul has the advantage of reaching broad communities. As a useful medium, *ketoprak* creates opportunities to communicate knowledge and policies related to DRM to the public in between dialogues. Actors sufficient understanding of specific issues in disaster management and ability to simplify the language to suit the audience is important.

Disaster practitioners observed that, in many cases, the actors of *ketoprak* inserted insensitive jokes relating to gender and inclusion issues. This indicates that strengthening actors' knowledge should be comprehensive and cover disaster management issues (risk analysis, prevention, mitigation, preparedness, response, and recovery) and codes of conduct. Not all *ketoprak* actors have the capability to comprehend disaster management. In this case, disaster management practitioners' accompaniment of *ketoprak* actors may be considered. In Bantul, where many villages have a DRR Forum, the members may also be involved in the performance to specifically present messages related to DRR. Both ICH and DRM practitioners admit that communication between them is still minimal and should be improved for the purpose of DRR knowledge dissemination.

Good digital documentation of *ketoprak* for dissemination using various social media is effective for public education purposes. Social media store audio-visual documentation that is easily accessible by the community at large. Discussion with the FKKB revealed that such documentation requires funding that is normally beyond the financial capacity of most *ketoprak* groups. Therefore, external support is necessary to facilitate production of digital documentation.



**Figure 8**  
A set of *gamelan* musical  
Instruments  
(Source: Travelingmagz.com)

### Development of ICHs

According to Pardiman (2023), modernisation in the community requires adjustments in practising ICHs. Aside from sustaining ICHs, the adjustment aims to achieve the intended purposes, for example, education, nurturing compassion, and tolerance. Omah Cangkem, a play studio for children in Bantul, uses *gamelan* as a medium to educate children about solidarity and cooperation in a playful atmosphere.

Traditional *gamelan* music is essential to Javanese performing arts. In the aftermath of past disasters, Indonesia's mutual aid system, known as *gotong royong*, has attracted considerable attention during the emergency response and early recovery phases. The relationship between this system and *gamelan* music is also noted. In an interview<sup>5</sup>, Pardiman, an organiser of traditional arts classes for children at 'Omah Cangkem', pointed out the following regarding the relationship between *gotong royong* and *gamelan* music:

- *Gotong royong* custom gained considerable attention from around the world in 2006 after the large earthquake hit Bantul and its surrounding area. It is true that it is a deeply ingrained Javanese tradition. However, it is not simply about immediate assistance in the face of every disaster. What allows us to help each other so readily is the collaborative spirit and mutual respect nurtured through our traditional performing arts of acapella by children. In essence, these arts serve as a mechanism for fostering *gotong royong*.
- The musical structure of *gamelan* is that one simple melody is enhanced by many instruments. The melody played by each player is very simple, but when the sounds of all the instruments overlap, the music becomes very complex. Every player has an equal role in playing music; there is no solo player as in Western music, and each of the approximately 30 instruments are played without standing out.
- Additionally, unlike Western classical music, *gamelan* does not have a conductor. The drum player becomes the leader and uses the sound of the drum to give instructions such as the tempo and atmosphere of the music and how many times to repeat the melody. Therefore, all the other players must listen carefully to the sound of the drum. In this way, *gamelan* music is

<sup>5</sup> Mr. Pardiman was interviewed by Okabe Masami and Laras Aridhini at *Omah Cangkem* Studio in January 2023.

characterised by all the players working together to create a single piece of music and create harmony. This characteristic of everyone working together to create a single piece of music with no one standing out fosters the custom of *gotong royong*, which is a spirit of mutual aid.

## DISCUSSION AND CONCLUSION

The interviews and FGDs involving the ICH and DRR practitioners revealed the following four viewpoints.

### 1) ICH Endurance

*Labuhan*, *omah joglo*, and *ketoprak* have withstood various challenges over time and continue to endure today in Bantul. The *labuhan* ceremony continues to be practiced annually and maintains the same purpose of requesting safety from any potential calamity in the local community. The traditional *omah joglo* can be found in both rural and urban communities. Newer *joglos* are built by maintaining their original structure or combining their core structure with current building designs and materials. *Joglo* are used for dwelling and different public functions. Today, *ketoprak* is still performed voluntarily in villages and professionally in urban areas regardless of continuous modernisation. This performing art is particular as it is adaptable for modification to suit changes in the community.

### 2) Delivery of DRR message

The geomythology of *labuhan* reveals the relationship between the people and their immediate living environment; it may be paired with the scientific research findings on paleotsunami. The combination of local wisdom and scientific information is useful for public education. Technical information on the traditional architecture of *joglo* is helpful for architects and civil engineering engineers in designing safe building structures.

### 3) Collaboration of ICH and DRR Practitioners

A good understanding of ICHs by DRR practitioners is necessary because it complements the scientific information commonly used in DRM activities. This combined information is useful for targeting different elements of the community for public education. The utilisation of ICHs for DRR purposes, in turn, contributes to ensure the longevity of ICHs. ICH practitioners otherwise benefit from a better understanding of DRR for their respective interests. Thus, collaboration between ICH and DRR practitioners is important to reciprocally broaden insights.

### 4) Communal spirit

One of the contributing factors that enables ICHs to withstand the changing era is the mutual aid system in the Bantul community. Under the guidance of the Sultanate of Yogyakarta, the inner circle of the Sultanate and the enthusiasts participate willingly in *labuhan* ceremony. The construction of *joglo* in rural areas voluntarily involves neighbours and relatives. Much of the organisation and performance of *ketoprak* are carried out independently by the cast and crew, which often includes the provision of costumes, stage setting, transportation, and consumption. Thus, the existing spirit of mutual aid or *gotong royong* eases the implementation of ICHs in Bantul.

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# SAFEGUARDING INTANGIBLE CULTURAL HERITAGE FROM DISASTERS AND CLIMATE CHANGE

AN ETHNOGRAPHIC STUDY IN IFUGAO, PHILIPPINES

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## BACKGROUND

### Overview of ICH in the Philippines

The Philippines has about 14-17 million indigenous peoples (IPs) belonging to 110 ethnolinguistic groups mainly concentrated in Northern Luzon (33%) and Mindanao (61%), with few groups in the Visayas area (Camacho et al., 2016; UNDP, 2010). Over the years, the IPs have practiced the intangible cultural heritage (ICH) that includes oral traditions and expressions; performance arts; social practices, rituals, and festive events; knowledge and practices; and traditional craftsmanship, which was passed on from one generation to another. For our humanity and culture to survive, it is inevitable to safeguard our ICH which serves as the living heritage. To carry out such an obligation, the National Commission for Culture and the Arts (NCCA) ratified the 2003 Convention after its formal deposit in August 2006. As part of the Philippine government's commitment to the convention, it must identify and document ICH elements, safeguard and promote ICH; foster scientific, technical, and artistic studies, and provide technical assistance and training in the field of ICH.

Currently, the country has a total of five ICH elements inscribed in the UNESCO Representative List of the Intangible Cultural Heritage of Humanity as follows: *Hudhud* chants of the Ifugao in 2001; *Darangen* epic of the Maranao people of Lake Lanao in 2005; *Punnuk* tugging rituals and games in 2015, also of the Ifugao; *Buklog* of the Subanen people in 2019 and the School of Living Traditions for good safeguarding practices in 2021. In 2013, NCCA in collaboration with the International Information and Networking Centre for Intangible Cultural Heritage in the Asia-Pacific Region published *Pinagmulan: Enumeration from the Philippine Inventory of Intangible Cultural Heritage (PIICH)*, which was edited by Jesus T. Peralta. It contains the initial inventory of 335 ICH elements and elaborate discussions on the 109 elements. The Philippine inventory details the first batch which is currently being updated and results may be released in 5-10 years after the second batch of elements documentation undergoes the scientific process. The *Darangen* epic, *Punnuk*, and kinds of traditional healing practices such as *manghihilot* and *albularyo* healing practices, the belief of *buhay na tubig* (living water), *baglan* and *mandadawak* healing practices, and stone beliefs of Itneg in Abra and *magtatawak* healing practices of Marinduque were featured between 2015 and 2017 in UNESCO's Intangible Cultural Heritage Courier of

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1 Mobilizing Futures Interdisciplinary Research and Development

2 Save the Ifugao Terraces Movement

Asia and the Pacific. As of 2016, there are 367 elements enlisted under the PIICH, the official ICH inventory of the Philippines. All elements are listed under the Philippine Registry of Cultural Property, the official cultural property inventory of the country, including both tangible and intangible cultural properties. Presently, an ongoing nomination on the Aklan piña handloom weaving is being worked on by the NCCA.

## OBJECTIVES AND METHODOLOGY

The research objectives include the following:

- (1) identify varieties of ICH in the community, including the knowledge and practices that are related to Disaster Risk Reduction (DRR);
- (2) identify the community's disaster risks in general, and assess associated risks on ICH;
- (3) raise awareness among community members and ICH practitioners on:
  - (a) the disaster risks on their own ICH,
  - (b) elements of ICH that are helpful for DRR; and
- (4) Discuss with the community:
  - (a) how to reduce the risk of disaster damaging ICH, and
  - (b) how to utilize ICH for the community's DRR, to develop action plans.

The methodologies and data sets implemented (Table 1) took these objectives into account.

**Table 1** Summary of Research Objectives, Data sets, and Methodologies

No.	Research Objective	Data Sets	Methodologies
1	Identify varieties of ICH in the community, including the knowledge and practices that are related to DRR	Varieties of ICH, DRR-related knowledge, and practices	<ul style="list-style-type: none"> <li>•Secondary data collection regarding ICH</li> <li>•Key Informant Interview with SITMo, NCCA and IHPAS</li> <li>•Focus Group Discussions for the identification of ICH with women, men, farmers, Indigenous Peoples Mandatory Representatives (IPMRs) and elders</li> </ul>
2	Identify the community's disaster risks in general, and assess associated risks on ICH	Disaster risks and its relationship with ICH	<ul style="list-style-type: none"> <li>•Secondary data collection i.e., gathering of hazard histories, DRRM plans, Contingency Plans, LCCAP, and laws and policies on ICH and DRR</li> <li>•Key Informant Interview with MDRRMO, Youth representative, and Women's Association representative</li> <li>•Focus Group Discussion with women, men, farmers, IPMRs and elders</li> <li>•Disaster timeline workshop with the above section</li> <li>•Research Outcome Presentation and Validation workshop with the elders, Kiangon LGU, and NCIP field office</li> </ul>
3	Raise awareness among community members and ICH practitioners on a) the disaster risks on their own ICH, and b) elements of ICH that are helpful for DRR	Compilation of disaster risks associated to ICH and good practices on ICH for DRR	<ul style="list-style-type: none"> <li>•Research Outcome Presentation and Validation workshop with the elders, Kiangon LGU, and NCIP field office</li> </ul>

No.	Research Objective	Data Sets	Methodologies
4	Discuss with the community a) how to reduce the risk of disaster damaging ICH, and b) how to utilize ICH for the community's DRR, to develop action plans.	Research Outcome	<ul style="list-style-type: none"> <li>• Research Outcome Presentation and Validation workshop with the elders, Kiangang LGU, and NCIP field office</li> </ul>

### **Processing of Free, Prior, and Informed Consent**

In the Philippines, the National Commission on Indigenous Peoples (NCIP) requires the processing of Free, Prior, and Informed Consent (FPIC) before performing research with the IPs/indigenous cultural communities. This is specified in the NCIP Administrative Order No. 1, series of 2012 or 'The Indigenous Knowledge Systems and Practices (IKSPs) and Customary Laws (CLs) Research Documentation Guidelines of 2012'. This process is in line with the implementation of the Indigenous Peoples' Rights Act (IPRA) of 1997, also known as Republic Act 8371. With this, the research team has gone through the following process to carry out the data-gathering methodologies in the field:

#### ***Submission of FPIC application to NCIP-CAR***

This process required the submission to the NCIP-Cordillera Administrative Region (CAR) of the following: filled-up application form, research overview, proposed activities, interview guide, focus group discussion guide, the profile of the researcher, affidavit of undertaking to agree to shoulder the administrative costs incidental to the research and payment of Philippine peso (Php) 500 filling fee at the NCIP Regional Office cashier.

#### ***Conduct of pre-IKSP conference with the team leader***

Two weeks after the submission, the NCIP-CAR was able to mobilize the members of the IKSP from the Tinoc Field Office and a work order has been issued to conduct the Pre-IKSP Conference with Atty. Cynthia L. Dogwe, the IKSP team leader. At this conference, she explained the process of acquiring a certification precondition to facilitate the process of research data-gathering. She also noted that a work plan will be prepared detailing the process and logistical needs to be budgeted. Initial scheduling of activities was also done, including Conference and Disclosure, Resolution Making, Negotiation, and Memorandum of Agreement (MOA) signing.

#### ***Conference and disclosure***

Two and a half weeks after the Pre-IKSP Conference, the Conference and Disclosure was held in Kiangang, Ifugao, the field site of the research. This conference was held to orient the ancestral domain (AD) representatives about the provisions of the IPRA and the FPIC process in relation to the proposed research. The research team also presented the process and activities to be done to accomplish the desired research output.

### ***Community decision-making, resolution-making, negotiation, and MOA signing***

On the same day, the AD representatives came up with their decisions on whether to allow the proposed research to proceed. In this process, they asked questions to the research team and negotiated the terms and conditions to be stipulated in the resolution and MOA. An ICC Resolution and Memorandum of Agreement were signed among the research team and the community members to obtain the Certification Precondition. The data-gathering process can only take place once these documents are released by NCIP-CAR.

### ***Awarding of certification precondition***

After the completion of the IKSP report prepared by the IKSP team and submitted to NCIP-CAR, a certification precondition was awarded to the research team to be able to facilitate the research field data-gathering.

### **Field Data Gathering**

The field data-gathering took place for four days after the certification precondition was issued. The team employed the following processes:

#### ***Key informant interviews (KIIs)***

Key informant interviews were done with the Save the Ifugao Terraces Movement (SITMo), NCCA, Tourism officer, and the Ifugao Intangible Heritage Performing Arts Society (IIHPAS) to identify the varieties of ICH in the community, including the knowledge and practices that are related to disaster risk reduction. The Provincial Disaster Risk Reduction and Management Office, Municipal Disaster Risk Reduction and Management Office, and Youth and Women's representatives were also interviewed to identify the community's disaster risks in general and assess associated risks on ICH.

#### ***Focus group discussion***

Focus Group Discussions were conducted with women, men, farmers, Indigenous Peoples' Mandatory Representatives (IPMRs), and elders for the identification of ICH and community's disaster risks in general and assess associated risks on ICH.

### **Research Validation**

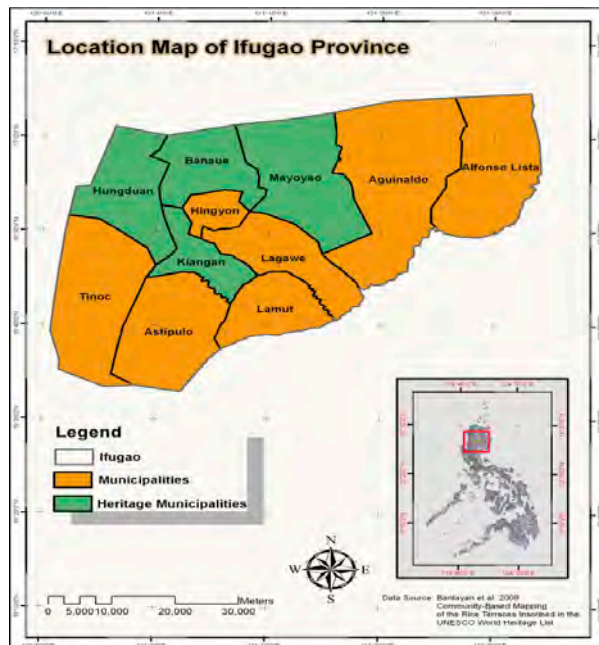
After a month, a data validation session with the IPs/ICCs was conducted by the research team in collaboration with NCIP-CAR and the Field Office to check the result of the research as required by the MOA. This was completed through the presentation of the research outcomes and the certificate of validation was signed by the community members to ensure that they were duly consulted by the research team.

Once the research is published, the research team has to submit copies of the publication to the ICCs/IPs of the Tawali in Banaue Ancestral Domain represented by their elders/leaders, Sangguniang Bayan ng Kiangan, Office of the Municipal Mayor, NCIP-Tinoc Service Center, NCIP-Ifugao Provincial Office and NCIP- CAR.

## ABOUT THE FIELDSITE

The province of Ifugao (Figure 1) is one of the six provinces situated in the CAR (Figure 2). It is the only locality in the Philippines that has two ICHs inscribed in the UNESCO intangible heritage element – the *Hudhud* chants and the *Punnuk* traditional tugging ritual. It has an area of 251,778 ha., and lies around a latitude of 16° 35' north and a longitude of 120° 50' east. The highest elevation is 2,523 meters above sea level with the rice terraces lying above 500 meters above sea level. It is bounded by the Magat River along the southeastern side and many of the upland areas are abode to gigantic dipterocarp and pine trees. The province is composed of 11 municipalities.

The Ifugao rice terraces of the Philippines found in the province were listed as one of the UNESCO World Heritage sites in 1995 and are one of the only two (the other being Hani Rice Terraces in China) world-renowned terraced paddy rice fields with a long history listed in the Globally Important Agricultural Heritage System (GIAHS) in 2001 by the Food and Agriculture Organization (FAO) for their wonderful landscape, farming systems and rich functions (Aguilar et al., 2020; Camacho et al., 2016; Herath et al., 2015). One of the five rice terraces listed is in Kiangan, the Nagacadan terrace, which was selected as the field site of this ethnographic research. The said terrace is also included in the GIAHS because of its reported continuous cultivation of traditional rice varieties using indigenous farming methods (Aguilar et al., 2020; Fao-Gef, 2014; FAO, 2017). However, these terraces were reclassified to the World Heritage in Danger List in 2001 because of the ‘human-induced threats to the site and the need to concentrate national and international energies on short-term and long-term remedial and protective actions’ (Camacho et al., 2016; UNESCO, 2008). Dizon et al. (2012)



**Figure 1** Location Map of Ifugao Province (Source: Dizon et al., 2012)



**Figure 2** Location Map of Cordillera Administrative Region (CAR) (Source: Manuta, 1993)



noted that the terraces' deterioration is due to the loss of biodiversity because of bio-piracy, unregulated hunting, indiscriminate use of new technologies, introduction to new species, accelerated erosion and siltation of the watershed, and reduced farm labor due to out-migration. More importantly, the ICH related to traditional rituals and agricultural practices of the Tuwali Ifugao (Table 2) must adapt to the shifting climatological norms.

**Table 2** Tuwali Rice Production and Consumption Rituals and Activities (Source: Tuwali Women, Men, Farmers, IPMRs and Elders)

Ritual and Activity	Purpose
<i>Lukya</i>	A rite performed in the granary or <i>alang</i> by the <i>mumbaki</i> for the family just before the working period starts in the agricultural calendar. This also marks for the first time that the bundled palay in the granary may be taken out for the family's consumption.
<i>Ubaya</i>	A ritual that is sometimes performed to support the <i>lukya</i> . It is performed in the village, preferably in the house of the family in whose granary the <i>lukya</i> was first performed. <i>Tungo</i> or a day of idleness is observed the following day. People may stay home and no visitor is allowed to enter the village. After the <i>tungo</i> , other families in the village may also perform <i>lukya</i> .
<i>Langiang</i>	This rite is only performed when a long-abandoned ricefield is operated. Ten chicken are offered to the gods.
<i>Hipngat</i>	This is performed in the granary, offering four chickens and done after the general cleaning of the ricefield or the <i>ahugabut</i> , when the fields are robust with vegetables planted on the <i>pingkol</i> . The purpose of the practice is to invoke the gods to bless the palay in the granary so that it will not be easily consumed and it will give strength to the owner/eater.
<i>Ahiballin</i>	This is done by turning the rice stalks and grasses that emerged from the mud.
<i>Panal</i>	A rite performed in the granary with four chickens for offering. <i>Panal</i> means laying the seeds. The rite is done to ask the gods to bless the rice seeds so that all sprout will become robust seedlings. The following day is <i>tungo</i> .
<i>Ahihopnak</i>	After the observation of <i>tungo</i> , the following day, the <i>binong-o</i> or the bundles of rice seeds are carefully laid panicle.
<i>Hagophop</i>	A rite performed in the granary about a month after the <i>kulpi</i> . This marks the beginning of the <i>ahikagoko</i> .
<i>Ahikagoko</i>	This is the wedding period of the ricefield and replacing the dead or stunted rice plants taken from the <i>inhuj-in</i> or reserve seedlings.
<i>Bodad</i>	This rite is performed prior to <i>ahiloba</i> and <i>ahidalu</i> . Three chickens are offered to the gods, petitioning them to make the plants bear abundant grains and prevent rats from eating the palay.
<i>Ahidolya</i>	The practice to prevent rats from infesting the rice plants or <i>palay</i> , the surroundings of the ricefield has to be cleaned. The grasses are used as <i>dolnat</i> (to cover the rat passages).
<i>Ahi-adug</i>	The process wherein the fields are decorated with scarecrows, cloth hangings, four or five run reeds with leaves, bundle of <i>runo</i> to the other, connecting the end of the vine to the post of the <i>allung</i> (a small hut for shade). When there are rice birds, the vine is pulled and all the bundled <i>runo</i> will move, scaring the birds away.
<i>Paad</i>	This is the rite performed in the granary when the rice grains are about to mature. Three chickens are sacrificed to the gods petitioning them to cause the rice plants to yield plenty of grains. This is also performed to make a promise to the gods to refrain from eating aquatic foods and certain vegetables until after the harvest.

Ritual and Activity	Purpose
<i>Ahi-ani</i>	Harvest time
<i>Ngilin</i>	This rite is performed in the granary before the start of the actual harvest. It starts in the eve of the day of harvest in a rice field.
<i>Inawili</i>	<p>This is a continuation of the <i>ngilin</i> which is done in the early morning. A chick is offered to the god of covetousness, the <i>umamo</i>. Half of the carcass of the chick is skewered, fastened on a <i>runo</i> with leaves. The reed is then implanted on the dike of the ricefield where the harvester will start to harvest. The other half is placed at the door of the granary. This is to plead to the god of covetousness not to covet the harvest and to ask the other gods to be bestowed their blessings on the harvest. On the harvest day, the ritual celebration is centered in the granary while women harvest the grains in the ricefield, the menfolk gather in the granary where they drink rice wine, discuss and argue between the various phases of the whole performance. The priest and priestesses perform all the various steps of the rite of <i>ani</i> and narrate the myth about Ballituk and Cabbigat from the start up to the point where the harvested rice crop that was taken from <i>Kabunyan</i> (skyworld) to the earth world or Kiyangan.</p> <p>If the rice owner is affluent, a pig is used and added to the chickens as offering. The general eating is done at mid-afternoon. But reapers are fed earlier.</p> <p>During the harvest, three or four women are assigned for the seed selections (<i>mamang-o</i>).</p>
<i>Ahiponpon</i>	This is the time when the palay will be nicely piled in the granary. This is done about a month after harvesting the palay.
<i>Tuldag</i>	This is the rite where three chickens are offered to the gods to protect the palay in the granary. It also means that the granary is closed and there will be no getting of palay until <i>lukya</i> is performed. At this time, <i>bakle</i> is set.
<i>Ahibakle</i>	This is a festival time for the villagers. The villagers grind the pounded glutinous rice into very fine powder, adding sugar cane juice, making a dough, and wrapping it with <i>littuku</i> leaves or banana leaves.
<i>Upin</i>	<p>It is a simple ritual performed in the home after the harvest season. The <i>mumbaki</i> invoke the gods to bless the harvested palay and the granaries of the people away from ailments, famine and to make them prosperous, healthy and peaceful. The following days are <i>tungo</i> and nobody must go to the field. If a person disobeys, the said individual will be cursed that all bad omens shall be upon him/her.</p> <p>This is also the time that women go to the field to remove the big shrubs, make a few <i>pingkol</i>, one of two in each rice paddy, and gathers spiders from the rice field to be <i>makahiw</i> (the material to be used for the next ritual).</p>
<i>Kahiw</i>	This is also a rite performed in the home for the purpose of realizing the people from the promise they made to be gods during the <i>paad</i> , that they will refrain from eating aquatic animals and legume vegetables. This rite marks the end of the Ifugao agricultural calendar.

### Kiangan Geophysical and Demographic Profile

Kiangan, a 4th class municipality<sup>3</sup> is in northern Luzon, Ifugao province, 16° 47'N, 21° 06'E at 800 m elevation. It is in the southwest direction of the province of Ifugao: bounded on the east by the municipalities of Lagawe and Lamut, west by Tinoc, north by Hingyon, and south by Asipulo. It is identified as the oldest town in the province. Its name is said to be derived from *Kiyyangan*, an ancient village near the Ibulao River across the Lagawe valley. The said village is enshrined in the Ifugao mythology as the dwelling of *Wigan* and *Bugan*, the mythological ancestors of the Ifugao people.

Kiangan has a total land area of 20,419.2071 ha., with 70 ha. allocated for rice farming. Its typical cropping pattern is rice followed by mixed vegetables and legumes in terraced and unterraced fields on gradually sloping hillsides. Other land uses include timber/forest land, grassland, residential, etc. (Camacho, et al., 2016). Figure 3 shows the municipal map. It is politically subdivided into 14 villages, locally known as barangays, the smallest political unit of the Philippines. These barangays (as seen in Table 3) are led by elected officials such as the Barangay Captain (village chieftain) and Barangay Council composed of members referred to as the Barangay Councilors. The people of Ifugao also set categories for their land use as noted in Table 4.



**Figure 3** Map of the Municipality of Kiangan (Source: Manuta, 1993)

**Table 3** Barangays of Kiangan, Ifugao

Barangays	
(1)	Ambabag
(2)	Baguinge
(3)	Bolog
(4)	Bokiawan
(5)	Dalligan
(6)	Duit
(7)	Hucab
(8)	Julongan
(9)	Lingay
(10)	Mungayang
(11)	Nagacadan
(12)	Pindongan
(13)	Poblacion
(14)	Tuplac

3 Under Republic Act 11964, municipalities shall be classified into five classes according to their income ranges and based on average annual regular income for three fiscal years preceding a general income reclassification. Local government units (LGUs) will be classified as First Class, or municipalities earning an annual average income of Php 200,000,000; Second Class, municipalities earning an average annual income of Php 160,000,000 or more, but less than Php 200,000,000; Third Class, those earning Php 130,000,000 or more, but less than Php 160,000,000; Fourth Class, those with an annual average regular income of Php 90,000,000 or more, but less than Php 130,000,000; and, Fifth Class, those with an average annual income of less than Php 90,000,000.

**Table 4** Land Use Categories of the Ifugao (Source: Tuwali Women, Men, Farmers, IPMRs and Elders, adapted from Acabado, 2013)

Local Term	Land Usage	Description
<i>Magulun</i>	Grassland	Exposed ridge and slopeland; untilled soil with low herbaceous grasses; public (in any given region); unmanaged; minimal value; source of roof thatch, game; not cultivated without new irrigation sources; usually far from densely inhabited areas
<i>Muyong</i>	Forest	Slopeland; undisturbed soil; naturally woody cover; public (for residents of same watershed region); unmanaged; source of firewood, forest products, game
<i>Runo</i>	High grassland or cane grassland	High grassland or cane grassland with secondary growth <i>Miscanthus</i> association; mostly slopeland; unworked soil covered with various stages of second-growth herbaceous and ligneous vegetation dominated by dense clumps of tall cane-grass; some protection and management (canegrass much used for construction, fencing, etc.)
<i>Muyung/ Pinugū</i>	Woodlot	Slopeland; unturned soil; covered with high tree growth (timber and fruit trees, climbing rattan, etc.); privately owned and managed (some planting of tree, vine, and bamboo types), with definite boundaries; valued for timber, other products, and protection of lower farmland from runoff and erosion
<i>Hābal</i>	Swidden	Slopeland, often contour-ridges; cultivated; heavily planted with sweet potatoes and moderately intercropped (including rice below 600–700 m); discrete temporary boundaries for cultivation period of several years
<i>Linta- angan/ Aldatan</i>	Backyard	Leveled terrace land; surface smooth or paved but not tilled; primarily house and granary yards; workspace for grain drying and similar activities; discrete, often fenced or walled
<i>Dolya</i>	Slopping area	A slopping area for the planting of vegetables
<i>Payo</i>	Rice field	Leveled terrace farmland; bounded to retain water for shallow inundation for cultivation of wet-field rice
<i>Pingkol</i>	Mounded field	A mound of compostable materials carefully mounded for the cultivation of vegetables with a short span of life (e.g. pechay, string beans, cabbage, onions, garlic) within the rice field. After that, when the planting season is nearing, it is used as organic fertilizer.

### Population

There are three ethnolinguistic groups in the Ifugao locality: the *Ayangan*, which are common in the northeast and southwestern portion of the province, the *Tuwali* who live in the northwestern part, and the *Kalanguya* who live in the outskirts of the municipality. For this research, the *Tuwali* are the ones involved. About 72% of the people are engaged in farming as a source of subsistence, livelihood, and employment. The poverty incidence of the municipality is 53.9%, where 1,592 out of 3,432 households have an income below the poverty threshold. There are also 973 households with income below the food threshold at a total of 32.9%.

As of the 2020 census, the municipality of Kiangan has a population of 17,691 people.

### Ifugao Theism

Before the introduction of the Roman Catholic church, the people of Ifugao people subdivided the universe into five regions: *Kabunyan*, the Skyworld i.e. the place where

deities are or *Angadal* (meaning the region above); *Darom*, the Underworld; *Lagud*; the Downstream Region; *Daya*, the Upstream Region; and, *Pugao*, the Region of the Earth (Lambrecht, 1957). The Ifugao worshipped two important classes of deities among these five regions, whom we may call the rice culture deities and the foetus-maker deities. These deities live in special villages in the four supernatural regions (the Underworld, the Skyworld, the Downstream, and Upstream Regions). However, despite the presence of many gods and deities, the Ifugaos have no supreme being. The notion of the supreme being is embodied by *Maknongan* of the Skyworld, who is the chief of all the others.

But today, one of the risks faced in safeguarding ICH as disclosed by community respondents is the fact that the majority of the people in Ifugao have embraced Christianity. Most of them are already affiliated with the Roman Catholic church, and the children and youth attend catholic schools.

### **Kiangan Disaster Risk Profile**

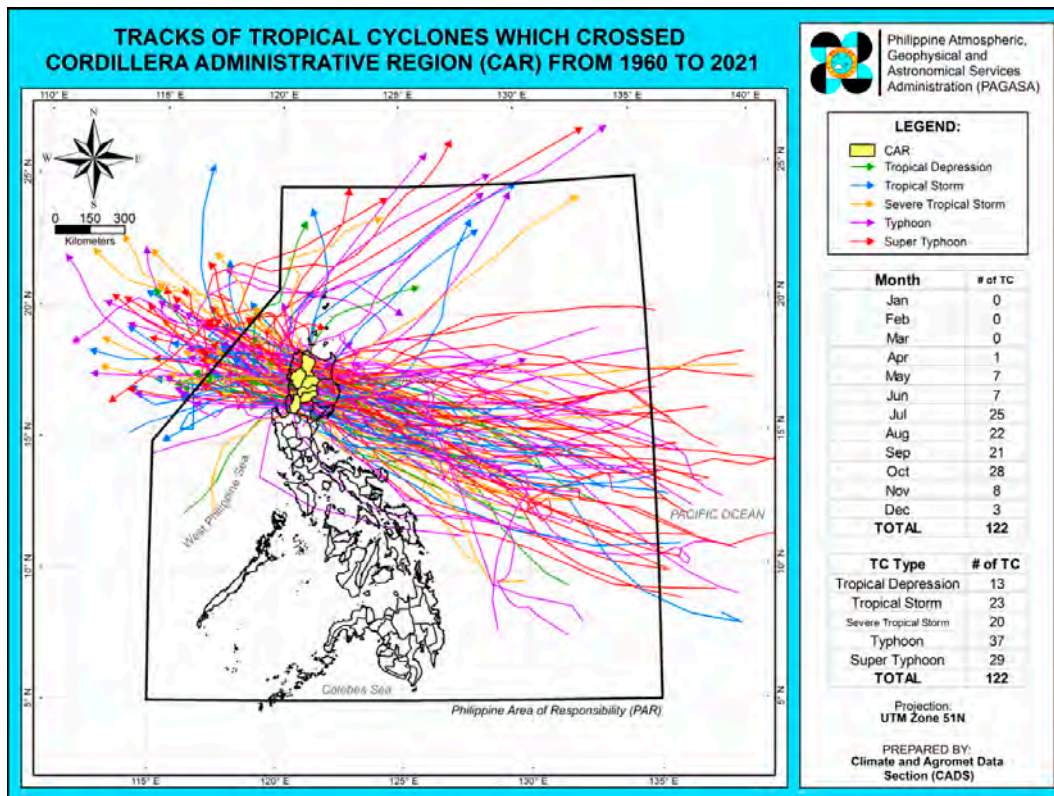
The climate of Ifugao province where the municipality of Kiangan is located is Type 3, which is characterized by no very pronounced maximum rain period, with a short dry season lasting only from one to three months (with only a short dry season from January to April and a long-wet season from May to December). The Department of Environment and Natural Resources (DENR, 2014) wrote that the average monthly rainfall is between 15 and 18.5 mm in areas with a high elevation and between 27.43 and 30.18 mm in the lowlands. Figure 4 summarizes the tropical cyclones' tracks that passed through CAR from 1960 to 2021, Figure 5 shows the monthly distribution of tropical cyclones in CAR from 1960 to 2021, Figure 6 showcases the breakdown of categories of tropical cyclones in CAR from 1960 to 2021 and Figure 7 displays the annual number of tropical cyclones in CAR from 1960 to 2021. Figure 8 details the areas affected by floods along with landslides.

Apart from hydrometeorological hazards, the area is also prone to geological hazards such as earthquakes. The research interlocutors mentioned that their most memorable was the magnitude 7.7 earthquake that struck the province of Ifugao and its neighboring areas in 1990. The Department of Health reported that there were 1,283 casualties and 2,786 injuries due to the said disaster.

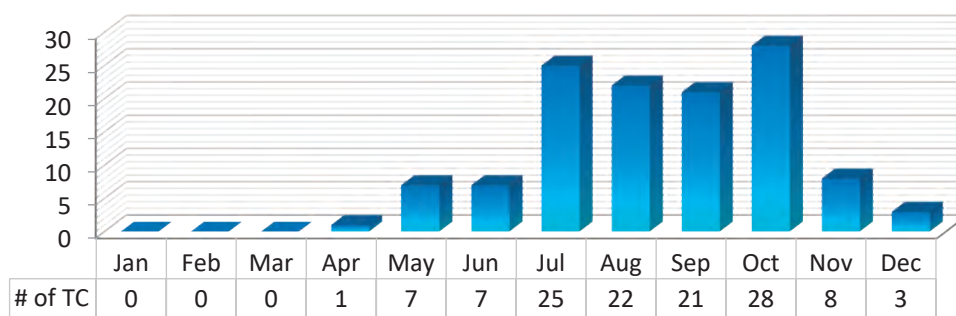
Ifugao Provincial Environment and Natural Resources Office shared that the province is traversed by the Digdig fault, particularly the heritage municipalities of Hungduan and Banaue. It was suggested that it should be declared as a no-build zone and be used as a planting site to cushion the possible impact of an earthquake that may occur in the area. Figure 9 details the distribution of active faults in CAR.

The Municipal Disaster Risk Reduction and Management Office noted Kiangan as among the ten municipalities of Ifugao that is landslide prone. Landslides are often triggered by rainfall. During the intense duration of rainy seasons, water flows from mountain tops through V-shape gullies, creeks, and streams traversing the slopes. This may cause slides and erosions over and within the village areas that lead to loss of life, and damages to properties, crops, and infrastructure. This further causes the closure of access roads especially the Ibulao–Kiangan road as well as the Nagacadan–Tinoc Road.



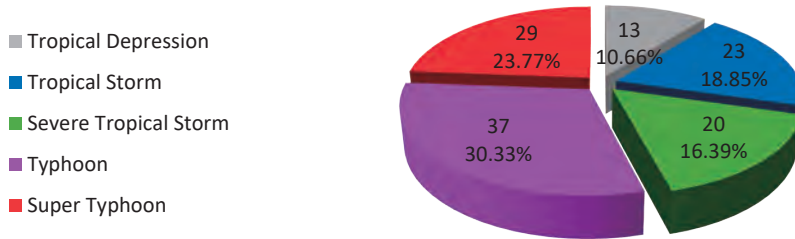


**Figure 4** Tropical Cyclone Tracks in CAR from 1960 to 2021 (Source: Climatology and Agrometeorology Division, Department of Science and Technology – Philippine Atmospheric, Geophysical and Astronomical Services Administration, 2023)

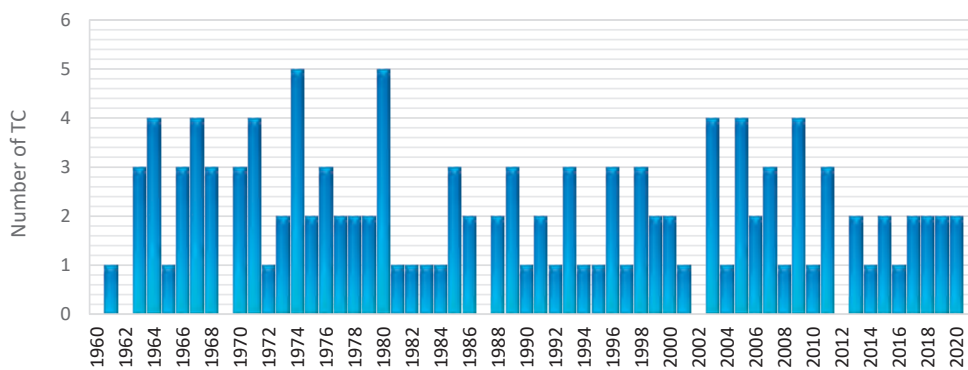


**Figure 5** Monthly Distribution of Tropical Cyclones in CAR from 1960 to 2021 (Source: Climatology and Agrometeorology Division, Department of Science and Technology – Philippine Atmospheric, Geophysical and Astronomical Services Administration, 2023)

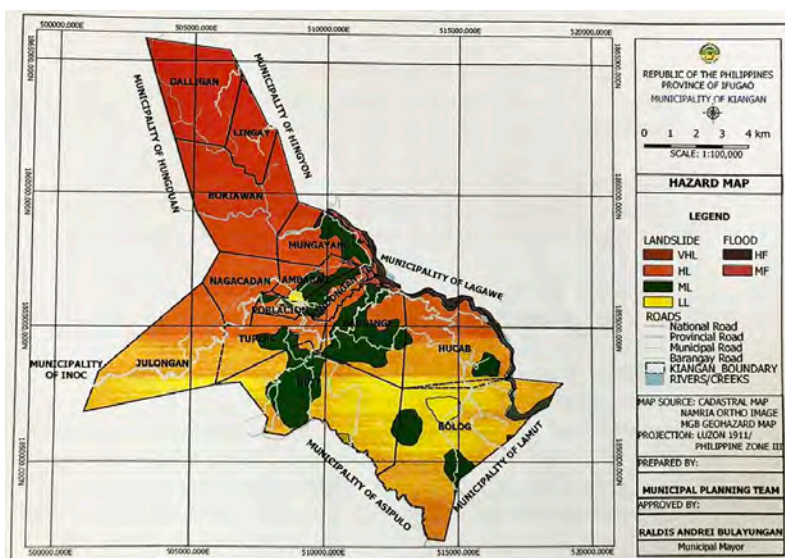




**Figure 6** Category of Tropical Cyclones in CAR from 1960 to 2021  
 (Source: Climatology and Agrometeorology Division, Department of Science and Technology – Philippine Atmospheric, Geophysical and Astronomical Services Administration, 2023)



**Figure 7** Annual Number of Tropical Cyclones in CAR from 1960 to 2021  
 (Source: Climatology and Agrometeorology Division, Department of Science and Technology – Philippine Atmospheric, Geophysical and Astronomical Services Administration, 2023)



**Figure 8** Map of Geo-hazards affecting the Municipality of Kiangán  
 (Source: Municipal Planning Team, n.d.)



importance of oral and intangible heritage and the need to safeguard and revitalize it; 2) to evaluate and take stock of the world's oral and intangible heritage; 3) to encourage countries to establish national inventories of the intangible heritage and provide legal and administrative measures for its protection; and 4) to promote the participation of traditional artists and local creators in identifying and revitalizing the intangible heritage (ACCU, 2002; Batin, 2014).

*Hudhud* is historical narrative chants performed by the local Ifugao community members during the rice sowing season, funerals, and rituals (Blench and Campos, 2010; Moore, 2015; Royeca and Molina, 2018). It details at least 40 historical tales for a period of three to seven days (Moore, 2015; Peralta, 2008; Royeca and Molina, 2018).

### ICH in Disaster Risk Management

During the conduct of the fieldwork, the community members composed of women, men, farmers, Indigenous Peoples' Mandatory Representatives (IPMRs), and elders were also consulted about the natural hazards they experienced over the years along with the ICH they used to cope and recover from the situations. Table 5 presents their experience.

**Table 5** Community Hazard Experiences and ICH Used (Source: Tawali Women, Men, Farmers, IPMRs and Elders)

Year	Hazard/ Disaster	Impact	ICH Used
1956	Mt. Atade Landslide	<ul style="list-style-type: none"> <li>– Displaced families</li> <li>– Damaged forest trees and banana plants</li> <li>– Death of livestock and poultry animals</li> <li>– Soil erosion</li> <li>– Evacuation of 4 families</li> </ul>	<i>Baddang Opah Honga</i>
1964	Five days of heavy rains	<ul style="list-style-type: none"> <li>– Landslide</li> <li>– Damaged roads</li> <li>– Damaged houses and rice fields</li> </ul>	<i>Baddang Opah Honga</i>
1967	Drought	<ul style="list-style-type: none"> <li>– Dried rice plants</li> <li>– Cracked rice fields</li> <li>– Soil erosion (after the rain came)</li> <li>– Famine</li> </ul>	<i>Baddang Opah Honga Bayuhibi</i>
Between 1968–1969	Earthquake	<ul style="list-style-type: none"> <li>– Evacuation of families</li> <li>– Landslide</li> <li>– Liquefaction in some areas e.g., Poblacion and Nagacadan</li> <li>– Slightly damaged houses</li> <li>– Damaged rice paddy</li> </ul>	<i>Baddang Honga</i>
July 16, 1990	Earthquake	<ul style="list-style-type: none"> <li>– Several aftershocks</li> <li>– Landslide</li> <li>– Grounded topography in some parts of Kiangang Town</li> <li>– Food shortage</li> <li>– Road closure</li> <li>– Disruption of livelihood and economic activities</li> <li>– Heavily damaged houses and rice paddies</li> <li>– Increase in the prices of commodities</li> </ul>	<i>Baddang Opah Honga</i>

Year	Hazard/ Disaster	Impact	ICH Used
1991	Mt. Pinatubo Eruption	<ul style="list-style-type: none"> <li>– Volcanic ashfall</li> <li>– Induced respiratory diseases e.g., asthma, pneumonia</li> <li>– Damaged crops and vegetation covered by ashfall</li> </ul>	<i>Baddang</i>
1998	Drought	<ul style="list-style-type: none"> <li>– Bamboo has flowered, a sign of famine and hunger</li> </ul>	<i>Bayuhibi</i>
2004	Typhoon Yoyong (International name: Nanmadol)	<ul style="list-style-type: none"> <li>– Landslide</li> <li>– Damaged rice paddies and rice fields</li> <li>– Damaged vegetation and fruits</li> <li>– Some casualties among Kiangang residents</li> <li>– Death of animals e.g., pigs</li> <li>– Uprooted trees</li> <li>– Erosion of rice fields</li> </ul>	<i>Baddang Opah Honga</i>
2005	El Niño	<ul style="list-style-type: none"> <li>– Damaged rice paddies and vegetation</li> <li>– Absence of water</li> <li>– Death of livestock animals</li> <li>– Hunger</li> <li>– Food scarcity</li> </ul>	Prayers <i>Baki Baddang</i> (also received livelihood assistance from the government)
August 29, 2007	Continuous heavy rain resulting to landslide in Hingyon, Ifugao	<ul style="list-style-type: none"> <li>– 4 casualties</li> <li>– 1 injured</li> <li>– 1 totally damaged houses</li> <li>– Road closure</li> <li>– 2 partially damaged houses</li> </ul>	<i>Baddang</i> - search and rescue operation Financial, material and food assistance
2008	Continuous heavy rains	<ul style="list-style-type: none"> <li>– Soil erosion</li> <li>– 9 casualties</li> <li>– Landslide</li> <li>– Damaged rice paddies due to silt</li> <li>– Damaged houses</li> <li>– Road closure</li> </ul>	<i>Baddang Opah Honga Inubaya/Ubaya</i>
May 7, 2009	2 landslides at Poblacion Landslide at Dinapugan	<ul style="list-style-type: none"> <li>– Road closure</li> <li>– Disrupted businesses</li> </ul>	Clearing of roads
May 8, 2009	Landslide at Maitab, Lagawe	<ul style="list-style-type: none"> <li>– 8 casualties</li> <li>– 8 Totally damaged houses</li> <li>– Damaged roads</li> <li>– Road closure</li> <li>– Disrupted businesses</li> <li>– Displaced families</li> </ul>	<i>Baddang</i> - search and rescue operation Financial and material assistance Helped commuters cross over area Use of dogs to smell missing buried person
2009	Typhoon Ondoy (International name: Ketsana) resulting to 2 landslides in Poblacion, Kiangang	<ul style="list-style-type: none"> <li>– 6 casualties</li> <li>– 2 totally damaged houses</li> <li>– Road closure</li> <li>– Displaced families</li> </ul>	<i>Baddang</i> - search and rescue operation Financial, material and food assistance

Based on the interlocutors' sharing and discussions, the following are the ICH practices in relation to natural hazards and disasters. This may also address climate change since it can be employed in long-term shifts of temperatures and weather patterns.

### ***Baddang***

The practice and principle of *Baddang* among the people of Kiangán are important in disaster risk management (DRM) because they cover all aspects of the four thematic areas: disaster preparedness, disaster prevention and mitigation, disaster response, and disaster rehabilitation and recovery. Apart from the simple gesture of helping the commuters cross over a particular area, *Baddang* is also manifested in the conduct of search and rescue operations after a particular disaster event. It also covers helping each other in any way to prepare, prevent, mitigate, respond, rehabilitate, and recover from any hazard or disaster event. It is a multi-stakeholder partnership and engagement that fosters a collective process of DRM. The Institute for Climate and Sustainable Cities wrote that *Baddang* is a form of *bayanihan* system that is key to community adaptation along with cooperative labor groups of Ifugao. As a post-disaster intervention, the whole community offers help to its affected members: it can be in the form of clearing blocked roads, destroyed houses, and eroded farmlands. These were also attested by the community members, and they also disclosed that in the earlier times, they helped move the houses of their fellow community people as the need arose and if their farmlands were destroyed, they assisted in the reconstruction of the rice paddies. This could be the reason why up to this day, the rice terraces that were identified as UNESCO World Heritage sites in Kiangán are still intact and managed well.

### ***Honga***

Another widely mentioned ICH among the participants of the data-gathering sessions is the performance of *Honga*. Among the *Tuwali*, the *Honga* is done to cure a sick person. It can be practiced in healing all kinds of sickness, like post-traumatic stress disorder that one may experience after a particular disaster. The said ritual can be also performed to gain prestige and express gratitude. The thanksgiving process has two kinds: *Hongah di kitaguwan*, which happens inside a house, and *Hongah de page*, which transpires in the rice field. In *Hongah di kitaguwan*, the household conducts the thanksgiving ceremony to express gratefulness for the good life, and favorable status of the family and to wish for the continuous abundance and wellness of the family. For *Hongah de page*, thanksgiving is done 12 times to follow the agricultural calendar of farming. This ritual is practiced ensuring good yield in the coming harvest season. *Honga* is performed by a *Mumbaki*, a male Ifugao religious specialist or the native shaman. The process of *Honga* involves a prayer (that depends on the religion of the family) and the butchering of pigs. The number of pigs depends on the economic status of the family leading it.

### ***Opah***

*Opah* is another post-disaster ritual and is done when somebody dies. It is practiced seven to nine days after the body is buried to force the souls into the place where their ancestors dwell. It is a ritual that calls for the spirit of the dead to get down

from the sky since it is believed that, when the mortal body dies violently, its spirit wanders up the sky.

Tuguinay (2009) narrated that it is also performed after the bone cleansing ritual called *Bogwa* when the family is ready to bring home the bones. The *Opah* ritual is once again done in the morning before the bones are brought in the afternoon. The ritual also involves name-calling the living persons who helped or handled the victim after the incident. A pig is butchered during the process. A cluster of the red *Dongla* leaves are tied to the hilt of the spear which is briskly raised towards the sky in the direction of the sun by the *Mumbaki* who shouts the name of the dead person. The spear is abruptly reversed with the blade towards the *liga-u* (rice winowing tray) shaking it briskly. The pig is also used for the practice of *Bogwa*.

### ***Bayuhibi***

This ritual was performed to invoke Gods for rains during drought in Kiangan and other parts of Ifugao. The word *Bayuhibi* means rain shower (Ananayo, 2009). It is one of the types of rains experienced in Ifugao along with *Dondonyag*, having sunshine while it is raining, and *Dumalallu*, when hail accompanies heavy rainfall.

### ***Inubaya***

This ritual was suddenly performed after the death of nine people in Kiangan due to strong rains in 2008. This is a special practice that is no longer performed after a long time. According to the SITMo CEO, 'disasters also lead to the remembrance of old practices that are no longer popular in today's generation. Disasters also help the people realize and recognize our ICH that is already forgotten by the younger people'.

A *Munhaw-e*, lead chanter and *Mumbaki* leads the *Inubaya*. It is a ritual for rice and men performed to drive evil spirits away for the welfare and protection of the people.

### ***Baki***

Dulawan (1989) wrote that *baki* is the sacrificial ritual performed on all important occasions. The ritual is divided into 'the ritual for people' and 'the ritual for rice culture'. As for the rituals for people, some examples are rituals for childbirth, diagnosis of an illness, healing, epidemics, and protection of health and wealth. As for the rice culture, it includes rituals performed at different times of the agricultural cycle: sowing, before transplanting, after transplanting, when rice plants grow new leaves, when rice grains form, harvest time, stacking rice in the granary, and the removing of first rice bundles from the granary. Most rituals follow a general pattern beginning with a) an invocation to ancestors, messengers, cultural heroes, and gods; b) offering and divination; c) chanting (usually of myths or legends); and d) a repeat of the invocation and conclusion. A chicken is usually sacrificed and its gall bladder is read to determine the efficacy of the ritual. Aside from chickens, there are also pigs.



## **SAFEGUARDING ICH FOR THE CONTINUITY OF A HERITAGE AND DISASTER AND CLIMATE RISK REDUCTION**

### **Leadership and Partnership of Local Government Units (LGU) with Various Sectors and the Involvement of the NCIP, IPMRs, and Indigenous People's Organizations (IPOs)**

In a key informant interview with the Tourism Officer, he disclosed the importance of the local government leadership and partnership with manifold stakeholders in safeguarding ICH, as stipulated by this narrative, *'The LGU must take a lead role in preserving (our) intangible heritage because we see this as our identity. We are trying to partner with private institutions like the Save the Ifugao Terraces Movement, or other groups that are involved in cultural conservation. The reason why we must do this is because we see so many changes and adaptation(s) coming from young generations. Once we do not do something to protect our culture, there might come a time when we will lose this identity. We are going to mainstream the culture which means our identity as indigenous people will stay as much longer as it can. So, the LGU must take a major role in these initiatives. So far, what the LGU is doing is I couldn't mention that we are partnering with some other organizations that involved themselves in cultural conservation. But we also have our initiatives, like to host a cultural festival. We try to fund, as much as we can, the existing traditions that are still in here.'*

This was also supported by the Municipal Disaster Risk Reduction and Management Officer. She noted, *'It is important to involve the LGU as the focal agency in leading and fostering partnership, not just for ICH safeguarding, but also for the overall framework of the disaster risk reduction and management (DRRM).'*

In the validation session of the research, the participants noted that the NCIP along with the IPMRs and IPOs have a huge role to play in the safeguarding of the ICH since they are the practitioners and frontliners of the praxis of the ICH. Without them, no one will continually conduct and promote all the ICH of the Ifugao people.

### **Conduct of Various Festivals to Commemorate ICH**

One of the celebrations commemorated by the community to ensure the continuity and passing on of ICH is the *Gotad Ad Kiangan*, the annual town fiesta of the municipality of Kiangan. This festivity is celebrated between April and May. It is a festival of traditional Ifugao performing arts of dancing and chanting. It is inspired by *uya-uy*, an Ifugao prestige ritual, which is a required step for couples to be elevated to the *kadangyan* (noble) status. It also functions as a mechanism to invoke the deities for more children if they only have one child or if they are childless. It involves several days and may even reach a month of performance of *naba* nights filled with the beating of the gong, announcing to the community that a couple is undergoing the prestige ritual. Critical to the *uya-uy* is the observance of *holyat* that culminates the long nights of observing the *naba*. The *holyat* then is a prelude and the start of the celebration of *gotad*, when the whole community joins in the festivity with the beating of gongs, butchering of animals, drinking of rice wine, and dancing. Apart from the abovementioned festival, they also sponsor a post-harvest festival. Other

than that, an ordinance for *Kalanguya* and *Ayangan* Festival was also authored by the current local chief executive when he was still a councilor.

### Indigenous Peoples' Education (IPEd)

The municipality of Kiangán also implements Indigenous Peoples' Education (IPEd) since 2004. IPEd is a program of the Department of Education (DepEd) institutionalized through DepEd Order 62, series of 2011, or the National Indigenous Peoples Education Policy Framework. The policy adopts a rights-based approach and directs the implementation of an education that is anchored on the social and cultural context of IP learners. The Indigenous Knowledge Systems and Practice (IKSP) modules along with Math, Science, and English subjects are the coverage of IPEd. Table 6 summarizes its timeline in the Philippines based on the laws and policies enacted in the country.

One of the key groups that led the establishment of IPEd in Kiangán is the Save the Ifugao Terraces Movement (SITMo), a non-governmental organization. Its advocacy is to educate the community members and the youth about the Ifugao culture through education in schools. SITMo believes that there is a need to change the way youth and children are being taught. In 2006, it partnered with Ifugao State University and the Department of Education (DepEd) in the mainstreaming of indigenous knowledge in education through the development of modules on Ifugao indigenous knowledge that localized and contextualized education. SITMo also led the development of the IPEd Center, which includes a library and museum of textiles and artifacts. It also collaborated with the NCIP for the line agency to teach indigenous knowledge to the Ifugao people.

Before SITMo, a national office called the Ifugao Terraces Commission (ITC) advocated for indigenous education in Ifugao province. The aforementioned is a presidential commission that formulates short and long-term plans for the restoration and preservation of the Ifugao rice terraces in the municipalities of Banaue, Hungduan,

**Table 6** Indigenous Peoples Education Timeline in the Philippines (Source: IHPAS President, n.d.)

Year	Law/Policy	Implication
1997	Republic Act 8371: Indigenous Peoples Rights Act	Recognition and protection of the rights of indigenous cultural communities/IPs
2004	Department of Education (DepEd) Order 42 series 2004	Permit to operate Primary Schools for IPs and cultural communities
2010	DepEd Order 101 series 2010	The Alternative Learning System for IPs
2011	DepEd Order 62 series 2011	Adopting the National Indigenous Peoples Education Policy Framework
2013	Republic Act 10533	The Enhanced Basic Education Curriculum Act of 2013
2016	DepEd Order 22 series 2016	Indigenous peoples Education Program support fund
2019	Commission on Higher Education (CHED) Memorandum Order (CMO) 2 series 2019	Integration of IP studies in the relevant higher education institutions

Mayoyao, and Kiangan. It was created through Executive Order (EO) No. 158 on February 18, 1994, under the term of former President Fidel V. Ramos. In 1999, it was replaced by the Banaue Rice Terraces Task Force through EO No. 77, which was mandated to restore, preserve, and develop the Ifugao rice terraces as well as to prepare a development plan. In 2002, the Banaue Rice Terraces Task Force's functions were transferred to the Provincial Government of Ifugao. This resulted in the development of the Ifugao Rice Terraces Cultural and Heritage Office under the Office of the Provincial Governor, which was later replaced by the Ifugao Cultural Heritage Office.

### **Establishment of Ifugao Intangible Heritage Performing Arts Society**

It is crucial to establish a group that values and practices ICH since it will pave the way for the intergenerational knowledge transfer and popularization of the heritage outside of their area. The Ifugao Intangible Heritage Performing Arts Society (IHPAS) is an example. The group was originally known as the Ifugao Performing Arts group. It was organized in partnership with SITMo, and the head of the Ifugao Museum serves as its president. In an interview with the president, she explained that the organization was established to *'get to know more about our culture and promote our heritage in today's generation'*.

To become a member of IHPAS, one must be willing to learn performing arts such as music and dances of the Ifugao. It also requires its membership fees: an annual membership of 50 Php (roughly 1 USD) or 300 Php (about 6 USD) for a lifetime membership. Currently, there are 60 members of IHPAS. Half of them are affiliated with the Tawali IP group which came from the 14 barangays of Kiangan, and the other half are affiliated with the Ayangan IP group which came from the Municipality of Lagawe. These members are composed of elementary and high school students, cultural advocates, and retirees.

### **Restoration of Rice Terraces**

Imperative to the safeguarding of ICH is the restoration of rice terraces that involves forest management and natural resources management. The practice of some rituals in Ifugao is tied with the traditional farming practices. According to the SITMo CEO and the Tourism Officer, this is a challenge since the Department of Agriculture introduced modern agricultural techniques and new rice cultivars that are dependent on pesticides and fertilizers. Once farmers engage in the usage of new rice cultivars and modern agricultural techniques, rituals associated with agriculture will be no longer performed. As a rule of thumb, only traditional rice varieties are allowed to be used for rice rituals.

The Municipal Disaster Risk Reduction and Management Officer also raised that the agricultural rituals are threatened since most of the farmers shifted to cash crops to be more financially stable. With this shift, some farmers who used to plant rice opt not to plant the said species anymore since cash crops generate more income. According to the IPMRs, there was also water scarcity resulting from the conversion of the rice terraces into gardens and residential areas. Only a few of those who have water sources can perform traditional farming practices.

To address these concerns, the local government of Kiangnan subsidized farmers who perform traditional farming practices, and the Office of Municipal Tourism will organize a harvest festival that is similar to the *Punnuk* festival to revitalize and promote the restoration of the rice terraces of Kiangnan. The festivals are dependent on government funds nowadays.

### **School of Living Traditions (SLT)**

Dulnuan (2014) emphasized that an effective tool worth replicating is the School of Living Traditions (SLT), whereby those interested are taught the art of *Hudhud* chanting, the knowledge and art of gong beating, the proper ways of the Ifugao dance, proper use of attire, and the other performing arts that children and adults alike had forgotten. The formal educational sector has gone further and started to introduce indigenous knowledge and systems into their curriculum. The SLT was organized through the effort of the NCCA.

As per the interview with the representative of the NCCA, through the SLT program, e-learning documentation and the publication of learning guides were carried out despite the pandemic.

### **Strengthening the Indigenous Peoples Mandatory Representatives and Indigenous Peoples Organizations**

To promote and safeguard the ICH, there is a need to strengthen the Indigenous Peoples Mandatory Representatives (IPMRs) and Indigenous Peoples Organizations (IPOs) since they are the bearers of knowledge to validate research studies being conducted about the Ifugao culture. The IPMRs and IPOs were set up through the promulgation of the NCIP Administrative Order No. 3, series of 2018, otherwise known as the Revised National Guidelines for the Mandatory Representation of the Indigenous Peoples in Local Legislative Councils and Policy Making Bodies.

## **CONCLUSION**

Despite the existing efforts, there is still a need to continually invest in the promotion and safeguarding of the ICH in the communities due to the threats posed by the occurrence of hazards and disasters and the economic challenges that drive people to shift their traditional farming techniques to modern agriculture in the municipality of Kiangnan. There is also a need to help the *Mumbaki* pass on the knowledge of the Ifugao culture since most of them are now elderly. All the rituals and practices are tied to the *Mumbaki*.

Despite the presence of School of Living Traditions (SLT) and practice of the Indigenous Education (IPEd), there are still some youth members who have limited awareness of their cultural heritage due to religion and education in schools along with the absence of transmission of knowledge from their very own parents. Most schools and colleges do not cover the Indigenous Knowledge Systems and Practices (IKSP). With this, it is crucial to sustain the funding support in education, especially the SLT and IPEd in the municipality and across the country to reach more audiences. Moreso, IKSP must be mainstreamed not just in elementary and primary education, it

must reach universities since it is also critical to educate the youth who may become our next leaders and educators and consequently, cultural ambassadors.

It is also necessary to continue the interventions of the NCCA on training workshops in safeguarding and mobilizing ICH in the context of disasters wherein the ICCs/IPs were engaged in the discussion on safeguarding ICH in disasters and how their inventories could be updated according to the current situation. According to their representative, they already conducted the training at the three islands: Luzon, Visayas, and Mindanao. However, they recommend continuous awareness. The research team supports this and recommends that the capacity-building must be sustained and should be cascaded at the community level by capitalizing on the Disaster Risk Reduction and Management Fund (DRRMF). As per section 21 of the Republic Act 10121 or the Philippine DRRM Act of 2010, 70% of the DRRMF can be used for disaster preparedness and this includes capacity-building activities.

Awareness can also be in the form of tourism education. Dulnuan (2014:30) highlighted the need to have sustainable and balanced tourism to preserve the living rice culture. She noted, *'tourism education is what distinguishes the new forms of tourism (ecotourism, heritage tourism, green tourism, etc.) from mass tourism. Both guests and hosts interact and learn from each other. The host community and tourism enterprise are also educated about the nature of tourism, especially its impact, benefits, and damages, as well as the tools that could be used to mitigate damages and harness benefits. Thus farmers and businessmen should know more about carrying capacities, ecological footprints, zoning, and other such tools that they could employ in tourism management'*.

It could be also a means for cultural appreciation, environmental enhancement, biodiversity conservation, income generation, and empowerment of the community. SITMo advocates for the preservation of the living rice culture since there would be no tourism if the rice culture is gone (Dulnuan, 2014; SITMo, 2008). To preserve the living rice culture, consideration must be given to all the practices, rituals, and processes that accompany and result in the living rice culture, and this can be practiced through the application of Tourism Education (Dulnuan, 2014).

As also suggested by the NCCA representative, it is also imperative to integrate the ICH in the context of DRR plans, policies, and programs (PPPs), and these PPPs must be implemented. The research team also believes the aforesaid and it must be complemented with proper budget appropriation across different levels: national, regional, provincial, city/municipal, and barangay/village levels.

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# DISASTER RISK ASSESSMENT AND PREVENTION FOR INTANGIBLE CULTURAL HERITAGE (ICH)

INTRODUCING THE ACTIVITIES OF THE CULTURAL HERITAGE DISASTER RISK MANAGEMENT CENTER, JAPAN

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## INTRODUCTION

This report introduces the initiatives that the Cultural Heritage Disaster Risk Management Center, Japan is conducting to safeguard intangible cultural heritage from natural disasters, with an aim to clarify the tasks that are necessary to nurture the ability of people to hold traditional rituals, festivals, and events, and to maintain and develop inherited craftsmanship in areas that suffer from natural disasters, to overcome the effects of damage, resume the traditions, and withstand future disasters.

In Japan, historical and cultural artifacts existing in the country are protected by federal legislation called the ‘Act on Protection of Cultural Properties’, and by prefectural and municipal ordinances. Intangible cultural artifacts are also positioned in the given domestic systems and have been protected by various measures. These intangible cultural properties are called ‘Intangible Cultural Heritage’ (ICH) under the Convention for the Safeguarding of the Intangible Cultural Heritage of UNESCO.

ICH consists mainly of human activities, and therefore, different types of tactics from those for tangible heritage protection are needed to enable these measures to cover the whole range of ICH. The same applies to disaster prevention and responses for ICH. However, the necessary tasks for safeguarding ICH against disasters had not been sufficiently organized or standardized in Japan, while the particularities and difficulty of their safeguarding have been pointed out.

The Cultural Heritage Disaster Risk Management Center, Japan (‘the Center’) was founded under the Secretariat of the Independent Administrative Institution, the National Institutes for Cultural Heritage (NICH) in October 2020 to protect all historical and cultural artifacts in Japan from any natural disasters, including ICH. Therefore, the Center has been developing measures to effectively prevent and mitigate damage to ICH caused by natural disasters since its foundation.

In 2021, the Center assembled ICH experts in Japan, set occasions to discuss disaster prevention for ICH, and reported the outcomes to the ICH communities, related parties, and researchers at a domestic symposium. The Center is also working to

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present methods to prepare for probable disasters through investigations on traditional rituals, festivals, events, and craftsmanship damaged by recent natural disasters. This report summarizes the progress of the Center's initiatives.

## IDENTIFICATION OF CHALLENGES

### Intangible Cultural Heritage (ICH) and Post-Disaster Recovery

The Great East Japan Earthquake of March 11, 2011, occurred mainly in the Tohoku region of Japan. Several cases were reported in which local communities in damaged areas started to take various actions to resume local rituals, festivals, events, and performing arts during stages in which lifeline utilities and/or usual living were not yet fully recovered. The attempted resumption of such ICH was reported as early as June 2011, around three months after the earthquake, at the timing of Buddhist memorial services for consolation of the dead in some areas (Imaishi, 2017) (Figure 1).

Traditional rituals, festivals, and events inherited in many areas all over Japan have three typical characteristics as follows: 1) they are held by communities and organized by local residents, 2) they have been passed down through generations, and 3) they create local unique rhythms as special non-ordinary days in ordinary life. For people who were forced into a state of emergency by the earthquake, the resumption of the festivals and events that they have inherited through generations is considered as a means to regain their ordinary life and community connections once lost in the disaster.

Based on studies of these cases after the Great East Japan Earthquake, a viewpoint that cultural events such as these local rituals, festivals, and events nurtured over accumulated time can contribute to the regional recovery from the disaster and, not only to recovery of ICH, has been shared. In the given context, the next challenge pertains to how the ICH can gain enough resilience to survive through the next natural disasters before they occur. If damage to ICH caused by natural disasters can be prevented or mitigated, the ICH can be resumed smoothly after a disaster, and can contribute to local recovery at an earlier stage.



**Figure 1**

*Mikoshi*, a portable shrine being carried through an area in which higher ground development was underway during reconstruction after the Great East Japan Earthquake.

(Photo: Hiromichi Kubota)

### **Difficulties in Preventing Effects of Disasters on ICH**

Effective measures to prevent damage to ICH have been discussed on various occasions, but their practical and actual examinations had not been fully conducted, as mentioned earlier. The characteristic that ICH constitutes heritage borne by people has bottlenecked solutions to the challenges.

According to the bearers of ICH damaged by the Great East Japan Earthquake, the appearance of damage varied among its regions and bearers. Despite similarities in the events themselves, different communities understood the damage differently and their paths to resume their events were different.

For example, while some communities could not resume their festivals because the necessary tools for the festivals were swept away by the tsunami, other communities managed to resume theirs using alternative tools. Some ICH could not be recovered to the original status because the coastal area where its performance had been held was severely damaged by the tsunami, even after the performers themselves were once again able to perform.

The communities that support ICH and regional conditions in which ICH is inherited determine what is considered as 'damage'. In addition, as the responses to the damage are left to the bearers' judgment, the situation of ICH after disaster and the means of resumption and reconstruction of ICH vary.

Moreover, ICH is hugely affected by big changes in people's lives because it is inherited along with local life. Therefore, impacts on ICH after disasters can appear over a longer time span than expected. Some ICH could neither resume nor continue after the earthquake because a large part of the population exited the area and substantial industrial changes progressed in the damaged areas.

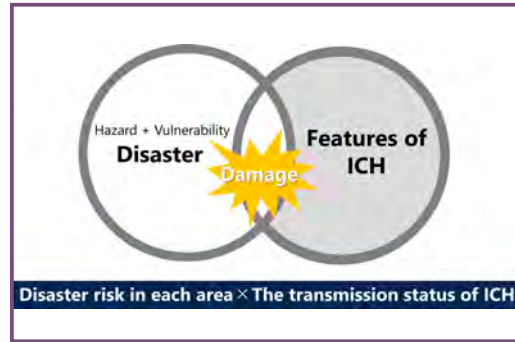
## **DISASTER PREVENTION FOR ICH**

### **Hazard Risk and its Visualization**

Natural events that trigger disasters are not the only factors that determine the resulting damage. Vulnerabilities in the societies hit by disasters also constitute important factors (Tatsuki, 2016). The potential impact of damage by disaster is usually calculated by multiplying the natural hazard (external factor) by the vulnerability of society (internal factor) (Figure 2). Damage to ICH can further differ for various items and status according to the type of heritage (Figure 3). This is why damage can appear very differently depending on the actual situation of the respective type of heritage. By considering both natural disaster risks and the situation of each type of ICH, crisis that may be faced by ICH at the occurrence of disaster can be estimated in advance.



**Figure 2** How we view disasters



**Figure 3** Damage inflicted on ICH

In the given situation, how should we classify the situations of ICH and prepare for the risks? It appears mandatory to first organize the factors that comprise ICH. To understand this, we may consider the example of ‘Yama, Hoko, Yatai, float festivals’<sup>3</sup> and look further into details.

In the case of ‘Yama, Hoko, Yatai, float festivals’, the first factor to consider is the engagement of various related parties. *Ujiko* communities (people who worship the festival patron shrines) are the central party that conducts the events. In addition, Shintō priests who conduct rituals, and even spectators are important supporters although the involvement is rather peripheral. Spectators can motivate the event bearers to carry on the festivals even though the spectators neither perform the festival rites nor are the main subjects.

To conduct the events, tools, not only the main constructs such as Yama, Hoko, and Yatai floats, but also others such as *mikoshi* (portable shrines), ritual utensils, offerings put on the alters, and costumes are indispensable. In addition, places including event-related facilities and spaces in which the rituals are conducted, such as shrines and the streets over which the Yama, Hoko and Yatai are pulled around, are also among the basic factors constituting events.

The other basic factor to consider is the ‘occasion’. This factor includes not only occasions such as the day of an event but also occasions for preparation, practice, cleanup after the event, and discussion. In the first place festivals cannot be conducted unless their bearers agree to conduct them during the current year and prepare for them. Once a festival is over, the bearers continue to hold discussions and begin to arrange for the next year’s festivals. This series of occasions enable festivals to be inherited.

3 ‘Yama, Hoko, Yatai, float festivals in Japan’ is listed as World Intangible Cultural Heritage. In 2016, its inscription on the Representative List was decided at the 11th session of the Intergovernmental Committee under the Convention for the Safeguarding of the Intangible Cultural Heritage of UNESCO. These float festival events are ritual events practiced as prayers for peace and protection from natural disasters for the local societies by holding a procession of the constructs ‘Yama, Hoko, Yatai’.



**Figure 4**  
Estimating disaster risk

‘Occasions’ do not only determine the way current festivals and performing arts are held. Through these occasions, members share their experiences and time, and pass their knowledge of the events on to other members of the next generation. This shows that these occasions are indispensable factors to continue with the passage of festivals and performing arts to future generations. The efforts to contain the recent COVID-19 pandemic had significant impact on ICH with the loss of these ‘occasions’ considered to have been the largest. People’s efforts to avoid crowds to prevent infections deprived bearers of ICH of these occasions and forced traditions into crisis. This impact continues even now.

As explained above, the factors comprising ICH can be organized into four types: people (bearers), tools, places, and occasions (Figure 4). Until recently, the three factors besides people were often considered as sub-factors for each type of heritage because the characteristic of ICH as ‘intangible (people’s activities)’ had been overly stressed.

However, ICH cannot always be resumed when only the activities of the people involved can be assured. For example, some bearers have said, ‘we cannot resume the event without costumes’, ‘we cannot resume it because we lost our shrine’, and ‘we cannot even think about resuming it because there are no occasions on which to perform it’. ICH is based on the above four factors in complex and interconnected ways. This fact diversifies impacts on damaged ICH and the pathways to resumption as its background.

For disaster prevention for ICH, it is required to specifically organize the factors constituting each type of ICH and visualize risks for each factor. It is also important to clarify how each factor supports the inheritance of ICH, in other words, how bearers understand and grasp each factor.

### **Responding to Expected Vulnerabilities**

By working on the tasks identified in the previous section, risks of damage to ICH by natural disasters can be specifically clarified to fit the actual situations. Through the work of organizing each factor, potential vulnerabilities that each factor may include can be clarified; for example, potential effects of disaster risks on the locations of



shrines or temples where rituals, festivals, and events are held, the venues where local communities assemble, and the warehouses where tools are stored; impacts of loss or damage to tools; and occasions on which the local communities bearing ICH can gather and discuss. Once these vulnerabilities are identified, solutions (disaster prevention methods) can be presented.

We need to be careful to understand that there are two types of vulnerabilities: those which can be addressed and those which cannot. For example, when a warehouse for tools is estimated to be at very high risk of flood by rainfall, the most effective solution is its relocation to a safer place to prevent damage. However, it can be difficult to implement the best solution due to community situations and bearers' feelings such as, 'we have kept the tools there for a long time', or 'it will be inconvenient for practice if the tools are moved to another place'.

In the given situation, an alternative solution needs to be discussed, such as moving tools to the second floor of the same warehouse without its relocation. If it is difficult to even implement the alternative solution, it would be necessary to discuss how to accept the damage that might occur, and how to reconstruct any damaged tools after the event of a disaster.

In many cases it is effective to handle the hardware side to prevent damage due to disaster, such as facility relocation or renovation. However, it can be difficult to do so within the single framework of the existing cultural property protection system. For example, when a shrine at which a ritual, festival, or event takes place is located in a landslide hazard zone<sup>4</sup>, the most effective countermeasure is to relocate the shrine itself. However, as the location of such a facility is deeply tied to the local history, it is not easily relocated. Obviously it is not realistic to change the place for offerings either, considering event preservation. In that situation civil work can be done in the area to reduce landslide risks. Even so, it is necessary to work in alignment with wider initiatives for general disaster prevention, not only within the cultural property protection system.

The important point here is, not to seek responses to all vulnerabilities, but for bearers and stakeholders after visualizing risks inherent in the ICH to discuss thoroughly and organize what can and cannot be eventually responded to, what can and cannot be immediately responded to, and what should be prioritized. Through this series of tasks, risks to be accepted can be visualized and possible responses after disaster can be evaluated substantially.

### **Roadmap to Resumption**

After organizing pre-disaster measures, responses after disasters can be organized sequentially as a flow. The tasks needed to resume ICH after a disaster are shown in Figure 5.

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4 Landslide Hazard Zones and Extreme Hazard Zones are the zones specified as having landslide risks by Prefectural Municipal Governors based on the Act on Sediment Disaster Countermeasures for Sediment Disaster Prone Areas.



**Figure 5**  
Disaster response flow

The first tasks necessary just after disaster occurrence are to ascertain the damage status and share the information among related parties. Confirmation of the safety of bearers and stakeholders and information on the damage status of tools and facilities are needed. It is also important to share the information among related parties. Correspondence after disasters can be smoothly conducted if the means of confirming people’s safety, ascertaining the damage situation, and sharing the information are discussed and decided beforehand.

The next step is to discuss when and how ICH will be resumed after the above information is shared. Depending on damage status, ICH may be resumed in its original form as before; however, if some damage occurred, it may be difficult to resume without any changes, whether the changes are made intentionally or not. Many factors require consideration: whether alternative ways should be adapted for the damaged aspects, and if so, what ways should be taken, and so on. Bearers and stakeholders need to understand the situation, and then to discuss and agree on a roadmap to enable resumption of the events.

The damage to be estimated here is not only the direct damage hitting ICH. As ICH is deeply tied to the lives of local people, it highly relies on how the people live. Therefore, psychological impacts, economic damage, and direct damage on lives that the bearers suffer from could lead to their decision not to resume the events or festivals for the time being. Even in that case, the burdens incurred by resuming the events in the future can be reduced if prospects can be shared among local communities.

Cases in the Great East Japan Earthquake show the following tendency: when communities could make a connection with cooperators and supporters outside of their areas at an earlier stage, they managed to resume the events at their preferred timing. That is, if bearers could share their situation outside of their communities, even during confusing situations just after disaster occurrence, they tended to be able to connect to support. On the other hand, communities who could not share the difficulties they were facing and could not raise their voices for support were left behind and experienced a more difficult path to resumption of events.

Therefore, one of the pre-disaster preparation measures to accept risks should be that of connecting with people outside of the local communities, such as with communities and associations of other bearers who inherit similar ICH, ICH bearers in the same regions, municipal government organizations in charge of cultural property protection in their regions and museums, libraries, universities, and research institutes handling historical matters. If stakeholders can report their damage status and prospects of resuming their events, appropriate timing and contents of support can be more easily identified. Construction of such networks and collaboration structures is one of the countermeasures that bearers and other stakeholders can prepare for in advance of disaster occurrence.

The last step is to achieve the ultimate goal of resuming events and performing them in the same way as before or in alternative ways. To continue events, not just temporarily resume them, again continuous discussion and effort among local communities are mandatory. Furthermore, if the stakeholders and bearers can discuss countermeasures to prepare for future disasters, they can overcome damage with more resilience and smaller burdens when future disasters happen.

## **DISASTER CASE STUDY OF TOKAKUJI NO MATSUE**

### **Overview of the Disaster-Affected Event and Investigation Background**

The tasks needed to effectively prevent the impacts of natural disasters on ICH, concluded by discussions in the Center, were described above. Here, a case study of one of our various disaster damage investigation outcomes is presented, that of *Tokakuji no Matsue*, a disaster-affected event that the Center is working on.

*Tokakuji no Matsue* is a traditional folk event passed down in the Tokakuji area of Kanda Town, Fukuoka Prefecture, located in the northern part of Kyūshū (Figure 6). The residents in the Tokakuji area are said to be descendants of *Shugenja* (practitioners of *Shugendō*, folk religious practices combining Shintō and Buddhism), who practiced around that area. *Tokakuji no Matsue* is conducted every year in early April by the residents to pray for good harvests and safety of the surrounding areas. A 12-meter pillar is erected at a shrine field located in the middle of a small hill, and the residents present performing arts to pray for good harvest around the pillar.

As the highlight of the event, a representative elected from the residents climbs the pillar, reads *kiganbun* (optative sentences), and performs *heikiri* to cut *nusa* (paper-made streamers used for Shintō prayers) carried on his back with a sword (Figure 7). The *heikiri* is a very important part of the event for the residents.

Heavy rain in August 2021 caused landslides in the area. The precise location where *Tokakuji no Matsue* is held was buried in the landslide sediments. This event was canceled in 2022 because the damage was too severe to easily reconstruct the area and the COVID-19 pandemic was widespread. The Center investigated the damage from February 2022 to April 2023 in response to information shared by the Board of Education of Kanda Town. The Center regularly checked the damage and reconstruction status on-site and interviewed the residents (bearers of the event) and



**Figure 6**  
*Tokakuji no Matsue*  
(Photo: Kanda town board of education)



**Figure 7**  
*Heikiri*  
(Photo: Kanda town board of education)

administrative officers who supported them.

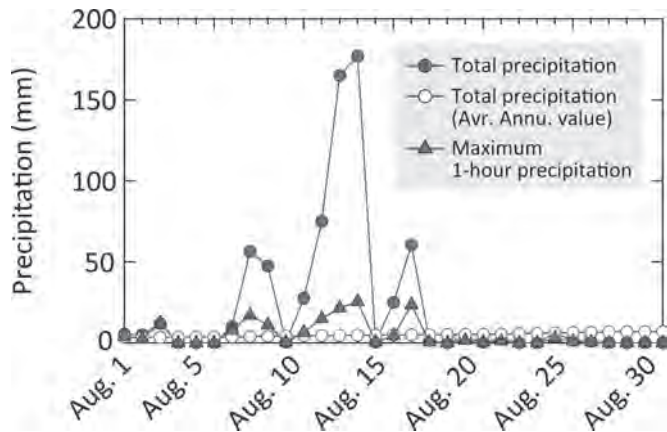
### **From Disaster Occurrence to Resumption of the Event**

A linear precipitation zone born in mid-August 2021 brought heavy rain in the regions around the Tokakuji area. Figure 8 shows the rainfall data of August 2021 gathered at the observing station in Yukuhashi City, next to Kanda Town, which shows a large spike of precipitation around the Tokakuji area between August 11 and 15.

Disaster occurrence by excessive rainfall was forecasted by Kanda Town at the time of the start of the rain, and 2,107 households, total of 4,641 residents, were ordered to evacuate to the official evacuation center before the rain became heavier. This excessive rainfall caused 45 cases of damage such as road flooding, flooding from overflowing rivers, and avalanches.

Figure 9 shows an example of the status just after the landslides occurred. Spectator seats installed on slopes collapsed and the flat area of the precise location where the event is normally performed was buried under a huge volume of sediment. As the





**Figure 8**  
Daily precipitation trend in August 2021



**Figure 9**  
The status in an area just after a landslide  
(Photo: Kanda town board of education)

surrounding ground was loose due to the rain, other landslides could have happened in the same area if heavy rain were to have occurred again.

Reconstruction efforts were started just after the disaster, and Figure 10 shows the status after removal of sediments and the progress of reconstruction as of June 2022. Over half a year, vegetation sheets were set on the slopes and a series of constructions was conducted to prevent further landslides. This effort, however, was judged to have led to limited outcome, due to slower plant growth than expected. The construction methods were therefore changed during the reconstruction. For the new reconstruction planning, administrative officers referred to construction methods used for tangible heritage such as mounds and castle ruins.

Figure 11 shows the status one day before the event in April 2023 after reconstruction was completed. The pillar was erected at the same point as before the disaster. The only difference was that the spectator stands were removed from the slopes. Stands were intentionally not reconstructed to prevent future landslides.



**Figure 10**  
Reconstruction status as of June 2022  
(Photo: Kanda town board of education)



**Figure 11**  
Reconstruction status as of April 2023  
(Photo: Tomomi Goto)

The event that was held in 2023, the first time after the disaster, had a limited number of spectators due to the COVID-19 pandemic, and thus the removal of the stands did not impact the event. However, once a similar number of spectators as before the pandemic returns, it will become difficult to accommodate all of them at the given spot where the event is held. Thus, the bearers need to discuss how to accommodate the spectators in the future.

### **Disaster Responses by the Event Bearers**

Figure 12 shows an organized flow chart to visualize the responses by the bearers and administrative officers who responded to the disaster, based on the flow shown in Figure 5.

The bearers and administrative officers efficiently and effectively responded to the disaster through prompt ascertainment of the damage situation and provision of first aid, which is the initial goal. Within a few days after the disaster, the damage was identified and emergency response was started to prevent secondary disasters, led by





**Figure 12**  
Disaster response for  
*Tokakuji no Matsue*

administrative officers. Their responses at this stage were excellent. Damage to ICH is often difficult to recognize and be promptly shared.

On the other hand, the sharing of the information among the bearers had issues. Many people of the younger generations live outside of the Tokakuji area, where aging of the population combined with a diminishing number of children is in progress. These younger people play very important roles in the event. They return to the area at the time of the event while they live in different places. Disaster damage information was only shared with these younger bearers at much later stages after the disaster. Therefore, some disagreements and emotional conflict among the bearers were observed at the early stages.

For the interim goal, stable progress was made to resume the event. Administrative officers continuously updated the basic information related to the event, shared it with officers of the prefectural and national government, and asked for their advice about appropriate responses. Based on the directions of the government institutions, the administrators discussed the targeted measures to resume the event with the bearers and set a task plan targeting a resumption of the event two years later.

Just after the disaster, the bearers and stakeholders discussed the alternative ways to resume the event; however, they concluded that it would be necessary to conduct the event in the original way to motivate the bearers to take initiative. Then they decided to target resumption of the event both at the original place and in the original way. If there had been some significant disagreement or conflict at that stage, the event might have been resumed later. Therefore, even though there were some challenges and small changes involved, the tasks required to resume progressed steadily and the bearers managed to resume the event in 2023 as planned.

### **Ability to Counteract Disaster**

The final goal of planning shown in Figure 5 was set as preparation for later disasters. The next challenge for *Tokakuji no Matsue*, which has overcome the disaster, is to become more resilient to counteract future risks by preparing for future disasters. At

the time of this writing, no movement to prepare for future disasters was seen.

Regions around the Tokakuji area are set as high-risk zones for landslides by the prefectural and national governments. The disaster occurred in the past was predictable. Though the disaster responses were considered to have been made very promptly and effectively, the damage itself could have been smaller and the event could have resumed even more smoothly if the probable damage had been evaluated and the countermeasures and disaster responses had been discussed beforehand.

Furthermore, the damage was limited to the particular spot where the event is conducted, while it could have hit the tools and bearers themselves if the landslides had happened in different places. However, the interviews held in the Tokakuji area by the Center revealed that many residents still underestimate risks and do not proactively take appropriate actions toward possible natural disaster events even though they know of existing risks within their residential area.

This disaster gave the bearers a good opportunity to recognize not only disaster risks for their event but also potential risks underlying their own lives. If this opportunity can lead to visualizing and sharing regional disaster risks, and also to forming a common recognition and agreement on pre-disaster preparation and post-disaster responses among the residents, the disaster risk management practice for ICH can be developed into disaster risk management practice for the whole life of the residents.

## **CONCLUSION**

ICH is the manifestation of cultural traditions existing alongside local people's lives. The discussions so far have been made from a viewpoint considering local realities. However, discussions from this stance are limited by various real bottlenecks. Therefore, it is difficult to determine actual tasks needed as ways to protect ICH from disasters and to smoothly resume the events. It is considered that pathways to resume events can diverge due to various factors, including the residents' opinions as well as the actual situations.

However, through the Center's initiatives, it appears that the disaster risk management for ICH can be organized by converging various methods under one methodology, including each area of diversity, even though it had been considered impossible.

The mandatory aspect needed to make risk management, including the pre-disaster preparations and post-disaster responses proposed in this report work effectively, is the task of making bearers understand the value of their own ICH. Only when bearers themselves can understand the real value and recognize its real meaning, ICH can have enough resilience against disasters and policy can be constructed for reconstruction and recovery after the event of a disaster. We will further polish the proposed measures by evaluating the outcomes of the plan proposed in this report in various areas.

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