A Human Rights-Based Perspective on Dried Fish Value Chains in Gujarat, India

by

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Abstract

Globally, small-scale fisheries provide livelihood and food security to some of the most marginalised and vulnerable populations. Recognising the importance of small-scale fisheries, there is an increasing policy focus on the opportunities and challenges in the sector. The dried fish economy in India is one such sub-sector of small-scale fisheries where women form a significant part of the workforce. Literature on dried fish is limited, and because the economy is informal, human rights challenges often remain invisible. This research focused on the dried fish value chain in Valsad District of India's Gujarat state.

The purpose of the research was to map the dried fish value chain in Valsad District and assess human rights issues in this localised economy. Drawing on ethnographic data collected through semi-structured interviews, participant observation, and a review of secondary sources, this research described the dried fish value chain in Valsad District. It assessed the procedural and substantive human rights of actors involved in dried fish processing and trade. Key findings from the research include the presence of a vibrant local dried fish value chain connecting coastal areas to the hinterland. Additionally, the research uncovered human rights challenges faced by actors in their daily struggles. The thesis concludes with recommendations for policymakers to integrate a human-rights-based approach in developing this crucial economy

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Chapter One - Introduction

1.1 Background

Oceans serve as vital resources, sustaining millions of people globally by providing livelihoods and food security (FAO, 2024; Scholtens & Bavinck, 2017). Among ocean-based livelihoods, small-scale fisheries are of particular importance. They contribute approximately 40 percent of the global fish catch and support the livelihoods of around 500 million people, with women representing 40 percent of all those engaged in the aquatic value chain (FAO, 2024). Recognising the role of small-scale fisheries as an important source of livelihood and a crucial food system has become a focal point in policy discussions (FAO, 2015). To grasp the full significance of small-scale fisheries, it is crucial to move beyond the conventional focus on fishing and understand the diverse social, economic, geographic, historical, and cultural contexts in which fish is processed, traded, and consumed.

As the third-largest fish producer globally, India preserves about 17% of its fish catch through drying methods (Bharda et al., 2017). Dried fish, prepared through salting, sun-drying, or fermenting, is a crucial source of nutrition, particularly for vulnerable and economically disadvantaged populations (Belton & Thilsted, 2014). Gujarat state in India leads in marine fish production and is a major dried fish processing state (Government of India, 2022). Despite this, Gujarat's fish consumption falls below the national average due to its predominantly vegetarian population (Nayak et al., 2022; Navghan et al., 2023). Gujarat's fisheries development strategy has been market-oriented, emphasising fleet modernisation and export promotion, primarily focusing on frozen fish (Johnson, 2001; Nair & Baxi, 2022).

Within Gujarat's fisheries landscape, Valsad District stands out due to its proximity to Maharashtra, surrounding biodiversity-rich Western Ghats, and significant Adivasi[1] population. Valsad's fishing economy is small-scale, with dried Bombay duck fish being a major product (Research Collective, 2017). The dried fish economy in Valsad District remains largely informal, with limited government data available on the middle and lower segments of the value chain. It has received little attention in academic and policy circles.

Existing literature on Gujarat's fisheries follows the general trend in fisheries literature and is focused on upstream value chain segments, neglecting the significance of post-harvest segments (Allison et al., 2012; Belton et al., 2022). The Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the context of Food Security and Poverty Eradication (hereafter referred to as the SSF Guidelines) advocate for a human rights-based approach to small-scale fisheries development, emphasising support for post-harvest segments (FAO, 2015).

To operationalise a human rights-based approach to development as enumerated under the SSF Guidelines, it is crucial to take a value chain approach to small-scale fisheries. Such an approach helps to explore the opportunities and constraints in the realisation of human rights throughout the value chain. Therefore, integrating value chain analysis and human rights frameworks can provide a comprehensive understanding of vulnerabilities, power asymmetries, inequities, and opportunities throughout small-scale fisheries value chains. Although such integration remains largely unexplored, it holds potential for offering

[1] I use the term ‘Adivasi’ in this research to refer to the Scheduled Tribes notified under the Indian Constitution. The Scheduled Tribes in the region self-identify as Adivasi meaning original inhabitants, hence the term Adivasi is used instead of the words ‘tribe’ or ‘tribal'.

holistic evaluations and assessments of human rights issues (Bjorndal et al., 2014; Di Cintio et al., 2022; Hap et al., 2012; Ratner et al., 2014).

1.2 Purpose and objectives

For this research, I employed value chain analysis to assess procedural and substantive human rights in the processing and trade segments of the dried fish value chain operating in Valsad District of Gujarat, India. The research objectives were structured as follows:

1. Map the dried fish value chain in Valsad District using a social economy lens.
2. Document the interactions among actors in the processing and trade segments of the value chain, with a focus on power dynamics stemming from gender, caste, religion, ethnicity, place of origin, and other social and economic inequalities.
3. Assess the processing and trade segments of the value chain from a human rights-based perspective, considering substantive and procedural human rights.

In furtherance of the first objective, my aim was to provide a comprehensive and in-depth understanding of the actors, activities, and linkages in the dried fish value chain in Valsad District through a social economy lens. I define social economy as the social embeddedness of economic relations between actors in the value chain, influenced by the intersection of factors such as caste, gender, social status, economic status, religion, place of origin, and linguistic identity. For the second objective, I built on the social economy perspective of the value chain and documented the interactions between different actors in the processing and trade segments. I focused on power dynamics arising from gender, caste, religion, ethnicity, place of origin, and other social and economic inequalities.

Using the results from the first two objectives, I then assessed the processing and trade segments of the dried fish value chain from a human rights-based perspective. I evaluated both substantive human rights (e.g., the right to occupational health and safety) and procedural human rights (e.g., the right to participation in decision-making, the right to fair dispute resolution processes). I used the concept of situated citizenship to situate human rights in the daily struggles and lived experiences of actors. These three objectives are interconnected, with each building upon the previous one, creating a cohesive and comprehensive framework for understanding and assessing the dried fish value chain in Valsad District.

1.3 Summary of research approach and methods

I used a qualitative ethnographic approach which is influenced by two worldviews: Social Constructivism and Pragmatism. I explored how human rights are situated in the lives of actors in Valsad's dried fish value chain, documenting how various factors such as caste, gender, religion, ethnicity, place of origin, and their intersections affect the fulfilment of human rights. I chose Valsad District due to its rich geographical, cultural, and social diversity, along with the presence of an unexplored dried fish economy that links fishing communities in the coastal areas with Adivasi communities in the hinterland.[2]

Given the lack of direct secondary data on the dried fish economy in Valsad District, I reviewed secondary sources such as government reports, grey literature, satellite imagery, and YouTube videos by local travel video bloggers. As part of the field research, I collected data through semi-structured interviews and participant observation, compiling the

[2] In this thesis, I use the term 'hinterland' to refer to Talukas like Kaprada and Dharampur in Valsad District, which are predominantly inhabited by Adivasis and are also far from the coast.

information in field notes. I analysed the collected data using NVivo, identifying and coding major themes that emerged during the data collection and the analysis stages. A detailed discussion of the methodology is provided in Chapter Three.

1.4 Significance of the research

To my knowledge, this research represents the first comprehensive study on dried fish economy in Valsad District of south Gujarat. Research on the middle and lower segments of the fisheries value chain is sparse and there is a need to bridge this research gap (Belton et al., 2022). By focusing on the post-harvest value chain segments, this research adds to the body of knowledge that goes beyond upstream fishing operations. Methodologically, the use of an integrated value chain and human rights framework not only expands the application of value chain theory but adds a new dimension to the study of human rights and situated citizenship. Furthermore, by employing social science methodologies to explore the interplay between law, human rights, and everyday life, this research contributes to the burgeoning field of New Legal Realism (Merry, 2006).

The findings of this research uncover the nuances of the overlooked dried fish economy in south Gujarat. Additionally, they could play a crucial role in shaping public policy aimed at safeguarding the rights and well-being of individuals and communities engaged in the value chain. While the research focuses on Valsad District, it provides a reference for future studies in the region, contributing to a holistic understanding of dried fish value chains and bridging information gaps in academic and policy domains.

1.5 Organisation of the thesis

The thesis consists of six chapters. In Chapter One, I provide the background and explain the purpose and objectives of the research. In Chapter Two, I present a comprehensive

review of literature relevant to the research, focusing on value chain theory and analysis. It is followed by a review of human rights discourses, including the human rights-based approach to development and legal pluralism, with a specific focus on small-scale fisheries. I conclude the chapter with a summary of the literature and a conceptual framework derived from the literature review. In Chapter Three of the thesis, I outline the methodology, research approach, and data collection methods, based on the ethnographic approach employed for the study. It also includes a description of the geographical study area. In Chapter Four, I present the first set of results, which are aligned with the first and second objectives enumerated under Section 1.2. I describe the dried fish value chain in Valsad District through a social economy lens and discuss the nature of interactions among actors. In Chapter Five, I build upon the findings of Chapter Four to assess substantive and procedural human rights in the processing and trade segment using a situated citizenship lens. In Chapter Six, I summarise the key findings of the research, discuss the contribution made to literature, identify the limitations of the present research and discuss areas of future research. In the conclusion, I provide specific recommendations for policymakers, and I conclude the thesis with some broader questions that the thesis invites the readers to consider.

Chapter Two – Literature Review and Conceptual Framework

2.1 Value chain: Theoretical underpinnings

The term ‘value chain’ was first coined by Porter (1985) to describe the interconnected activities undertaken by a firm to design, produce, market, deliver, and support its product. In Porter's analysis, the primary focus of the value chain concept is the firm, which conducts various processes and activities contributing to the final product's delivery to the buyer (Porter, 1985). Similarly, Hopkins and Wallerstein (1986) refer to networks encompassing labour and production processes culminating in the production of a finalised commodity, in their world systems theory. They refer to such networks as ‘commodity chains.’

Although value chains and commodity chains are slightly distinct in their conceptualisations, I frequently use these terms interchangeably in this literature review. This interchangeable usage is based on the recognition that both concepts refer to interconnected processes and activities involved in the creation, distribution, and consumption of goods or commodities. The value chain approach emphasises the firm's activities, while the commodity chain perspective describes the broader network of organisations and institutions involved in the production and trade of commodities (Gereffi & Korzeniewicz, 1994).

Exploring the governance of commodity chains is pivotal in understanding the power dynamics inherent within such networks (Gereffi et al., 2005). On the issue of power and governance of the commodity chain, Gereffi (1994) differentiated between two types of chains: buyer-driven and producer-driven. In producer-driven chains, large transnational

corporations wield significant power in managing production, whereas in buyer-driven chains, major retailers and trading firms assert dominance. Understanding the role of governance within value chains necessitates examining external influences and the internal dynamics encompassing power, legal frameworks, and governance structures that shape and are shaped by the chain itself (Bavinck, 2018).

Earlier studies on governance in value chains have mainly considered the role of law as an exogenous and contextual factor, overlooking how law operates within and influences value chains (The IGLP Law and Global Production Working Group, 2016). A new emerging scholarship on value chains has recognised the significance of law in value chains, exploring how legal frameworks shape power relations and distributional outcomes among chain actors (The IGLP Law and Global Production Working Group, 2016). Furthermore, value chains operate within a plural legal environment where interactions between state and customary law have implications for chain governance and power relations among actors (Bavinck, 2018). The sardine fisheries of Tamil Nadu serve as a notable example, where non-state customary law institutions, such as the Ur Panchayat or fisher councils, influenced governance by pressuring the government to ban certain fishing gear on ecological grounds (Bavinck, 2018).

The feminist view of commodity chains underscores the central role of the household and the gendered nature of mainstream commodity chain analysis (Dunaway, 2014). Scholars from this tradition argue that while the household contributes value at every segment of the chain, mainstream value chain analysis often fails to account for this contribution (Collins, 2014). Recognising women's reproductive and unwaged labour as value-generating challenges the gender-neutral perspective embedded in degendered value chains and

neoclassical theories (Dunaway, 2014). Reproductive labour refers to the unpaid work and activities related to the maintenance and reproduction of human life, including child-rearing, caregiving, housework, and emotional labour (Collins, 2014).

Incorporating the household into commodity chains offers valuable insights into the gendered power dynamics that shape women's roles within these chains and helps understand how gender and sexual ideologies shape social relations and assign value to both the production and consumption of commodities (Ramamurthy, 2014). Of particular note is an ethnographic study conducted by Ramamurthy (2021), which applies feminist commodity chain analysis to the genetically modified (GM) cotton seed commodity chain. This study reflects on the economic processes of rural transformation in Andhra Pradesh, India and their impact on changing gender relations within households due to the rise of GM cotton seed cultivation. It also highlights the gendered value of women's productive labour and its commodification, particularly in the context of arranged marriages. The study revealed that parents of experienced and skilled female cotton seed workers negotiated lower dowries for their daughters based on their daughters' skills in cotton seed production.

A similar dynamic in gender relations is observed in small-scale fisheries value chains, where women's involvement in post-harvest activities is influenced by familial and community expectations and often involves unwaged productive labour (Belton et al., 2018). Therefore, incorporating the household in the conceptualisation of commodity chains is essential to comprehensively understand the power dynamics and gender inequalities that characterise women's engagement in both productive and reproductive labour.

2.1.1 Value chain analysis

Value chain analysis is a method employed to thoroughly examine and assess value chains on a global, national, or industry scale (Zamora, 2016). The specific points of entry for value chain analysis may vary depending on the contextual factors and the desired objectives of the analysis. For instance, Kaplinsky (2000) utilises value chain analysis to identify the underlying causes of income inequality in numerous developing countries despite their integration into the global economy. Such analysis serves as a basis for policy formulation and implementation. Building upon the value chain governance theory, Bolwig et al. (2010) emphasise the importance of integrating poverty and environmental concerns into value chain analysis. The authors contend that vertical elements, such as governance, upgrading, and standard setting, should be integrated with horizontal aspects, such as participants' terms of involvement in the chain, gender issues, labour rights, poverty, and environmental issues.

Development practitioners and researchers have utilised the structure-conduct-performance (SCP) paradigm to analyse food value chains and develop appropriate interventions (Reardon et al., 2012). The origins of the SCP paradigm lay in industrial economics, grounded in neoclassical theory (Ferguson & Ferguson, 1994). The underlying assumption of the SCP paradigm is that the structure of the market determines the conduct of firms and subsequently influences the overall market performance (Ferguson & Ferguson, 1994). In their analysis of rice and potato value chains, Reardon et al. (2012) employed an innovative SCP framework that integrated equity as one of the performance indicators, focusing on the benefits received by disadvantaged actors within the value

chain. The SCP paradigm offers flexibility in categorisation and variables, considering the specific context of the value chain and the intended objectives of the analysis.

Overall, value chain analysis serves as a valuable tool in comprehending the intricacies of global, national, industry-level and regional value chains. By integrating various dimensions, such as governance, equity, poverty, and environmental concerns, this approach enables policymakers and researchers to gain valuable insights for designing effective interventions and addressing the needs of marginalised stakeholders in the value chain.

2.1.2 Social economy and dried fish value chains

Dried fish value chains in South Asia, particularly in India, are characterised by informal operations heavily influenced by customary institutions at every segment. A review of academic and grey literature on these value chains reveals that factors such as caste, gender, religion, region, economic status, legal pluralism, and ethnic identity play significant roles in their governance (Galappaththi et al., 2021; Belton et al., 2018; Ghosh et al., 2022; Salagrama & Dasu, 2021). It shows that dried fish value chains are embedded in social and cultural contexts, informal, and non-linear. The social embeddedness of dried fish value chains necessitates an understanding of value not just in material or monetary terms but as situated and contextual, emanating from the social and economic relations in these chains (Johnson et al., 2018; Pedroza-Gutiérrez & Hapke, 2022).

Women are integral to dried fish value chains in India and across South Asia (Ghosh et al., 2022; Salagrama & Dasu, 2021; Belton et al., 2018). They form the majority of the workforce engaged in the processing and marketing of dried fish. In addition to their productive labour in the value chain, women contribute through unpaid household

reproductive work. To account for women's work in small-scale fisheries, Pedroza-Gutiérrez & Hapke (2022) use an integrated framework combining the Resource-Knowledge-Based-View and Feminist Commodity Chain Analysis. By applying this framework to case studies in Mexico and India, they show how women create value out of fish harvests because of their situated knowledge and skills in fish processing and marketing.

In theorising dried fish value chains, Pradhan et al. (2022) advocate for a social-ecological systems (SES) perspective to address the limitations of the neoclassical approach. This shift enables a more comprehensive analysis of these value chains' structure, conduct, and performance, incorporating social and ecological variables beyond monetary considerations. Belton et al. (2018) used the structure, conduct, and performance paradigm (discussed under Section 2.1.1) to analyse dried fish value chains in Bangladesh. They employed a well-being framework to assess the gendered nature of dried fish value chains. Their case study reveals how factors such as ethnicity, gender, and kinship play a role in determining the subjective well-being of actors. Their study also shows the role of power and social relations in the daily lived experiences of different actors.

Expanding on the power dynamics and vulnerabilities in dried fish value chains, Galappaththi et al. (2021) provide an inclusive framework for assessing gender relations within dried fish value chains. Their well-being and intersectionality perspective helps focus on the barriers women face in participating effectively in these value chains, which are rooted in power structures and social, ethnic, and caste relations. Applying this framework to case studies in Bangladesh, Sri Lanka, and Tanzania, they show the greater

deprivation and vulnerability experienced by certain groups of women due to intersecting structures of oppression.

Based on the scoping review of literature on theorising dried fish value chains, I propose a social economy approach to analyse the value chain. Social economy refers to the social embeddedness of economic relations between actors in the value chain, influenced by the intersection of factors such as caste, gender, social status, economic status, religion, place of origin, and linguistic identity. This definition of social economy also aligns with the SSF Guidelines, which state that small-scale fisheries are rooted in local communities, traditions, and values (FAO, 2015). Moreover, a social economy approach helps account for the many meanings and the situated nature of the values of dried fish.

2.2 Human rights: Discourses

According to Marks (2016), human rights can be defined as "a set of norms governing the treatment of individuals and groups by states and non-state actors on the basis of ethical principles regarding what society considers fundamental to be a decent life." Three distinct yet interconnected perspectives can be identified within the discourse on human rights. The first perspective views human rights primarily as ethical demands that may or may not inspire legislation, thus not considering legislation as a constitutive element of human rights (Sen, 2004). The second perspective regards human rights as legal rights of a higher order, emphasising the significance of the formal norm-making process for recognising human rights (Wacks, 2006). The third perspective perceives human rights as social claims rooted in the struggles of individuals and communities, representing demands for social justice (Nyamu-Musembi, 2005).

The prominence of human rights as a normative principle in international relations was solidified with the adoption of the Universal Declaration of Human Rights in 1948 (United Nations General Assembly, 1948). While in the earlier years, the human rights discourse was dominated by the Western liberal philosophy of individual rights, the subsequent decades saw many more multilateral international agreements, such as the Convention on the Elimination of All Forms of Discrimination Against Women (United Nations General Assembly, 1979) or United Nations Declaration on the Rights of Indigenous Peoples (United Nations General Assembly, 2007) that expanded the scope of human rights to collectives where rights are vested in the collective which then acts as the moral agent, as opposed to individuals. The idea of collective human rights emanated from the struggles of marginalised and vulnerable groups such as Indigenous peoples or cultural, linguistic, ethnic, or religious minorities (Felice, 1996). Regional treaties like the African Charter of Human and Peoples' Rights (Organisation of African Unity, 1986) also refer to peoples' rights, recognising peoples' rights as a collective.

Countries from the developing world spearheaded the movement for the recognition of economic, cultural, and social rights (ESCR). This contrasted with the West's assertion of civil and political rights (CPR) as the only set of legitimate human rights. The International Covenant on Economic, Social, and Cultural Rights (United Nations General Assembly, 1966) indicated the shift from the civil and political rights-centric understanding of human rights. The CPR and ESCR are interdependent and indivisible, meaning that economic rights are intrinsically connected to civil and political rights. The evolution of human rights in transnational law shows that, as a normative vision, a human right is "not static or the property of any one group; rather, its meaning expands as people reconceive their needs

and hopes in relation to it" (Bunch, 1990). The discourses surrounding human rights include diverse perspectives that emphasise ethical demands, legal recognition, and social claims. The trajectory of human rights has seen a transition from a focus on Western liberal individual rights to the recognition of collective rights and the interdependence of civil, political, economic, social, and cultural rights.

2.2.1 Human rights, legal pluralism, and situated citizenship

Feminist scholars emphasise the need to challenge the false dichotomy between the public and private spheres, which restricts the definition of human rights violations to those committed solely by the State (Bunch, 1990). They argue that women's human rights violations predominantly stem from cultural, familial, communal, and religious practices, each operating under its own normative systems (Binion, 1995). Therefore, it is crucial to bring these institutions within the purview of human rights to address the everyday violence faced by women. As Freeman (1993) aptly states, "custom and culture… should be respected as a living expression of community norms [,] but must not be allowed to be used as a rationale for denial of human rights" (as cited in Binion, 1995).

The 'women's rights as human rights' movement gained momentum during the 1993 World Conference on Human Rights, marking a pivotal moment with the inclusion of gender-specific abuses as human rights violations under the Vienna Declaration and Programme of Action (United Nations General Assembly, 1993). This movement believed in the universality of human rights and opposed cultural relativism regarding women's human rights (Sullivan, 1994). However, postcolonial feminist scholars, such as Grewal (1999), offer a contrasting perspective on the 'women's rights as human rights' agenda. Grewal argues that this discourse often reflects the views of American practitioners of global

feminism, who engage in rights talk based on a universalised identity of 'woman' as a category. She contends that it is essential to investigate localised inequalities and consider contexts, such as in India, where ideas like economic and social justice may be more appropriate than human rights talk.

Taking an actor-oriented approach to human rights, Nyamu-Musembi (2005) explains that human rights are not abstract legal principles but are grounded in the lived experiences of individuals and communities. This perspective recognises the struggles and concrete experiences of various actors involved and who stand to gain directly from the question involved in the struggle. For instance, in the case of fisheries, social struggles arise between different actors, including fellow fishers and other individuals in the value chain with opposing interests (Bavinck et al., 2018). An actor-oriented approach to human rights is connected to the idea of 'situated citizenship,' wherein the intersection of factors such as caste, ethnicity, religion, kinship structure, place of origin, and gender influence how rights are defined, understood, and exercised. The notion of situated citizenship, which extends beyond formal or state citizenship, is crucial to understanding the extra-legal factors that enable or constrain the agency of factors. Thus, situated citizenship goes beyond legal status and is defined as "legal status and embodied intersectional social relation" (Behl, 2019). The question' human rights, for whom?' attains fundamental importance, signifying the centrality of the actors' lived experiences. It goes beyond a call for attention to context to include an emphasis on consequences for less powerful groups and individuals.

The process of "vernacularisation," as described by Merry (2013), demonstrates how the language of transnational human rights is transformed and contextualised within social justice struggles in non-western societies. She uses the example of Indigenous rights

movements in Hawaii and the advocacy work of 'Sahiyar,' a women's rights NGO in Vadodara, Gujarat, to illustrate how local actors appropriate and reinterpret international law to advance their respective causes. This vernacularisation, or translation of human rights within specific contexts, is a two-way process where local struggles shape the understanding and application of human rights. In such cases, the presence of legal pluralism becomes evident, which is the existence of multiple legal systems within a given social field (Merry, 1988).

Legal pluralism is particularly notable in small-scale fisheries worldwide due to their ecological, social, and cultural diversity (Jentoft & Bavinck, 2014). In Junagadh, Gujarat, for example, the Kharva caste Samaj, a non-state body composed of members from the Kharva fisher caste group, holds de-facto authority over dispute resolution, the establishment of fisheries-related norms and regulations concerning other social aspects like marriage (Johnson & Sathyapalan, 2006). Such a non-state normative order acts as a semi-autonomous social field that "can generate rules and customs and symbols internally, but that ... is also vulnerable to rules and decisions and other forces emanating from the larger world by which it is surrounded" (Moore, 1973). The interaction between transnational and national human rights approaches with these non-state normative orders is crucial in determining the success or failure of vernacularisation.

The relationship between legal pluralism and human rights is emphasised in the work of Provost and Sheppard (2013), who explain that using legal pluralism as an approach helps situate abstract human rights standards in the vernaculars of everyday life and ordinary human relations. They also argue that using a legal pluralism lens to understand human rights means disentangling from a state-centric understanding of human rights and

examining how human rights obtain meaning in a situation of legal pluralism. Such an approach has profound implications for the role of non-state actors in the fulfilment of human rights.

2.3 Human rights-based approach to development

The human rights and human development discourses followed separate trajectories until the 1990s, with little interaction or recognition of the implications of the human rights system for development (Uvin, 2007). However, a pivotal moment occurred in 1986 with the United Nations Declaration on the Right to Development (United Nations General Assembly, 1986), which marked a significant shift by incorporating human rights language into the development discourse. In response to the failures of the need-based welfare model, development agencies in the 1990s widely adopted the human rights language through the human rights-based approach to development (HRBAD). HRBAD[3] is "a conceptual framework that normatively relies on international human rights standards and operationally aims to promote and protect human rights." It seeks to address the inequalities and discriminatory practices that hinder development progress by analysing and rectifying unjust distributions of power (Uvin, 2007; Sen, 1993).

Two central concepts of HRBAD are right-holders and duty-bearers. Right-holders represent marginalised and vulnerable groups whose rights have been disregarded. At the same time, duty-bearers encompass both state and non-state actors who are obligated to uphold these groups' rights. Including non-state actors as duty-bearers reflects the evolving economic reality of a neo-liberal system, where human rights implementation limited to

[3] Human Rights Based Approach (n.d.) UN Sustainable Development Group. https://unsdg.un.org/2030-agenda/universal-values/human-rights-based-approach (accessed on 2 April 2023).

the state would overlook abuses committed by non-state actors, such as large-scale industries (de Man, 2018).

The definition of duty-bearers also extends to non-state institutions like village councils or community assemblies. For example, in Tamil Nadu, India, informal fishers' councils known as Ur Panchayats govern fishing affairs in coastal villages, making their role as duty-bearers crucial for realising the human rights of right-holders (Bavinck & Vivekanandan, 2017). HRBAD emphasises enhancing the capacity of duty bearers to fulfil their obligations while empowering right-holders to assert their rights against duty-bearers (Uvin, 2007).

A fundamental difference between the conventional need-based development model and HRBAD lies in their approach to trade-offs. HRBAD, based on the realisation of human rights, rejects any trade-offs that violate the rights of vulnerable and marginalised groups. HRBAD prioritises protecting these groups' human rights in designing development policies, even if the State's rationale for such projects is linked to general welfare. The question 'welfare for whom?' becomes significant within HRBAD and justifies the focus on prioritising vulnerable groups. Legal remedies and judicial enforcement alone are insufficient to implement human rights effectively. Human rights become intertwined with the politics surrounding development issues and necessitate implementation avenues beyond the courts. Gauri and Gloppen (2012) outline that the implementation process requires legal, social, cultural, and political tools, including rights talk, advocacy, awareness, and activism. Thus, HRBAD requires a multifaceted implementation process beyond legal remedies.

2.3.1 Human rights and procedural justice

HRBAD encompasses not only the outcomes but also the processes by which those outcomes are achieved, recognizing the significance of procedural aspects.[4] It acknowledges that procedures are tools of power, and unfair, non-participatory, or discriminatory processes can undermine the realisation of substantive human rights (Main, 2010). Central principles within HRBAD, such as participation, consultation, the rule of law, and transparency, emphasize the importance of meaningful engagement for individuals and communities affected by development policies. They should not be treated as passive recipients but as active and well-informed stakeholders and rights holders in the decision-making process. The incorporation of fair processes for decision-making, dispute resolution, and seeking remedies is intrinsically connected to the concept of procedural justice. While procedural rights have traditionally been associated with legal adjudication (Tyler, 1987), their underlying rationale can be extended to a human rights-based approach to development. In this context, procedural justice through procedural rights goes beyond the relationship between the state and citizens, encompassing non-state duty-bearers as well. Thus, procedural justice is a vital aspect of HRBAD, emphasising the need for fair and inclusive processes throughout all stages of development.

2.3.2 Human rights-based approach in small-scale fisheries

The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) (FAO, 2015) is the first international soft-law instrument explicitly based on the human rights-based approach to

[4] The Human Rights-Based Approach (n.d.). United Nations Population Fund https://www.unfpa.org/human-rights-based-approach (accessed on 2 April 2023)

development in the context of small-scale fisheries. The SSF Guidelines serve as an extension of the international human rights canon and contextualise those human rights in the context of small-scale fisheries. The Guidelines enumerate human rights principles such as accountability, transparency, gender equality, and the rule of law as integral to developing small-scale fisheries. Recognising the need to go beyond fish, fisheries, and fishing, the Guidelines include a section dedicated to post-harvest segments of the value chain. Article 7.1 states, "All parties should recognise the central role that the small-scale fisheries post-harvest subsector and its actors play in the value chain. All parties should ensure that post-harvest actors are part of relevant decision-making processes, recognising that there are sometimes unequal power relationships between value chain actors and that vulnerable and marginalised groups may require special support." By explicitly mentioning 'all parties,' the SSF Guidelines acknowledge the fundamental role of non-state actors and institutions in upholding substantive and procedural human rights. The SSF Guidelines also recognise the role of women in post-harvest value chains and call for states to support women and other vulnerable groups to enhance their capacities (FAO, 2015).

The human rights-based approach to development originates in transnational law, and for the successful implementation of SSF Guidelines, reconciliation with customary law is a prerequisite. In small-scale fisheries, legal pluralism is most evident in four areas: tenure over resources and coastal space, gender representation, child labour, and marketing activities (Jentoft & Bavinck, 2019). While the SSF Guidelines call for respect for customary law, they also acknowledge that customary institutions and relations between different actors in the value chain are riddled with power asymmetries. Such institutions can be discriminatory towards marginalised groups such as women and migrant workers,

thereby violating their substantive and procedural rights (Belton et al., 2018). Conflicts, especially those concerning marginalised groups, should be negotiated and deliberated through co-governance models where transnational law, state law, and customary law are reconciled without compromising the rights of these groups (Bavinck, 2018).

2.4 Conceptual framework

As discussed in this chapter under Section 2.1.2, value chain analysis, when employed using structure-conduct-performance (SCP), provides valuable insights into various cross-cutting themes such as gender, power dynamics, identity, legal pluralism, labour, and well-being in dried fish value chains (Belton et al., 2018). These cross-cutting themes can be effectively integrated into value chain analysis using a social economy approach. The social economy approach to value chain analysis, as discussed under 2.1.2, complements the idea of situated citizenship. The social economy approach helps identify the power asymmetries, inequalities, and inequities prevalent in the relations between actors in the value chain, setting the stage to situate human rights in the lived experiences of actors and how these factors impact the fulfilment of human rights, especially for marginalised and vulnerable individuals or groups in the value chain.

Considering the synergy between a social economy approach to value chain analysis and the idea of situated citizenship, I propose a novel synthesis that employs value chain analysis as a tool for assessing human rights within the dried fish value chain. Reimagining the SCP variables to accommodate human rights makes it possible to operationalise a

situated citizenship approach to human rights in dried fish value chains. The reimagined SCP variables for value chain analysis are presented in Table 1.

Table 1: Structure-Conduct-Performance variables for actor-oriented approach to human rights

Structure	Conduct	Performance
Distribution of actors based on: • Geographical and ecological location • Size, number • Identity – caste, gender, religion, region, age, worker/owner, ethnicity.	Behaviour of value chain actors: Behaviour reflects the presence of legal pluralism, power asymmetries, and inequalities.	Performance of the value chain or value chain segment in terms of meeting substantive and procedural human rights of marginalised actors

The value chain structure encompasses the spatial distribution, geographical and ecological location, size, number, and social identity of actors within each value chain segment. Value chain conduct pertains to the actions and behaviours exhibited by the various actors involved in the value chain as they engage in economic activities. These behaviours are influenced by legal regulations imposed by the state and non-state legal systems, such as community customs, caste norms, and gender role norms. Value chain performance assesses the overall effectiveness of the entire value chain or its segments. Performance variables can be derived based on specific analytical goals, such as assessing the extent to which the chain or segment upholds the procedural and substantive human rights of the actors involved. Based on the objectives of this research, the emphasis will be placed on the mid-stream segments of the value chain, namely the processing and trade activities

related to dried fish. The specific SCP variables provide an analytical tool to understand and assess the social economy of the value chain. I use the asset-buy-make-sell to understand the linkages between actors and processes in the value chain. The asset-buy-make-sell model provides insights into the relations between actors as they engage in economic activity. Table 2 presents an indicative reference of the activities and actors involved within trade and processing segments, employing the asset-buy-make-sell model (Belton, 2019).

Table 2: Actors and their functions in the processing and trade segments of dried fish value chains (adapted from Belton, 2019)

Segment	**Actors**	**Assets**	**Inputs (Buy)**	**Making**	**Output (Sell)**
Processing	Processors	Land for drying, fermenting, smoking etc. Drying racks, posts for fermenting etc.	Fresh fish, salt, pesticide, fuel, credit, labour	Sorting, Gutting, Salting, Drying, Fermenting, Packing	Dried fish
Trade	Wholesale /retail traders	Capital, Warehouses, Shops, Vehicles	Dried fish from processors/ traders, credit, labour	Aggregating, Sourcing, Grading, Repacking, Distribution	Dried fish

To understand how human rights are situated in the experiences of actors in each segment, and how these rights are contextualised, I have identified some procedural and substantive human rights from regional and international literature on small-scale fisheries and dried fish value chains including literature relevant to women's experiences in fish trading and processing (Pedroza-Gutiérrez & Hapke, 2022; Ghosh et al., 2022; Joshi et al., 2016;

Salagrama & Dasu, 2021; Galappaththi et al., 2022; FAO, 2015; Lentisco & Lee, 2015). An indicative list of procedural and substantive human rights derived from the literature review is presented in Table 3. It is pertinent to note that this indicative list of human rights complements the asset-buy-make-sell model presented in Table 2.

Table 3: An indicative list of substantive and procedural human rights

Human Rights	**Processing Segment**	**Trade Segment**
Substantive Rights	1. Land, tenancy, and tenure rights on drying areas 2. Right to clean drinking water 3. Right of access to credit 4. Right to equality of wages 5. Right to basic sanitation 6. Right to safe and decent work 7. Right to food security 8. Freedom from discrimination based on gender, ethnicity, region, class, caste, and religion. 9. Freedom of association	1. Right of access to market – ease of permitting and licensing 2. Right to adequate, clean and safe market infrastructure 3. Right to basic sanitation and sanitary facilities 4. Right to clean drinking water 5. Freedom from harassment by officials 6. Right of access to credit 7. Freedom of association 8. Right to membership in cooperative societies, self-help groups, market management committees
Procedural Rights	10. Right to participate in decision-making and the management of drying areas and landing centres 11. Right to fair and accessible dispute resolution processes	9. Right to participate in decision-making process relevant to management of the markets 10. Right of access to remedies and justice especially in cases of harassment by officials 11. Right to fair and accessible dispute resolution processes

The proposed conceptual framework is a comprehensive approach that integrates value chain analysis using a social economy lens and helps assess human rights. It connects the SCP variables and human rights by integrating human rights as a variable in assessing value chain performance.

2.5 Summary

I began this chapter with a scoping review of value chain literature. In Sections 2.1 and 2.1.1, I discussed the use of the value chain as an analytical tool and a theoretical framework. I discussed how value chains have been theorised in economics, development studies, and social science literature. I also discussed the feminist critique of mainstream value chain analysis and described feminist value chain analysis. In Section 2.1.2, I reviewed some of the emerging literature in the study of dried fish value chains. Based on the patterns and trends observed in the results of the reviewed literature, I discussed that theorising dried fish value chains through a social economy lens will provide valuable insights on issues such as the role of gender, caste, ethnicity, place of origin, legal pluralism, and power asymmetries in the economic relations in the value chain.

In the second theme of this chapter, under Section 2.2, I described the major discourses within human rights literature. I have also discussed some of the relevant issues in human rights discourse, such as the feminist critique of human rights, the relation of human rights with legal pluralism, and the significance of situating human rights in the lived experiences of actors. Building upon the actor-oriented approach, I arrived at the idea of situated citizenship, which, as I explained in Section 2.4, complements the social economy perspective on value chains. Under Section 2.3, I focused on the human rights-based approach to development and discussed its implications on the human rights of

marginalised and vulnerable actors. I have also discussed how the human rights-based approach to development brings non-state actors as duty-bearers in the discourse on development. In Section 2.3.2, I explained how a human-rights based approach is explicitly integrated in the SSF Guidelines. I also discussed how the Guidelines acknowledge legal pluralism in SSF fisheries. Based on the key learnings from the literature review on value chains and human rights, I proposed a conceptual framework under Section 2.4.

Chapter Three – Research Design and Methods

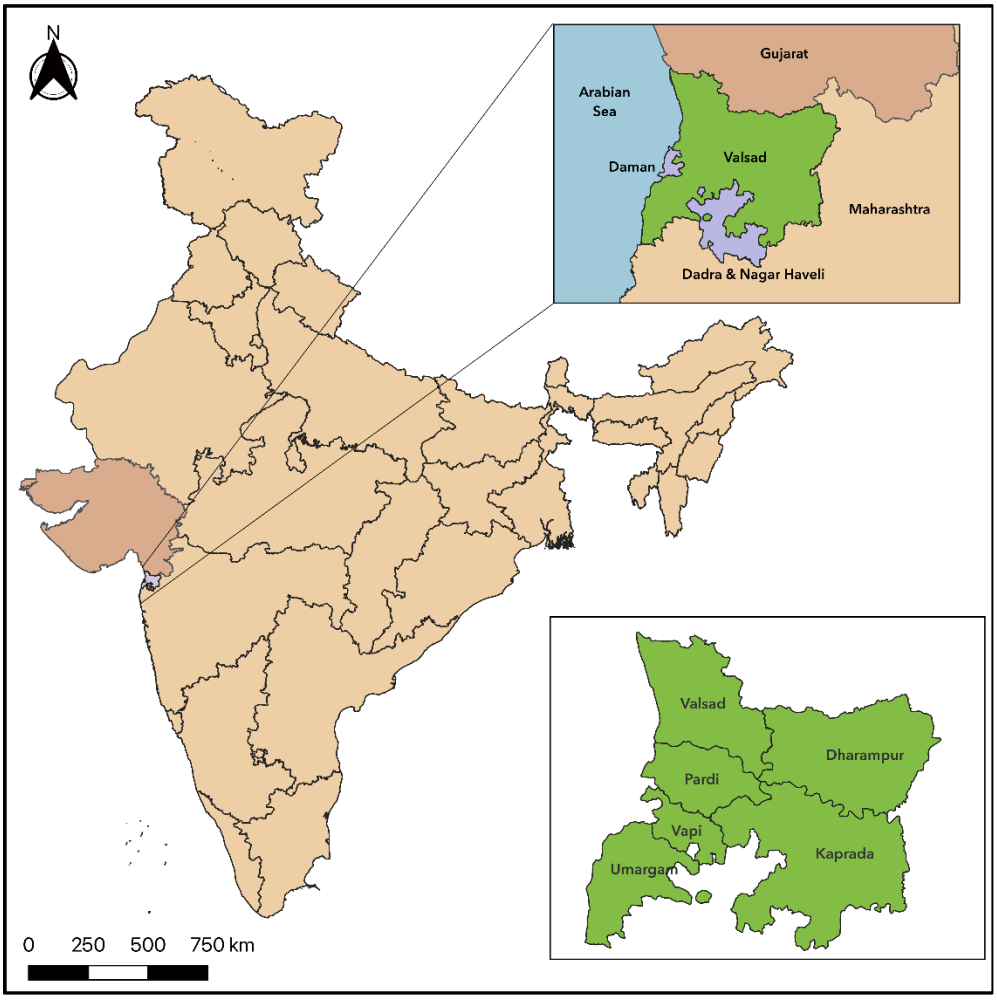
3.1 Introduction

For this research, I employed ethnography as a strategy of inquiry using qualitative data collection methods that include review of secondary sources, participant observation, and semi-structured interviews. I analysed the data using NVivo, a qualitative data analysis software. In this chapter, I provide more detail on the study area, research design, methodology, and data collection methods including the rationale behind choosing those methods.

3.2 Study area

Valsad District, situated at the southern tip of Gujarat state, is one of the 16 coastal districts of Gujarat (Figure 1). It shares borders with Maharashtra's Palghar District to the south, Dadra and Nagar Haveli District of the Union Territory of Dadra and Nagar Haveli and Daman and Diu (DNHDD) in the southwest and Maharashtra's Nashik District in the east. Administratively, Valsad is divided into six talukas: Valsad, Vapi, Pardi, Dharampur, Kaprada, and Umargam. Valsad, Pardi, and Umargam talukas face the Arabian Sea, while Kaprada and Dharampur are part of the hilly regions of Valsad District, forming part of the Sahyadri mountain ranges.

Figure 1: Map of Valsad District and its six talukas



The demographic composition of Valsad District is notably diverse, encompassing a rich diversity of people belonging to different religious, cultural, geographical, linguistic, and caste backgrounds. Various major religious communities in India, including Hindus, Muslims, Sikhs, Christians, and Parsis, are well-represented within Valsad. Notably, Valsad's association with the Zoroastrian (Parsi) community traces back to the arrival of the first group of exiles from Persia, as per Parsi oral tradition, who landed at Sanjan in Umargam Taluka (Sataravala, 2023). Coastal regions of Valsad are home to traditional

fishing caste communities such as the Naliya Machhi, the Marathi-speaking Mangela community, the Godhara Machhi, and the Mitana Machhi (Abbasi, 2005). Adivasi communities like Kukna, Dhodiya, Warli, and Kolcha predominantly reside in the Adivasi talukas of Dharampur, Kaprada, and Umargam. Linguistic diversity is also prevalent in Valsad, with languages such as Gujarati, Marathi, Warli, Konkani, and Kukni spoken across various talukas.

Agriculture is a major economic activity in the rural areas of Valsad District, with paddy and sugarcane being the primary crops cultivated. Other significant crops include mango, sapota, banana, pulses, and millets. Furthermore, Valsad is a vital industrial centre, particularly in the chemicals, textiles, and paper pulp sectors. Since the 1980s, textile and chemical industries have driven investment and employment opportunities (Government of India, 2012). Valsad District has a 60-kilometre coastline along the Arabian Sea with some of south Gujarat's most fertile fishing grounds. This coastal stretch extends from Umarsadi in Pardi Taluka to Umargam Taluka. Fishing is a prominent activity in Valsad's coastal regions, predominantly carried out on a small-scale by traditional fishing communities. These communities are involved in fishing and allied livelihoods such as fish selling and processing (Department of Fisheries & CMFRI, 2020). Valsad District includes a total of 26 fishing villages and approximately 25 landing centres out of a statewide total of 107 (Department of Fisheries & CMFRI, 2020).

Valsad District has the highest number of traditional fisherfolk participating in fish trade and marketing among Gujarat's coastal districts (Department of Fisheries & CMFRI, 2020). This indicates a robust local fish market and significant fish consumption. Among the fishing villages in Valsad, Umargam Taluka stands out with some of the largest

villages, such as Khattalwada, Nargol, and Maroli. These villages are major hubs for dried fish processing and trade. Notably, government statistics do not provide data on the quantity of dried fish processed or sold at the district level.

In recent decades, the small-scale fishing and related livelihoods in Valsad have faced numerous challenges, including pressures from port-based industrialisation, shoreline erosion due to climate change, industrial pollution, and a lack of infrastructure for fish landing and post-harvest activities (Joshi, 2000; Prasad & Singh, 2022; Research Collective, 2017). These factors have led many traditional fishing families to seek alternative occupations. However, economically and socially marginalised fishing communities remain, for whom fishing and associated activities are still the primary means of livelihood. The fishing economy of Valsad, specifically the middle and lower segments of the value chain, has received limited attention in academic and policy circles, with the focus in Gujarat primarily directed towards larger fishing hubs like Veraval, Jafrabad, and Okha. I selected Valsad District as the study area for this research due to its diverse geography and culture, a thriving dried fish economy reliant on local small-scale fisheries, local consumption of dried fish, and the overall neglect of Valsad in academic and policy discourse.

3.3 Methodology

The research methodology is shaped by two philosophical worldviews that have influenced the way I see the world: Social constructivism and Pragmatism. A worldview, as defined by Creswell and Creswell (2018), refers to a researcher's overarching philosophical orientation towards the world and the nature of research. Social constructivism emphasises the importance of language and culture as frameworks that shape human communication,

experiences, and understanding of reality (Berger & Luckmann, 1967). According to the social constructivist worldview, individuals construct their own meanings through interactions with others and within the historical and cultural norms that shape their lives (Crotty, 1998). The role of the qualitative researcher is to understand the context and setting of the participants through visiting this context and gathering information personally (Crotty, 1998) (as cited in Cresswell & Creswell, 2018). The social constructivist paradigm aligns with the broader idea of this research that an assessment of human rights needs to be centred around lived experiences of the various actors in dried fish value chains by zooming in on the context and settings of the participants, and an attention the historical, cultural, social, and economic norms that shape their lives. The meaning(s) of human rights is thus situated and constructed in the social interactions of the actors in the value chain.

My academic background in law and public policy has further influenced my worldview. As a law graduate who has previously worked with a public policy think-tank, my understanding of law and human rights is influenced by new legal realism (Klug & Merry, 2016). The emerging scholarship on new legal realism, inspired by the American pragmatist tradition (West, 1989), has played a pivotal role in shaping certain aspects of this research. New legal realism strives to integrate empirical tools from the social sciences to enhance our understanding of how law operates in everyday situations (Huneeus, 2015). By focusing on comprehending law and legal phenomena from a grassroots perspective, new legal realism surpasses the traditional statist notion of law and ventures into the realm of legal pluralism. It provides a framework for comprehending the interactions and hierarchies among distinct legal domains, particularly in situations marked by power imbalances (Merry, 2006). The interaction between human rights, and both state and non-

state legal systems that govern people's lives aids in understanding how human rights function within everyday contexts, while also illuminating the challenges and opportunities that arise from the interplay between transnational human rights and other normative frameworks. As discussed in the literature review under Chapter Two, legal pluralism is an important feature of small-scale fisheries globally, especially in the Indian context (Jentoft & Bavinck, 2014; Johnson & Sathyapalan, 2006; Bavinck & Vivekanandan, 2017), therefore there is an alignment between the nature of inquiry in this research and my worldviews.

3.3.1 Research approach

In this study, I employed a qualitative research approach, utilising an ethnographic strategy of inquiry. Originating from anthropology, ethnography involves examining the shared behavioural patterns, language, and actions of a group situated in a natural environment. The aim of ethnographic research is to describe and interpret social expressions among people and groups (Lune & Berg, 2016). The concepts of social economy and situated citizenship focus on social relations, power asymmetries, cultural expressions, and situated values and experiences. As discussed in Section 2.1.2, the dried fish value chains are embedded in larger social and cultural contexts. Therefore, to explore the social economy and situated citizenship within the value chain, ethnography is a suitable strategy of inquiry. Moreover, ethnography aligns well with the social constructivist and pragmatist worldviews I discussed in the previous section. Given these alignments and the need to thoroughly understand the complex social dynamics at play, I chose ethnography as the most suitable strategy to fulfil the objectives of this research.

3.4 Data collection

I employed three methods of data collection for this research: (i) review of secondary sources, (ii) semi-structured interviews, and (iii) participant observation. The selected data collection procedures for this research are commonly employed qualitative tools utilised in ethnographic research (Creswell & Creswell, 2018). While each method yielded distinct forms of data, they are complementary in nature, allowing for triangulation and enhanced the overall quality and validity of the research. For instance, I triangulated the data obtained from review of secondary resources with data derived from semi-structured interviews and participant observation, thereby reinforcing the research findings.

3.4.1 Review of secondary sources

I reviewed data from various secondary sources through all stages of the research, especially during field research:

(i) Documentation: Given the absence of a dedicated section on dried fish in government documents, I examined information from academic sources, online news articles, and grey literature. It helped me to locate important fish landing centres, processing yards, and fish markets in Valsad District.

(ii) Satellite Imagery: I used satellite imagery from Google Earth to pinpoint important fish landing centres and drying yards. This review of satellite imagery was particularly useful for me during the scoping phase of the research.

(iii) YouTube Videos: YouTube videos, especially those from local travel bloggers, provided valuable insights into the weekly *haat* markets in Adivasi areas and coastal region. These videos were also instrumental in corroborating information obtained from other grey literature sources.

The review of secondary sources served two purposes: firstly, it offered an initial understanding of the study area, and secondly, it formulated a preliminary hypothesis concerning potential research sites and the socio-cultural, gender, ethnic, and religious identities of the actors involved in value chain. I used this data to get a sense of the field research site before field visits to these locations. The review process continued throughout my time on the field, helping me adapt to fresh insights emerging from participant interviews and observations.

3.4.2 Semi-structured interviews

Semi-structured interviews serve as a primary method of data collection in qualitative studies. They involve a series of predetermined questions and topics, following a flexible interview format. This type of interview method is particularly suitable for conducting in-depth inquiries into various phenomena, including practices, beliefs, norms, expectations, relationships, and underlying causes of behaviour (Qu & Dumay, 2011). Semi-structured interviews provide researchers with a framework of questions, granting them the freedom to delve into unforeseen topics or delve deeper into responses (Mashuri et al., 2022). This adaptability helped me to navigate the interview context dynamically, exploring unexpected yet pertinent areas.

I developed separate interview guides tailored to distinct categories of actors within the value chain drawing upon insights obtained from the literature review of dried fish value chains as discussed under Section 2.1.2 and the conceptual framework under Section 2.4. Interview guides for each category of actors can be found in Appendix B. It is important to underscore that my intention for the interview guides was to have them as flexible frameworks, steering away from the rigid structure of questionnaires. I made subsequent

adjustments to the guides iteratively, informed by field visits, participant observations during the scoping phase, and feedback garnered from interviews. In the scoping phase, I conducted two open-ended interviews with knowledge bearers whom I define as people who possess a good understanding of the historical, geographical, social, political, and cultural context of the region. These individuals, although not directly involved in the operational aspects of the value chain, provided significant new insights that informed adjustments to the interview guides.

During the semi-structured interviews, I adopted a conversational approach, facilitating a fluid exchange of ideas rather than a formal interrogation. I employed probing questions judiciously, supplementing the core questions and occasionally branching into specific inquiries prompted by information divulged by previous interviewees. Recognising the complexity and richness of the subject matter, not all questions were addressed within a single interview session. Instead, my aim was to synthesise insights gathered across multiple interviews, fostering a comprehensive understanding of both the value chain dynamics and their implications for human rights. Each interview lasted anywhere between 15 minutes to 1 hour. I conducted the interviews in Gujarati, with two instances conducted in Hindi.

I recruited participants through a mix of purposive and snowball sampling techniques. Purposive sampling involves researchers selecting samples after field investigations to ensure that certain types of individuals or persons displaying some characteristics are included in the study (Lune & Berg, 2016). Snowball or chain referral yields a study sample through referrals made among people who share or know of others who possess some characteristics that are of research interest (Biernacki & Waldorf, 1981). My observations

during field visits helped me identify initial participants through purposive sampling, e.g. fishworkers in the landing centres and retailers in the haat markets.

Since there was not much information available about the social diversity of actors in the value chain, I used snowball sampling where the initial interview participants provided referrals. I used the following three criteria to select participants: (i) active involvement in processing and trading activities within the value chain, (ii) willingness to partake in the research, and (iii) representation of diverse genders, castes, economic backgrounds, and religious affiliations prevalent within the respective segments. In coastal areas like Nargol and Khattalwada, a research guide from the Mitana Machhi community assisted me with recruitment of participants by ensuring that I have easier access to members of the community. In the Adivasi belt, two research guides from the Kukna Adivasi community aided in field visits to haat markets.

I followed the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2) (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2018) and this research has been approved by the University Human Research Ethics Board (UHREB) at the University of Winnipeg, Canada. While the research guides aided me in participant recruitment through community networks and connections, they were not involved in the interviews to maintain the confidentiality of information provided by the participants. Participants had the opportunity to consent or decline participation in the interview, and I briefed them about their rights, including the freedom to withdraw from the interview at any point. Once the participants provided their consent to be interviewed, I asked them for permission to record the interview. I recorded

the interviews using a phone recorder. This approach aimed to foster a comfortable atmosphere and facilitated open dialogue with the participants. Participant recruitment documents are listed in Appendix D.

A minor hurdle that I encountered during the interview phase was my limited access as a male researcher and outsider, particularly concerning interactions with women participants. While they were open to discussing general work-related concerns and challenges, they exhibited caution when discussing internal community issues or issues linked to questions of sanitation because it is generally considered inappropriate to discuss such issues openly especially with male researchers such as myself.

Although I made considerable efforts to achieve a diverse representation within the interview pool, I encountered challenges in specifically recruiting members of the Mangela and Naliya Machhi communities. Despite extensive outreach from my end, recruitment from this demographic proved unsuccessful. Nevertheless, I obtained valuable insights into the diversity of the value chain and the roles of these actors from other interview participants.

Table 4 provides a list of interview participants classified into the segment of the value chain, gender, caste, religion, and location. Location here refers to the location of business (in the case of haat market retailers, or boat-owners) or employment (in the case of fishworkers). For participants who are categorised as knowledge observers, location refers to the place of residence. The fishing cooperative society of Khattalwada has been categorised as male given that all members of the society are male boat-owners belonging to the Mitana Machhi community. Each participant's profile has been coded, and the codes

are used in Chapters Four, Five, and Six whenever the participants are quoted, or information provided by the participant is mentioned.

Table 4: Interview participants by segment, category, gender, caste, religion, and location

Sr. No.	Segment	Participant category	Gender	Caste	Religion	Location	Code
1	N/A	Knowledge bearer	Male	Kukna Adivasi	Adivasi	Gundia, Dharampur	KB1
2	N/A	Knowledge bearer	Male	Bhandari	Hindu	Nargol	KB2
3	Processing	Boat-owner	Male	Mitana Machhi	Hindu	Termora, Khattalwada	BO1
4	Processing	Boat-owner	Male	Mitana Machhi	Hindu	Termora, Khattalwada	BO2
5	Processing	Boat-owner	Male	Mitana Machhi	Hindu	Ashandevi, Khattalwada	BO3
6	Processing	Woman fishworker (family member)	Female	Mitana Machhi	Hindu	Termora, Khattalwada	FW1
7	Processing	Woman Fishworker	Female	Mitana Macchi	Hindu	Termora, Khattalwada	FW2
8	Processing	Woman Fishworker	Female	Mitana Macchi	Hindu	Nargol	FW3
9	Processing	Vavatra	Male	Godhara Macchi	Hindu	Nargol	FW4
10	Processing	Woman Fishworker	Female	Mitana Machhi	Hindu	Nargol	FW5
11	Processing	Vavatra	Male	Godhara Machhi	Hindu	Termora, Khattalwada	FW6
12	Trade	Wholesaler plus haat market retailer	Male	Navaita	Muslim	Chival, Kaprada	WS1
13	Trade	Wholesaler	Male	Kahaar	Hindu	Sarigam	WS2
14	Trade	Wholesaler	Male	Naliya Macchi	Hindu	Magod Dungri	WS3

Sr. No.	Segment	Participant category	Gender	Caste	Religion	Location	Code
15	Trade	Retailer (haat markets)	Male	Kukna Adivasi	Hindu	Hanmatmal, Dharampur	RS1
16	Trade	Retailer (permanent)	Female		Muslim	Dharampur	RS2
17	Trade	Retailer (haat markets)	Female	Mitana Machhi	Hindu	Dhekukhadi, Khattalwada	RS3
18	Trade	Retailer (haat markets)	Female	Godhara Machhi	Hindu	Medifadiya, Khattalwada	RS4
19	Trade	Retailer (permanent)	Female	Kukna Adivasi	Hindu	Sutharpada, Kaprada	RS5
20	Trade	Retailer (haat markets)	Female	Mitana Machhi	Hindu	Talavfadiya, Khattalwada	RS6
21	Trade	Retailer (haat markets)	Female	Godhara Machhi	Hindu	Vermora, Khattalwada	RS7
22	Processing	Fishing cooperative society	Male	Mitana Machhi	Hindu	Khattalwada	FS

3.4.3 Participant observation

Participant observation is a method that systematically gathers and documents observed occurrences. It deepens comprehension and captures the intricacies of social interactions, power dynamics, and physical environments. This method, as evidenced by Spradley (1980) and DeWalt (2011), is a crucial tool in ethnographic research. During field research, including the scoping phase, I employed participant observation as a familiar outsider through observations and informal conversations. This approach helped me understand how people within the value chain relate to each other and how those not involved perceive the dried fish economy and its actors.

A typical day in the field involved taking a train from Valsad to Sanjan and then a shared auto-rickshaw to Khattalwada. I chose this mode of travel to immerse myself in the research process and minimise the power imbalance between me and the participants. During these journeys, I had many conversations with people on the train, in shared auto-rickshaws, or at tea stalls. They shared their unfiltered views on dried fish, their opinions about the fishing communities, and, if they were consumers, their understanding of what constitutes good quality dried fish. These daily conversations helped me grasp the broader social and cultural environment in which the local dried fish value chain operates.

During my initial field visits to fish landing centres, drying yards, and haat markets, I encountered a discomfort and nervousness among people, who saw me as an outsider. This initial barrier made it challenging to conduct meaningful observations beyond understanding the general atmosphere and activities. However, through repeated visits and by building relationships with the actors in these places, participant observation revealed new insights into interpersonal relations. For example, during my visits to haat markets in Adivasi areas, I showed curiosity and an interest in listening to the stories of haat market retailers of how they procure and sell dried fish. Sometimes, the conversation was entirely unrelated to dried fish but ended up cementing my relationship with the people involved. For example, a woman haat market retailer in Hanmatmal told me about how her niece studied in the same high school as I did, and we immediately formed a connection because her niece turned out to be my classmate. This connection ensured that she had no qualms in casually discussing her experiences retailing in the haat market.

Engaging in casual, friendly conversations about their lives or my life as a student, I was able to understand the meanings and values they attach to things. This humanising effect

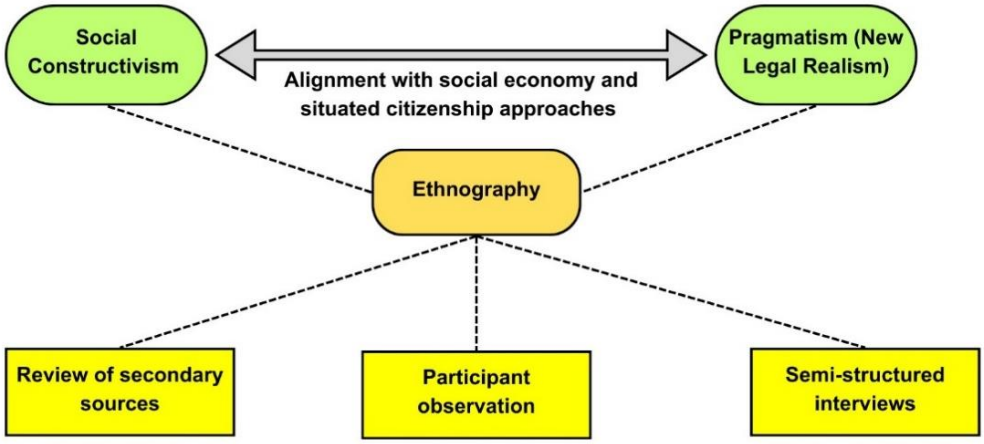
of participant observation was instrumental in fostering understanding. Additionally, I integrated participant observation into interviews to discern participants' moods, body language, and expressions as they discussed various topics. I conducted all observations in public spaces or authorised private settings, such as during interviews. This approach helped uncover crucial issues such as power asymmetries in social relations, social practices, cultural norms, and gender hierarchies that shape the behaviour of actors in the value chain.

I compiled detailed field notes from my day-to-day observations, serving as a rich repository of firsthand accounts and contextual information. Additionally, I used these field notes to describe my feelings about the observations and acknowledge that the knowledge being created reflects my position in the research. The field notes provided invaluable insights during data collection and played a crucial role in guiding data analysis. For example, they helped corroborate observations about power imbalances with data from semi-structured interviews where participants discussed other actors. Observing the behaviour of actors and the prevailing conditions within natural settings facilitated the triangulation and validation of data acquired through semi-structured interviews.

Participant observation proved to be a valuable tool in refining the interview guide and shaping subsequent questions. This iterative process enriched the data collected and provided a better understanding of the complexity and diversity in the value chain. The flexibility of participant observation in adapting to the evolving research process was a key factor in its effectiveness.

Figure 2 summarises the research methodology and illustrates the alignment between my philosophical worldviews, the conceptual framework, and the strategy of inquiry.

Figure 2: Summary of research methodology



3.5 Data analysis

I collected and analysed the data simultaneously, which allowed for a reflective approach throughout the process. This iterative method proved to be very helpful. I manually transcribed the interview data while also translating it into English. I used intelligent verbatim transcription, which involves removing filler words and repetitions, correcting grammatical errors, and rephrasing some sentences for clarity after the initial transcription (McMullin, 2023). This method was crucial as it helped ensure the accuracy and clarity of the data, which is essential for reliable analysis. In a separate document, I compiled data from my field notes, which I used for data coding and analysis alongside the interview transcripts.

To code data, I relied on NVivo, a widely recognised and trusted qualitative data analysis software. I conducted the coding in two stages, corresponding to the two results chapters (Chapters Four and Five). The first phase involved analysing data from field notes, document reviews, and semi-structured interviews to develop themes for Chapter Four, which describes the social economy of the dried fish value chain in Valsad District. I developed the themes using both deductive and inductive methods. The value chain framework provided a basis for deductively developing themes based on value chain segments such as production and processing. In contrast, other themes and sub-themes, such as the presence of a barter system, were coded inductively.

I carried out a similar coding process for Chapter Five. Some broad themes on specific human rights issues, such as the right to occupational health and the right to participate in decision-making, were deductively coded. Other themes and sub-themes, such as the barriers women retailers face in accessing markets, were developed inductively based on the data analysis. The NVivo codebook is listed in Appendix B.

3.5.1 Ensuring validity and reliability

I used the following methods to ensure data validity and reliability:

(i) Triangulation

Triangulation is the cross-verification of data and information from multiple sources to identify consistencies and regularities, as well as discrepancies and variations. Triangulation ensures that data are valid and interpreted correctly, resulting in findings that are both accurate and credible (Creswell & Creswell, 2018). I used the following two types of triangulation methods:

(a) Methodological triangulation: Such triangulation employs a combination of methods to address the same issue or question. For example, I triangulated the data collected through participant observation using semi-structured interviews. This was particularly useful when I sensed a power imbalance during participant observation and then I tried to triangulate it with data from semi-structured interviews.

(b) Data triangulation: This type of triangulation compares different answers to the same question, views, and perspectives on the same issue. I used data triangulation to expose data inconsistencies, as well as similarities and differences between individuals, communities, households, enterprises, and locations. One example of data triangulation is the different experiences of haat market retailers on the question of access to markets. As I discussed in Chapter Five, the experience of men and women retailers on the issue of access to markets is quite contrasting. Hence, I used data triangulation not just as a method of looking at data inconsistencies, but also to reveal contrasting experiences on similar issues.

(ii) Member checking

To ensure that the interview data were recorded accurately, I cross checked interview notes with the interview participants. I also used interview debrief as an opportunity to clarify any uncertainties regarding the meanings of certain words used by the participants especially slang words or terms which I did not understand.

(iii) Peer scrutiny

My thesis committee and advisors were actively involved in reviewing the research at all stages. The committee, comprising scholars from anthropology, development studies,

environmental studies, gender studies, and economics, covered the major themes of this research. All committee members had experience working in India, with three having worked in rural Gujarat. Two members had specific expertise in small-scale fisheries in Gujarat. The committee members provided valuable feedback and fresh perspectives as the research progressed. Additionally, three members of my committee had the opportunity to visit the field sites.

(iv) Reflexivity

Reflexivity is understood as an essential human capacity to make sense of our social existence, i.e., something we are all engaged with in our daily lives (Eriksson et al., 2012). Based on the ethnographic nature of this research, I chose reflexivity as a method to ensure data validation and reliability. It is different from 'reflection' which refers to a methodological principle whereby the researcher makes sure that their experiences, biases, and interpretations do not influence the analysis (Eriksson et al., 2012). On the other hand, reflexivity is about the researcher's responsibility to position themselves in relation to the research objects of the study to enable their audience to assess their knowledge claims, in terms of the situated aspects of their social selves, values and assumptions (Maton, 2003) (as cited in Eriksson et al., 2012). I used the field notes as a means of both description and reflexivity, attempting to illustrate how my cultural understanding and presumptions affect the research process and the knowledge it produces.

Chapter Four – The Dried Fish Value Chain in Valsad District

4.1 Introduction

During the five-week scoping phase, I identified a vibrant local dried fish value chain that connects the coastal areas of Valsad District to Adivasi regions in the hinterland talukas. This value chain, overlooked in academic and policy literature, is deeply rooted in the social and cultural practices of the region. It facilitates economic relationships among diverse communities, highlighting the situated values attributed to dried fish as it traverses from the coast to the hinterland. Women are a crucial part of the value chain, with their roles spanning from household caregiving responsibilities to operations at landing centres and markets, all governed by diverse norms, barriers, expectations, and values. The diversity, complexity, and dynamics of this value chain cannot be explored without understanding the social relations, the power asymmetries, and the customary practices that shape the relations between different actors in the value chain.

Therefore, I use a social economy approach to study this localised and informal value chain. As defined under Section 1.2, social economy refers to the social embeddedness of economic relations within the value chain, shaped by factors such as caste, gender, social status, economic status, religion, place of origin, and linguistic identity. In this chapter, I employ the structure, conduct, and performance (SCP) framework as a tool to analyse the social economy of the value chain.

For a comprehensive overview of each value chain segment and to understand the role of different actors, functions, and linkages, I have structured this chapter into value chain segments: production, processing, trade, and consumption. In each segment, I focus on the many meanings of value, the social relations, the customary practices, the power dynamics,

and the multiplicity of norms that govern the social and economic lives of actors in the value chain. In addition to describing the value chain segments, I include a section on the historical and enduring barter system between coastal fishing communities and hinterland Adivasi communities, where dried fish plays a central role.

4.2 Production and processing segments

During the scoping phase, I conducted field visits and participant observation, had informal conversations with members of the fishing communities, analysed satellite imagery, and reviewed available secondary data on dried fish in Valsad. Through this process, I discovered that the coastal villages of Umargam Taluka in Valsad District are major centres of dried fish processing. To explore the production and processing segment of the value chain, I focused my research on the coastal villages of Khattalwada and Nargol, which are renowned for fishing and fish drying activities.

I observed that fishing and allied activities in Nargol and Khattalwada are traditional caste-based occupations. Fishing operations are small-scale, characterised by one-day fishing expeditions using dol nets. The dol net is a traditional version of the bag net used for fishing in strong tidal currents (Sikotaria et al., 2018). Dol net fishing is practiced on the northwest coast of India, in parts of Gujarat and Maharashtra. The main fish catch consists of Bombay duck, golden anchovy, and shrimps. I also observed smaller quantities of ribbon fish and pomfrets in the fish catch during visits to the landing centres. Fishing and post-harvest activities in this region are labour intensive and involve active participation of family members as boat crew, and as fishworkers at the landing centres and fish drying yards. Boat-owners play a crucial role, as they own and operate the fishing boats and control the

fish drying areas. The peak season for fish drying is during October and November when fish catch is the highest and fish landings are the largest (BO1).

Four distinct and endogamous fishing caste communities are found in this region: Mitana Machhi, Godhara Machhi, Mangela, and Naliya Machhi. Among them, Mitana Machhis have the lowest levels of education, with the highest school dropout rates and very few individuals pursuing higher education (Abbasi, 2005). In contrast, the Naliya Machhis have the highest education levels among all fishing caste communities (Abbasi, 2005). The Mitana Machhis are at the centre of the dried fish economy, forming the majority of fishworkers and boat-owners involved in the supply of raw materials and processing of dried fish. Through participant observations and informal conversations, I observed that the Mitana Machhis are regarded as having lower social standing by other fishing caste communities, such as the Naliya Machhi and Mangela. Informal conversations with members of the Godhara and Mitana Machhi communities revealed no significant social disparity between them.

4.2.1 Landing centres & fish drying yards

The fish drying yards are generally located near the landing centres. Nargol landing centre is situated at the mouth of the Varoli estuary, where it meets the Arabian Sea. In contrast, the landing centres in Khattalwada (Ashandevi and Termora) are located along the banks of the inner Varoli estuary (Figure 3). The fish drying yards in Khattalwada are spread throughout the *khar* lands (saline lands) that run parallel to and surround the estuary. Although all three landing centres in this region lack adequate post-harvest infrastructure, I observed that the inner estuary landing centres, such as Termora and Ashandevi, face additional challenges due to congestion and limited space.

Figure 3: Satellite image depicting the location of Nargol, Termora, and Ashandevi landing centres

(i) Nargol

Nargol is a natural harbour with ample space for post-harvest activities such as fish sorting and drying. Around 70 boats owned by the Mangelas and Naliya Machhis operate out of Nargol (FW4). During field visits, I observed that the drying yard in Nargol is ideal for fish drying as it receives plenty of sunlight and sea breeze. The landing centre and fish drying yards are well connected by road. The fishworkers in Nargol are primarily from the Mitana Machhi and Godhara Machhi communities in Khattalwada. Most of them are seasonal migrants.[5] They construct temporary shelters near the fish drying yards and reside there

[5] The Census of India defines migration as any movement involving a change of residence from one village or town to another. Therefore, I have classified the fishworkers from Khattalwada who reside in Nargol as seasonal migrants. Their migration is seasonal, intra-district, and rural-rural migration.

with their families for eight months of the year, from October to May, coinciding with the fish drying season[6] (FW3, FW4).

(ii) Termora, Khattalwada

The Termora landing centre in Khattalwada is located on the banks of the Varoli estuary in the inner region and is surrounded by khar lands. The fish drying yards are located on the khar lands. Approximately 146 boats operate from Termora (BO1). Most boat-owners are Mitana Machhi, while the fishworkers are either Mitana Machhi or Godhara Machhi (BO1, BO3). During field observations, I noted that the landing centre is congested and lacks adequate post-harvest infrastructure. It is connected to a narrow paved road. At Termora, most of the fish catch is dried. *"Around 10-20 percent of fish is sold fresh. The rest of the fish is dried. Our main business is in dried fish, around 80 percent"* (BO1). Traders from Mumbai are the main buyers of fresh Bombay duck. They buy fresh fish directly from the boat-owners during fish landings (BO2). I also observed that Adivasi retailers from the neighbouring Palghar District also buy smaller quantities of fresh Bombay duck.

(iii) Ashandevi, Khattalwada

The Ashandevi landing centre in Khattalwada is also located on the banks of the Varoli estuary in the inner region (Figure 3). Around 50 boats owned by Mitana Machhis operate out of Ashandevi (BO2, FW5). During field visits, I observed that the landing centre is difficult to access, with the nearest paved road approximately 1.5 kilometres away. One must traverse muddy khar lands and cross tidal pools through the mangroves to reach the

[6] The fishing season in Gujarat typically runs from August 15 to May 31. However, fish drying in south Gujarat usually begins in October, as the monsoon weather extends through September.

landing centre. The lack of a proper road connection means that almost 100 percent of the fish catch is dried, as fresh fish traders cannot reach the landing centre. *"All of our fish is sold as dried fish. In our Ashandevi area, it is difficult to sell fresh fish because we do not have a proper road for traders to come and buy fresh fish, whereas they (the Termora people) have a proper landing centre and road so traders can easily go there to buy fresh fish."* (BO2).

4.2.2 Different types of fishworkers and their roles

Based on interviews and field observations, I identified different types of fishworkers engaged in fishing and post-harvest activities, with their roles and responsibilities strongly influenced by caste and gender norms. For instance, post-harvest fishworkers exclusively come from fishing communities, with clear labour divisions between men and women. At the landing centres in Khattalwada, both male and female family members of boat-owners contribute to fishing and fish processing, with household economies heavily reliant on fishing and allied livelihoods. While fishworkers involved in fishing receive cash salaries, post-harvest fishworkers are compensated with a share of fresh fish.

(i) Tandel

The term *tandel* refers to the captain of the boat. In Ashandevi and Termora landing centres, tandels are usually the boat-owners themselves or male family members, such as their sons. However, during my field visits to Nargol and through informal conversations with Naliya Machhi boat-owners, I noticed a different practice. In Nargol, many boat-owners do not serve as tandels or participate in fishing. Instead, they hire men from the Mitana or Naliya Machhi communities to work as tandels. The tandels are employed on a monthly salary

basis, though I could not obtain detailed information about the salary amounts or how they are determined.

(ii) Khalaasi

Khalaasis are male workers who serve as crew members on a boat alongside a tandel. Typically, each boat employs around five to six khalaasis. In Khattalwada, I noticed that male family members of the boat-owners also work as khalaasis on the boats. Most khalaasis in Khattalwada and Nargol are Mitana Machhi, with a few Warli Adivasi among them. These skilled workers receive a monthly salary of 10,000 to 12,000 rupees, determined by their experience (BO1, FW2). They are seasonal workers hired before the fishing season starts and paid throughout the season. Occasionally, khalaasis are hired per day and paid 300-500 rupees per day. During an interview, a Mitana Machhi boat-owner's wife mentioned a customary practice of paying each khalaasi an additional 100 rupees after every fishing trip. *"We have to pay each khalaasi 100 rupees every day, which is over and above their salary. In our case, we have three khalaasis, so we have to pay them 300 rupees every day"* (FW2). Through informal conversations with boat-owners at the Termora landing centre, I learnt that because the khalaasis frequently return from fishing trips extremely fatigued, many boat-owners provide them with an additional 100 rupees each. According to them, the money is intended for purchasing and consuming liquor, which is believed to help them relax and rest.

(iii) Vavatra

The *vavatras* are male fishworkers who unload fish from boats, wash it, and carry it to the sorting area. Two workers collaborate in this unloading process using a large bamboo basket carried with a bamboo pole (Photo 1). Based on interviews and informal

conversations, I learnt that vavatras at the Termora and Nargol landing centres are either Mitana Machhi or Godhara Machhi (FW4, FW6). I observed that most of the vavatras in Nargol are from Khattalwada. They commute daily or live as migrant workers near the Nargol landing centre with their families. During field visits, I observed that male vavatras are absent from the Ashandevi landing centre. Hence, women fishworkers handle the unloading process using smaller baskets, which takes significantly longer (FW5). I learnt that the vavatras deliberately avoid working at the Ashandevi landing centre due to difficulty in reaching the landing centre (FW5).

The vavatras work in pairs and receive a portion of fresh fish as compensation, which depends on the quantity of fish landed and the number of trips required for unloading (FW4, FW6). They typically dry the fresh fish they receive as payment. The vavatras I interviewed mentioned that their wives are dried fish retailers. The fish they receive as compensation supports their wives' businesses and is also used for household consumption. During peak season, a vavatra can earn up to 1500-2000 rupees per day (FW6). This amount represents the approximate value of the fish (post drying) they receive as compensation for unloading two boats per day.

Photo 1: Vavatras unloading fish from a boat at the Nargol landing centre

(iv) Women fishworkers

Women fishworkers exclusively carry out the process of sorting and drying fish. In Nargol, most of the hired fishworkers are either Mitana Machhi or Godhara Machhi, while in Termora and Ashandevi, they are mostly Mitana Machhi (FW1, FW3, FW3). Typically, boat-owners employ between five to eight women fishworkers. Their main task is to sort the fish once the vavatras offload them onto tarpaulin sheets laid out near the landing centre (Photo 2). After sorting, they hang the fish from the drying racks (Photo 3). Women fishworkers belong to two categories: some are family members of the boat-owners such

as wives and daughters, while others are hired fishworkers who receive a share of fresh fish as compensation for their work. Women fishworkers are recruited through informal community networks before each season, and they are expected to work for the same boat-owner throughout the season (FW1, BO1, FW2).

During field visits to the landing centres, I noticed the involvement of girls as young as 12-15 years old assisting their mothers in the sorting and drying process. I followed up on this observation in an interview with a Mitana Machhi woman fishworker who said, *"They come to help their mothers when they have a holiday at school. Their mothers' financial condition is bad, so they have to come and help"* (FW5). Family members of boat-owners, such as wives, daughters, and granddaughters, play an unpaid supervisory role in overseeing the sorting process and also participate in the work. The sorting process involves using a tool called a *paaudi*[7] to separate various types of fish into different baskets. I observed separate baskets for different sizes of Bombay duck, golden anchovy, and shrimp, as well as a basket for fish categorised as *khaatar*. The khaatar fishes are dried separately on the ground and sold as fertilizer for 15-20 rupees per kilogram to be used in agriculture. After sorting the fish, each fishworker is given a share of fresh fish based on the day's catch. The division of fish among the workers is managed by female family members of the boat-owner. Each hired fishworker is compensated with an equal amount of fresh fish (FW1). During the fishing ban season,[8] women fishworkers often engage in other jobs, such as working as farm labourers or as house helps (FW3). The busiest period for fishworkers is from October to November when fishing landings are the largest. During

[7] Note: The woman closest to the camera in Photo 2 holds a paaudi.
[8] The fishing ban is an annual 61-day ban in India from June 1- July 31 to allow fish to breed and restock.

these months, working hours can be up to eight to ten hours per day. *"I get very tired. We have to work the whole day. If we don't work, we don't get food for the day. During winters, the workload goes down. At that time, we have more time for ourselves. We can visit our friends and relatives as well during winters"* (FW1). In addition to the sorting and drying work, women fishworkers also have the burden of household work defined by traditional gender roles, leaving little time for sleep and rest especially during the busier months. I observed that the post-harvest handling of fish by vavatras and women fishworkers is conducted under unhygienic conditions. For example, the fish is washed in polluted estuary water, which is unsuitable for this purpose. This unhygienic handling is partly due to the absence of post-harvest infrastructure and a lack of awareness within the community about proper fish handling methods.

Photo 2: Women fishworkers sorting fish at the Termora landing centre

Photo 3: Women fishworkers hanging fish from drying racks at the Nargol fish drying yard

4.2.3 The case of migrant fishworkers in Nargol

Based on interviews and field visits, I observed that many Mitana Machhi families from areas like Ashandevi in Khattalwada relocate to the Nargol landing centre during the start of October, establishing temporary shelters close to the fish drying yards (Photo 3). They stay there for eight months from October until May (FW3). Men from these families typically work as khalaasis or vavatras, while women work as fishworkers (FW3, FW4). During field observations, I noticed a connection between Nargol and Ashandevi as most of the migrant fishworkers in Nargol are Mitana Machhis from Ashandevi. I inquired about the reasons for migration to Nargol. Migrant fishworkers in Nargol reported that the challenges associated with accessing the landing centre in Ashandevi is one of the major reasons they migrate to Nargol (FW3). From informal conversations with migrant women fishworkers, I learnt that one major reason for their migration to Nargol is the ability to

keep their young children with them while working. This is not possible in Ashandevi, where they have to walk through the mud with their children to reach the landing centre. During field visits, I noticed many toddlers playing near the fish drying yards as their mothers were engaged in sorting and drying fish. For Ashandevi residents, the seasonal migration to Nargol is not just an economic decision. It also stems from the lack of road connectivity and infrastructure in Ashandevi.

Photo 4: A Mitana Machhi family relocating to the Nargol landing centre

4.2.4 Main fish products & processes

Based on interview data and observation, I identified two broad categories of fish processors: (i) boat-owners and (ii) post-harvest fishworkers, i.e. vavatras and women fishworkers. The fish catch typically comprises Bombay duck, golden anchovy, and shrimps, which are the main products dried in this region (Table 5). Additionally, smaller quantities of ribbon fish and pomfret are also part of the catch and are dried.

The drying process for Bombay duck, locally known as *bumla*[9], involves the use of a fish drying rack called a *kaanthi*. These racks are constructed with wooden poles anchored in the ground and ropes made from used fishing nets tied horizontally between the poles (Photo 5). Boat-owners generally obtain these nets from their boats or purchase them from other boat-owners. The cost of a used net ranges from 40 to 50 rupees per kilogram (BO1, BO3). It is worth noting that ropes for kaanthis were historically made from fibre obtained from toddy and date palm trees, as recounted by a boat-owner from Ashandevi, *"Earlier we used to use the fibre from the toddy palm trees to make ropes. We used to mix the fibre from date palm and toddy palm trees to make the ropes. Initially when we started this business, for the first five years, we used that to make the ropes to dry our bumla. It used to be a lot of work"* (BO2).

During field observations, I noticed that most kaanthis belonging to fishworkers are made of bamboo tied horizontally instead of ropes (Photo 5). This is because fishworkers do not have ready access to the ropes made of used fishing nets. When asked how they procure bamboo, a vavatra worker said that they get it through cash trade or by bartering dried fish

[9] I have provided a list of common names, local names, and scientific names of fish species/products in Table 8.

with the Adivasis. *"Adivasis arriving at the market often bring bamboo with them. Occasionally, I pay them with cash, while other times, they exchange the bamboo for dried fish"* (FW4). A woman fishworker from Termora also reported that she bartered dried fish to procure the bamboo from the Adivasis (FW1).

Photo 5: Boat-owner's kaanthi (left), and fishworker's kaanthi (right)

Table 5: Fish drying process for different species of fish

Fish Species	Drying Process
Bombay duck	1. Once the fish catch has been sorted, the Bombay duck suitable for drying is first washed by the women fishworkers. The fish is usually washed in the sea or estuary water wherever the landing centre is located. The fish is then stored in a box with crushed ice and left for the night. 2. The next day fishworkers hang the fish from the kaanthis at the break of dawn and then leave the fish to dry under the sun. The mouth of one fish is inserted into the mouth of another fish, creating a sort of 'chain' of fish. This is often done to facilitate the drying process and to make it easier to hang the fish without the risk of falling. Smaller fishes are directly hanged from the kaanthis. 3. After 24 hours, the fishes are turned and then left again for another 24 hours to dry on both sides. 4. In good weather conditions and ample sunlight, Bombay duck usually dries within two days, but bigger Bombay duck fishes can take up to three days as well.

Fish Species	Drying Process
Golden anchovy and shrimps	1. Golden anchovy and shrimps are usually dried by arranging them on tarpaulin sheets, bamboo mats, concrete platforms or directly on the ground or the road. Golden anchovy is also dried on the kaanthi if there is space.
Ribbon fish and pomfret	1. Small ribbon fishes and pomfrets are usually dried on the kaanthis along with Bombay duck.

I observed that, as part of the drying process, storing fresh fish in boxes and plastic crates with crushed ice is a common practice during the humid and warmer months of October and November. Due to the lack of proper cold storage infrastructure, dried fish processors rely on small businesses near the Nargol and Khattalwada landing centres for crushed ice. During field visits, I observed that fish landings typically occur in the afternoon or later in the evening. When the fish is sorted, it is early evening or late night, when there isn't enough sunlight for drying. Hence, due to the absence of proper cold storage facilities, the fish is stored with crushed ice overnight and then hanged from the kaanthis at dawn (BO1).

Boat-owners and fishworkers use this method to protect fresh fish from infestation with maggots (BO1, FW2). They explained that the warm and humid conditions increase the risk of infestation with maggots if the fish is hung to dry at night, as the lack of sunlight and high humidity slow the drying process. The use of ice significantly decreases during

winter. An informal conversation with the owner of an ice-storage unit confirmed that ice usage is seasonal, with minimal use during winters.

While ice is readily available at the Nargol and Termora landing centres, obtaining it at Ashandevi is challenging due to the distance from the landing centre to the nearest road. Fishworkers and boat-owners from Ashandevi reported that they hang their fish to dry at night or early evening, immediately after sorting. This is because crushed ice is hard to procure in Ashandevi (BO3). The impact of this practice on the quality and price of fish remains to be determined.

In Table 6, I have summarised this section by outlining the various actors involved in the processing of dried fish, the assets they utilise, the necessary inputs, the processes involved, and the final output of dried fish.

Table 6: Actors and functions in the processing segment

Actors	**Assets**	**Inputs (Buy)**	**Making**	**Output (sell)**
Processors (Boat-owners, vavatras, women fishworkers)	Land for drying, tarpaulin carpets, bamboo baskets, ice box, fish drying racks	Fresh fish, crushed ice, fuel, labour	Sorting, Washing, Drying	Dried fish

4.3 Wholesale trade

During field visits to the haat markets, I observed many non-local dried fish products, such as salted catfish and non-local varieties of ribbon fish, available for sale. Through informal conversations with retailers, I learnt that they get these non-local varieties from wholesalers. These wholesalers, in turn, get their supplies from other coastal areas of Gujarat, like Veraval, Okha, Jafrabad, and Navabandar. I identified three main categories of wholesalers in the haat market economy: wholesale traders, middlepersons, and those who are wholesalers plus retailers. In this section, I discuss the business practices of each category, detailing their social relations, customary practices of credit and payment, and the informal procurement networks where trust plays a crucial role.

4.3.1 Wholesale traders

Wholesale traders maintain stock inventories in warehouses, selling dried fish to retailers directly from these locations. Their supply procurement is not immediately tailored to customer demands. During interviews, wholesale traders mentioned sourcing fish from places such as Veraval, Okha, Navabandar, and Jafrabad and sourcing from local boat-owners (WS1, WS2, WS3). They mainly deal in dried fish products such as Bombay duck, golden anchovy, ribbon fish, shrimps, and other salted fishes. They do not procure expensive varieties like salted Indian threadfin and salted blackspotted croaker due to local market preferences. One trader noted, *"Daara (Indian threadfin) and ghol (blackspotted croaker) are expensive fishes; hence, people don't buy them much in this region"* (WS3).

Wholesale traders generally have credit arrangements with their suppliers. They manage payments through cash, bank transfers, or smaller amounts handled via Unified Payment Interface (UPI) apps like Google Pay (WS1, WS2, WS3). However, all the interviewed

wholesale traders said that cash is their preferred mode of payment to their suppliers. Interestingly, one wholesale trader in his late 70s mentioned that he prefers the *angadia* payment system for cash payments to his suppliers. The angadia system is an informal money transfer method in Gujarat and Maharashtra. It involves a network of trusted couriers called angadias who ensure swift cash transfers. *"If I pay the angadia at 10 am, then by 11 am, the trader in Veraval will receive the money"* (WS3). This system, deeply rooted in Gujarati and Marwari communities, underscores the importance of trust and reliability in financial transactions.

The wholesale traders I interviewed belong to Navaita Muslim, Kahaar[10], and Naliya Machhi communities. I observed that despite the lack of a formal association, there is strong coordination among wholesale traders. This coordination is evident in their coordinated supply logistics and shared transportation arrangements, which help reduce procurement costs. For instance, the Navaita Muslim trader facilitates transportation for others, charging a fee for transporting supplies from Veraval to Valsad in his truck. *"Many other wholesalers and retailers in Valsad also get their fish supplies loaded on our truck. We deliver their supplies in Umargam and Maroli too. We charge them 5.25 rupees per kg. Some people order a tonne, 500 kgs or 300 kgs. They make their individual deals with the traders in Veraval, and then they pay us for the transport part"* (WS1).

The customers of these wholesale traders are mainly haat market retailers who are either Adivasis or from the fishing community. All wholesale traders mentioned extending credit facilities to trusted customers (WS1, WS2, WS3). During interviews, the traders did not

[10] Kahaar is a community whose traditional occupation was serving as palanquin bearers.

divulge more information about the nature of credit relations between them and their customers or whether they charged an interest on the credit. They offered brief responses and were uncomfortable discussing this issue. However, all the interviewed wholesale traders mentioned the risk involved in providing credit and recalled instances where they suffered huge losses due to people not paying them back.

According to wholesale traders, the peak business season is during the festival of Holi and the period afterwards till the onset of monsoons. As one wholesaler mentioned, *"The Adivasis come to buy dried fish from us throughout the year, but especially during the Holi season, many Adivasi retailers buy dried fish because they sell it in the haat markets during Holi"* (WS3). He also said that the Adivasi consumers stock up fish during the post-Holi haat markets to consume it throughout the monsoon season. I verified this information from other wholesale traders and haat market retailers. A detailed discussion on dried fish consumption is presented under Section 4.6.

4.3.2 Middlepersons

Middlepersons operate as wholesalers who do not maintain an inventory of pre-ordered fish, but place orders based on demand from retailers, earning a commission on the price paid by their customers. During field visits to the haat markets, many retailers in the Khattalwada market mentioned that they sourced their supplies from middlepersons in Maroli (see location in Figure 4). Following this information, I discovered that many middlepersons operate within the Veraval/Okha to Maroli supply chain. Trucks carrying dried fish from these locations arrive in Maroli every Thursday. This timing is coordinated to align with the region's major haat markets, which are held on Friday, Saturday, and

Sunday in Maroli, Khattalwada, and Talasari in neighbouring Palghar District, Maharashtra.

An example of informal networks operating in the dried fish supply chain is the Veraval-Sanjan ribbon fish supply chain. Middlepersons arrange for ribbon fish to be transported from Veraval to Khattalwada and Maroli via private passenger buses arriving daily in Sanjan in Umargam Taluka (RS6). The Veraval suppliers pack ten kilograms of ribbon fish in white carton boxes, label them with the recipient's initials, and load them into the baggage compartments of privately owned passenger buses (Photo 6). The bus operators charge 40 rupees per box of ribbon fish, which the recipient in Sanjan is responsible for paying (RS6).

Photo 6: Ribbon fish boxes transported via private passenger buses

During field visits to the haat markets, I discovered an informal grading system for dried ribbon fish. Suppliers in Veraval determine the grades, with ‘Super’ being the highest quality, followed by ‘A1’ and ‘AB’. I confirmed this information in an interview with a haat market retailer who said that a ten-kilogram box of Super quality ribbon fish costs around 1300-1500 rupees, A1 quality costs between 1000-1200 rupees, and AB quality ranges from 800-1000 rupees. These are the prices paid by haat market retailers on top of the commission charged by the middlepersons (RS6). The retailers mentioned that they grade fishes based on the haat markets. For example, a woman haat market retailer said that ‘A1’ and ‘AB’ quality ribbon fish is sold more in the Adivasi areas (RS6).

Despite my efforts, I could not secure an interview with any middlepersons. Instead, I gathered information from interviews with haat market retailers who sourced their supplies from the middlepersons. When I inquired the reason for procuring fish from middlepersons rather than directly from Veraval suppliers, a woman retailer said, *“Even if I order fish directly from Veraval via a luxury bus, the cost is the same because I have to take a rickshaw to Sanjan to pick up the fish and pay for bus transportation”* (RS6). She also mentioned that as a small-scale retailer, she could not handle the large credit risk of ordering big supplies from Veraval suppliers, who do not accept smaller orders (RS6). This shows that middlepersons play a crucial role in the fish supply chain by offering accessibility and financial flexibility to small-scale retailers. They eliminate the need for additional transportation and logistics, ensuring the fish reaches the retailers' vicinity, saving them time and effort. They also help mitigate financial risks for small-scale retailers by allowing them to purchase smaller quantities of fish, which is not an option when dealing directly with Veraval suppliers who require larger orders.

Maroli village in Umargam Taluka (see Figure 4 for location) serves as a major trading centre for dried fish in the region, housing numerous wholesalers and middlepersons. Despite lacking a fish landing centre, Maroli benefits from several fishing boats owned by the Mangela community, which operate from Okha. Informal conversations with Mangela community members in Maroli indicated that their boats typically go on 10–12 day fishing trips, during which the fish catch is salted and dried onboard. The dried fish is then transported to Maroli, where family members of boat-owners, and other traders are engaged in its sale.

4.3.3 Wholesalers plus retailers

This category of wholesalers distinguishes itself by also functioning as retailers in the haat markets and acting as suppliers for other retailers. Unlike typical middlepersons or wholesale traders, they directly supply dried fish to their retailer customers in the haat markets while simultaneously engaging in retail sales themselves. During my field observations, I noted that this arrangement is particularly prevalent in the haat markets of Dharampur and Kaprada Talukas (see Figure 4 for location), where Konkani-speaking Muslim men from the Navaita community are the dominant players.

Navaita Muslims, an endogamous community of Konkani-speaking Muslims, reside in five villages in Kaprada Taluka: Daheli, Babarkhadak, Arnala, Goima, and Samarpada (WS1). Their language, Konkani, is mutually intelligible with the Kukni language spoken by the Kukna Adivasis in this region. This linguistic and geographic connection has fostered a historical trade relationship, positioning Navaita Muslims as dominant grains and dried fish traders in the hinterland haat markets throughout the Dharampur and Kaprada Adivasi belt.

Commenting on the role of his community in the dried fish trade, a Navaita Muslim retailer said, *"You will find 50-60 traders from the five Navaita villages in this region. They are more retailers than wholesalers. If they get a good profit, then sometimes they sell wholesale too"* (WS1). He noted that the wholesale aspect of their business had gained momentum in the last four to five years, attributing this growth to the rise of permanent retailers in villages such as Sutharpada. In Section 4.4.4, I have discussed the role of permanent retailers in greater detail.

4.4 Retail trade

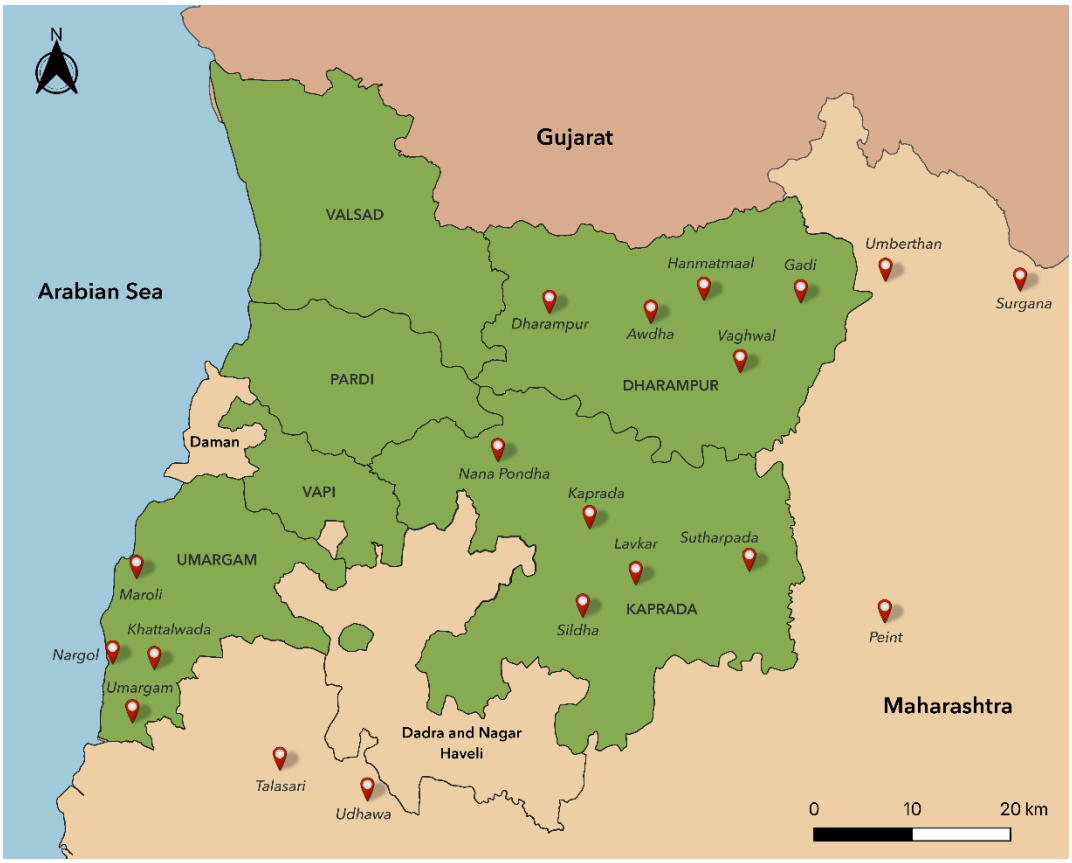
During the scoping phase which involved field visits to urban and rural fish markets in Valsad District, I noticed that the sale of dried fish holds greater prominence in rural weekly haat markets in the coastal and hinterland areas, compared to urban fish markets. For instance, I observed that in Valsad city's main fish market there are just two dried fish retailers among numerous other retailers selling fresh fish. In contrast, in the hinterland haat markets such as Khattalwada and Sutharpada, I observed a significantly higher number of dried fish retailers and a dedicated section for dried fish in these markets. Therefore, I decided to focus on the coastal and hinterland haat markets as the primary retail outlets in the value chain.

Rural weekly markets have long been a cornerstone of the rural economy in South Asia, especially integral to the Adivasi way of life (Tiwari & Sahu, 2024). Known by various names across India, such as sandhai in Tamil Nadu and santhe in Karnataka, these haat markets are more than just spaces for economic exchange (Kar, 2017). They also serve as venues for social gatherings, community interactions, and cultural exchanges (Tiwari & Sahu, 2024; Sarkar Ray et al., 2015).

Economically, haats fulfil multiple roles. During my field visits, I observed that many grain traders come to these markets to procure grains from local farmers. Thus, haats act as key aggregation points for local farmers to sell their produce. Additionally, these markets provide a space for purchasing daily essentials. In Adivasi regions, haats are important for trading non-timber forest products as well (Mishra & Shrivastava, 2015). A typical Adivasi haat market offers a wide range of goods. These include clothes, footwear, vegetables, traditional handicrafts, grains, bamboo baskets, traditional fishing gear, forest products, and other daily-use materials.

Apart from the various haat markets in Valsad District, retail trade also extends to neighbouring Palghar and Nashik Districts of Maharashtra. These areas represent a geographical and cultural continuum for Adivasi communities. Along the eastern border of Valsad with Nashik District, Navaita Muslim retailers sell in haat markets such as Umberthan, Surgana, and Peint in Nashik District (Figure 4).*"In our case, from my grandfather's time, we have been selling in three major haat markets - on Fridays, we go to Surgana market in Nashik District, on Saturday we go to Umberthan market in Nashik District, and on Tuesday we go to Sutharpada in Valsad's Kaprada Taluka"* (WS1). In the southern border with Maharashtra's Palghar District, women retailers from fishing communities also sell dried fish at Adivasi haat markets like Talasari and Udhawa (Figure 4).

Figure 4: Map indicating the location of weekly haat markets selling dried fish in Valsad District and in Maharashtra



4.4.1 Structure of the haat markets

I identified a mix of prominent coastal and hinterland haat markets in the coastal taluka of Umargam and the Adivasi talukas of Kaprada and Sutharpada to explore the social economy of dried fish trade in haat markets. I studied the market structure of three weekly haat markets: Khattalwada in Umargam Taluka, Sutharpada in Kaprada Taluka, and Hanmatmal in Dharampur Taluka. I observed that all the three haat markets feature a significant section dedicated to dried fish, sold in larger quantities than fresh fish. People

from diverse social, ethnic, linguistic, and religious backgrounds are involved in selling dried fish in these haat markets (Table 7).

A significant difference between the structure of coastal and hinterland markets is that women retailers from fishing communities exclusively dominate coastal markets. In other words, only women retailers operate in these coastal markets. In contrast, there is a mix of men and women retailers in the hinterland markets. One reason for women's dominance in coastal markets is the traditional division of labour in fishing communities. Marketing as well as processing of fish are seen as women's roles. I also noticed that women from the fishing communities possess entrepreneurial prowess and the skills necessary to thrive in the competitive marketplace.

Table 7: Structure of prominent haat markets in Umargam, Kaprada, and Dharampur talukas

Location of the weekly haat market	Structure of the market
Khattalwada, Umargam Taluka (Saturdays)	1. Retailers in the market are exclusively women belonging to fishing communities such as Mitana Machhi, Godhara Machhi, Mangela, and Naliya Machhi from neighbouring villages. 2. During peak season, the number of dried fish retailers can be as high as 70-90. 3. Khattalwada is a village with good rail and road connectivity.
Sutharpada, Kaprada Taluka (Tuesdays)	1. Retailers are either Muslim or Adivasi men, or women from the Mitana Machhi community who travel from Khattalwada. 2. Men form the majority group of retailers in the haat market, with Navaita Muslim retailers as the dominant group. 3. Approximately 35-40 retailers operate in the haat market, including six women retailers. 4. Sutharpada is located in a remote, hilly region with limited public transportation options.
Hanmatmal, Dharampur Taluka (Sundays)	1. Retailers are Naliya Machhi women from Kosamba village in Valsad Taluka, and men from the Kukna Adivasi community and Navaita Muslims. 2. Around eight to ten retailers of dried fish, with women from fishing communities forming the majority group. 3. Hantmatmal is located in a hilly and remote region. Public transport options are limited.

4.4.2 Key features of retail economy in the haat markets

In this section, I describe various aspects of retail trade in the haat markets, including transportation, competition for market space, credit arrangements, traditional sales practices, and the participation of workers and families in retail activities. Through field observations and interviews, I identified similarities and differences in retail practices. These variations are influenced by factors such as gender identity, social relations, customary retail practices, and community-specific gender norms.

(i) Transportation

Retailers typically use personal vehicles or hired modes of transportation like mini-trucks, tempos, or vans to commute to the haat markets. I observed a difference between male and female retailers' commute to the market. In the remote hinterland haat markets, public transportation is generally unreliable and insufficient, especially considering the need for retailers to transport substantial loads of fish along with additional items such as tarpaulin sheets and bamboo for tent setups. I noticed that male retailers (Adivasis and Navaitas) commonly possess personal vehicles such as mini trucks or vans for market travel (WS1, RS1). In contrast, female retailers from fishing communities tend to pool resources and travel together in hired mini trucks, sharing the associated costs equally (RS3, RS7).

(ii) Market space and social relations

The management of haat markets falls under the jurisdiction of the local Panchayat. In Sutharpada and Hanmatmal haat markets, which come under the Fifth Schedule[11] of the Indian Constitution, the Panchayats (Extension to Scheduled Areas) Act, 1996 defines the

[11] The Fifth Schedule of the Indian Constitution outlines provisions for the administration and control of Scheduled Areas and Scheduled Tribes. The schedule aims to protect the interests of tribal populations by ensuring their cultural, social, and economic development while safeguarding them from exploitation.

Panchayat's functions and powers. In Khattalwada, the Gujarat Panchayats Act, 1993 enumerates the powers of the Panchayat. Both legislations empower the Panchayat to levy and collect market fees from traders. During field visits and interviews, retailers confirmed that they pay a market fee.

The Panchayat designates space for weekly haat markets, such as common village spaces or roadside locations. In some cases, like the Hanmatmal haat market, the market fee is de facto linked to the space traders occupy, with those occupying more space paying higher fees (RS1). During field visits to the haat markets, I observed that retailers often expand beyond the designated Panchayat areas into private spaces due to limited space. In an interview with a haat market retailer, I learnt that occupying private property incurs an additional financial obligation, typically 20-50 rupees, imposed and collected by private landowners. *"In certain locations, we must pay 50 rupees to the Panchayat; in others, it is 20 rupees. Additionally, we have to pay private landowners for using their property, typically 20 rupees. The arrangement with private landowners varies, with some demanding payment for space and others not"* (WS1). This informal transaction between haat market retailers and private landowners operates outside formal legal frameworks. From my conversations and interviews with retailers in both coastal and hinterland haat markets, I observed that space is one of the most contested issues, and the ability to secure a space in the market is linked to the structure of the market, social relations, power, and dominance. Established traders occupy prime spots, enforce their rights in those spaces, and actively create entry barriers for newcomers from being able to secure space in the market. I discuss this issue and its implications in greater detail in Chapter Five.

(iii) Supply chains of haat market retailers

Based on field visits and interviews, I observed that retailers have different supply chains depending on their social identity, place of origin, and the haat markets they cater. For example, dried fish retailers selling in the coastal haat markets in Umargam Taluka and the Adivasi areas in the neighbouring Palghar District procure salted fishes from middlepersons or wholesalers in Maroli, Khattalwada, Sarigam, and Umargam. In the case of local dried fish products, they reported buying it directly from boat-owners or fishworkers in Khattalwada, Nargol or Umargam. As discussed in section 4.2.1, haat market retailers, such as the female family members of vavatras, source their supplies from the share of fish received by their spouses as compensation (FW4, FW6). In comparison, women fishworkers who retail in the haat markets source their supplies from the fresh fish they receive as compensation. In the hinterland haat markets, I noticed that the Navaita Muslim retailers source salted fish directly from suppliers in Veraval and Okha. On the other hand, the Adivasi haat market retailers mentioned that they source their supplies from fish landing centres in northern Valsad, such as Umarsadi, from wholesalers in northern Valsad, or from the Navaita Muslim retailers who also deal in wholesale (RS5, RS1).

(iv) Credit relations

Credit relations are common in haat market supply chains, with varying terms between retailers and their suppliers. Six of the seven retailers I interviewed stated that the terms of credit with their suppliers entail settling their dues before procuring new supplies. For instance, Mitana Machhi and Godhara Machhi women retailers who buy local products directly from boat-owners in Khattalwada purchase fish on credit. They repay after selling their fish and then return to buy new supplies. A retailer who buys from a middleperson in

Maroli reported a similar arrangement. None of the interview participants mentioned interest in the credit terms. Information on whether suppliers offer discounts for immediate payments is unavailable, and retailers generally prefer buying on credit. Through interviews with wholesalers, boat-owners, and retailers, I observed that credit relations between retailers and their suppliers are built on trust developed over years of doing business together.

(v) Sale in portions

I noticed that a common feature of the coastal and the hinterland haat markets is the sale of dried fish in predetermined portions called *waata* (Photo 7). During field visits, I observed that fishes such as Bombay duck, golden anchovy, and shrimps are neatly divided into portions, with each portion priced based on its size and type. This practice of portioning is particularly widespread for smaller fish. However, I also observed waatas made from cut chunks of bigger fish, such as catfish (Photo 7). I learnt there is no rule of thumb on how waatas are divided. Some retailers mentioned that they use a weighing scale to ensure that the waatas are equal in weight while others mentioned that they divide their waatas based on approximation.

In the Sutharpada market, I noticed that standard waata prices are typically 50 rupees for smaller waatas, and 100 rupees for bigger ones. Retailers usually create portions of fish based on these standard waata prices, with the portions differing depending on the type of fish. Other than the waatas, I also observed that bigger fish like ribbon fish and catfish are sold either whole or by weight. Retailers generally offer to cut big fishes into smaller chunks if the customer requests it. This is done using a knife and a traditional cutting board made from tree stump.

Photo 7: Dried fish portions in Sutharpada haat market

(vi) Role of family members and workers in retail sales

During field visits, I observed notable differences in retail practices among retailers from various communities. For instance, a Navaita Muslim retailer in Sutharpada and other markets in Maharashtra mentioned that he typically employs an Adivasi worker to assist with sales on busy haat market days. This arrangement is ad-hoc, with the worker being paid for the day's work. In Hanmatmal haat market, I observed a similar pattern where a Navaita Muslim retailer hired an Adivasi worker to sell fish.

In contrast, male Adivasi retailers generally have their wives and children assisting with sales. On the other hand, women from fishing communities who sell in hinterland markets usually travel in groups of four to six but conduct their business independently, without assistance from workers or family members.

4.4.3 Dried fish products in haat markets

I noticed that the variety of dried fish products in haat markets varies significantly based on the structure of the market. For instance, well-connected coastal haat markets such as Khattalwada and Maroli, draw affluent buyers from Maharashtra, in addition to Adivasi buyers with limited purchasing power. During field visits to these markets, the retailers selling pricier fishes mentioned that the relatively affluent buyers from Maharashtra demand rare and expensive fish like salted Indian threadfin and blackspotted croaker, which can cost 2000 to 3000 rupees per fish. It is unclear to me who these affluent buyers from Maharashtra are, but I observed that the women retailers in Khattalwada classified the buyers into two categories: (i) Adivasis who buy cheaper varieties of fish, (ii) other people from Maharashtra who are 'better off' and can afford expensive varieties. As a result, the coastal haat markets offer a diverse range of dried fish products catering to different economic classes of consumers.

Whereas the hinterland haat markets such as Sutharpada and Hanmatmal are situated in hilly, remote areas inhabited by Adivasis with limited purchasing power. These buyers prefer cheaper varieties of dried fish such as Bombay duck, golden anchovy, ribbon fish, shrimp, and salted catfish. In Table 8, I have listed the different varieties of fish species and fish products available in the haat markets, along with the local and scientific names of the fish species.

Table 8: Dried fish products and species available in the haat markets

Fish species/products	**Local name of fish species in Valsad District**	**Scientific name of species[12]**
Cat-fish (salted)	Singhara (સિંઘારા)	*Sciades Sona*
Seer fish (salted, preserved with turmeric)	Surmai (સુરમાઈ)	*Scomberomorus commerson*
Bombay duck (dried)	Bumla (બુમલા)	*Harpadon nehereus*
Croaker (salted)	Dhoma (ઢોમા)	*Johnius dussumieri*
Golden anchovy (dried)	Mandeli (માંદેલી)	C*oilia dussumieri*
Ribbon fish (dried, salted)	Paata (પાટા)	*Trichiurus lepturus*
Milk shark (dried)	Mushi (મૂશી)	*Rhizoprionodon acutus*
Squid (dried)	Dedki (દેડકી)	*Logigo edulis*
Indian threadfin (salted)	Daara (દારા)	*Leptomelanosoma indicum*
Blackspotted croaker (salted)	Ghol (ઘોલ)	*Protonibea diacanthus*
Fish roe sac (salted)	Garab (ગરબ)	-
Indian mackerel (salted, preserved with turmeric)	Bangdi (બાંગડી)	*Rastrelliger kanagurta*
Shrimp paste	Kolmi (કોલમી)	-
Shrimp varieties (dried, salted)	Javla, Chhola, Dhendiya (જાવલા, છોલા,ઘેંડિયા)	-

Note: The local name in Gujarati script is provided in the parentheses.

[12] The scientific names are based on closest possible identification available on FishBase website (www.fishbase.se)

4.4.4 Permanent retailers in villages hosting haat markets

During field visits to haat markets, I observed the presence of permanent retailers, who either occupy the same space daily in the open-air market or have established permanent shops selling dried fish. There is a noticeable difference between permanent retailers in coastal and hinterland markets. In coastal villages like Khattalwada, the permanent retailers are exclusively women from fishing communities who set up daily stalls (Photo 8). On the other hand, the permanent retailers in hinterland villages are Adivasi men with permanent shops (Photo 9).

From interviews and informal conversations with haat market retailers, I learnt that the emergence of permanent Adivasi retailers in the hinterland markets is a recent development, triggered by India's COVID-19 lockdown when haat market supply chains were severely disrupted. This prompted Kukna and Warli Adivasis to capitalise on market opportunities in areas such as Sutharpada in Valsad District and Talasari in Maharashtra's Palghar District. Both these villages host prominent weekly haat markets. Speaking on this recent phenomenon, a Godhara Machhi retailer said, "*Now Adivasis have established permanent shops there (in Talasari). This trend started during the lockdown. Previously, they did not sell dried fish and they learnt the trade during the COVID period"* (RS7). A Navaita Muslim retailer who retails in Sutharpada's haat market indicated a similar trend in Sutharpada. I was able to verify this information during an interview with a permanent retailer in Sutharpada and through informal conversations with other permanent retailers.

Photo 8: Permanent retailer in Khattalwada

Photo 9: Permanent retailer in Sutharpada

Table 9 summarises the roles and functions of the different actors involved in the wholesale and retail trade segments of the value chain as described in this chapter, using the asset-buy-make-sell model adapted from Belton (2019).

Table 9: Actors and functions in the retail trade segment

Actors	**Assets**	**Inputs (Buy)**	**Making**	**Output (sell)**
Retailers (permanent retailers, haat market retailers)	Shops, tents, bamboo baskets, cutting board, tarpaulin sheet, weighing scale	Dried fish from wholesalers/boat-owners/ fishworkers, credit, labour	Sourcing, distribution	Dried fish
Wholesalers (wholesale traders, middlepersons, wholesalers plus retailers)	Warehouses, vehicles, capital	Dried fish from processors/ other traders, credit, labour	Sourcing, aggregating, grading, repacking, distribution	Dried fish

4.5 Barter system between Adivasis and fishing communities

The barter system has long been part of the economic life in rural India in general, and Adivasi communities in particular (Tunte, 2023). The arrival of a cash-based market economy led to large-scale economic changes and the gradual disappearance of the barter system from the rural landscape (Padel, 2022). However, based on interviews and field observations, I discovered that in the coastal and the hinterland rural areas of Valsad

District and the neighbouring regions, this traditional mode of exchange thrives between fishing and Adivasi communities. Dried fish is a central object of this barter trade.

I observed the barter system in two different contexts. The first involves exchanges between fishworkers and Adivasis. During my field visits, I noticed that Adivasis from areas such as Umberthan in Maharashtra's Nashik District typically travel to fish drying yards in shared vehicles (Photo 10). They bring grains, pulses, millets, and bamboo with them, which they exchange with fishworkers for dried fish. Through an informal conversation with a vehicle driver hired by one such Adivasi group, I learnt that October-November is particularly busy for him, as he makes multiple trips to Khattalwada and Nargol with different groups of Adivasis arriving to procure dried fish through barter deals with the fishworkers.

Photo 10: An Adivasi group's vehicle loaded with bags of dried fish at the Nargol fish drying yard

From the interviews and informal conversations with fishworkers, I learnt that many fishworkers are landless or do not cultivate their land. The reasons for not cultivating their land ranged from having small land parcels to cultivation being too labour intensive. They find it easier to procure grains and pulses through the public distribution system or through barter deals with the Adivasis. Additionally, as I discussed in Section 4.2.2, fishworkers also exchange dried fish for bamboo with the Adivasis, which is used to construct fish drying racks. For the Adivasis, the barter deal provides them with some degree of food and

nutrition security in the form of dried fish. Hence, the relationship between fishworkers and Adivasis is mutually beneficial in multiple ways (FW).

I also noticed a seasonal alignment between the crop harvesting periods in the hinterland Adivasi areas with the peak fish drying season along the coastal belt. This annual synchronisation has fostered a longstanding tradition of bartering between these communities. During an interview, a participant who is a knowledge bearer from the Adivasi community said, *"Historically, before the advent of modern transportation and road connectivity, Adivasis used to walk all the way from Dharampur to coastal regions such as Kolak, Umarsadi, and Nargol, where good quality dried fish is available. They used to carry grains, millets, and pulses with them to barter in exchange for dried fish"* (KB1).

Apart from the fish drying yards where the barter system thrives between fishworkers and Adivasis, a similar practice persists in the haat markets between dried fish retailers and Adivasi buyers. While discussing the barter system, a woman retailer from the Mitana Machhi community said, *"People come with millets like jowar and grains such as rice as well. Some of them are very poor so we give them fish in exchange so they can eat. And we also like this exchange because we don't have farmland and we don't usually get to eat desi*[13] *grains. So, the barter works out for us too and we get to eat desi pure grains from the farms"* (RS3). I could not obtain more information on the specific nature of the deals, and one cannot rule out unequal power relationships in this exchange. Through informal conversations with retailers and some consumers, I learnt that the practice of bartering in

[13] In this context, 'desi' refers to homegrown or native variety of grains, pulses, and millets. Desi varieties are considered more nutritious.

the haat markets has gradually decreased over the years due to the presence of grain dealers in the haat markets and Adivasis choosing to sell their grains for cash (KB1).

4.6 Consumption of dried fish

I collected data on dried fish consumption through interviews with haat market retailers and through informal conversations with consumers. The primary consumers in the coast-to-hinterland value chain are the Adivasis and the fishing communities. Dried fish is also consumed by the Muslims, Parsis, and Scheduled Caste[14] communities. However, the main drivers of this localised value chain are the Adivasi buyers and consumers. Based on interviews and conversations with haat market retailers, I noticed that dried fish consumption in Adivasi communities varies with the seasons. For example, they tend to buy and consume more dried fish like Bombay duck and golden anchovy during winter, while their intake of salted fish increases in summer (RS3, WS2, WS1).

Retailers indicated two peak seasons for dried fish sales each year. The first peak occurs in October-November, coinciding with the crop harvest period in the hinterland and the Diwali festival. The second peak follows the Holi festival, from April to May, when Adivasis buy and stock up on dried fish before the monsoons. Holi is an important festival for the Adivasis, marking the arrival of spring and a time of renewal (KB1). Weekly haat markets are busiest during and after Holi (RS3, KB1). During this period, Adivasis often shop for new clothes, homemade items, footwear, other essentials, and stock up on food items like dried fish for the upcoming monsoon (KB1, RS3).

[14] The term ‘Scheduled Caste’ is used in the Indian Constitution for caste communities identified as amongst the most disadvantaged socio-economic groups in India.

Based on conversations with Adivasi consumers and an interview with a knowledge bearer, I learnt that the Adivasis also consume freshwater fishes which are caught and dried using traditional methods. These dried fishes are used for household consumption. While these inland varieties are typically not commercially available and are not part of the coast-to-hinterland value chain, they remain a significant part of the Adivasi way of life. Fish varieties that are caught from freshwater sources, such as rivers, streams, and brooks (Photo 11), play an important role in the cultural and religious life of the Adivasi communities in this region (KB1).

For example, among the Kukna Adivasis, especially those from interior villages of Dharampur, freshwater dried fish is used as an offering to the *Bhutiya Dev* – the windstorm deity – during the festival of *Akhatri*. "*In this period (Akhatri), the seed is worshipped before ploughing the fields. During the Akhatri period, fish is offered to Bhutiya Dev. People all get together to eat fish, which is mostly dried fish, after offering it to the Dev"* (KB1). Providing another example of dried fish offered to deities, a Kukna Adivasi retailer mentioned that dried fish is also offered to the *Wagh Dev* – the tiger deity, during a period referred to as the *Baaras* after the festival of Dussehra closer to the crop harvest period in the region (RS1).

In an interview with an Adivasi knowledge bearer, I learnt that dried fish is also used in some Adivasi communities during cultural ceremonies such as the *Panchora. "Panchora is a traditional baby naming ceremony held five days after the birth of the child. During this ceremony, the midwife who assisted in the delivery is presented with gifts and given the honour of naming the newborn. Fish and rice are the main components of the feast*

which is dried fish sourced from rivers and streams. This event is exclusively attended by women, who lead the prayers and festivities" (KB1).

Photo 11: Dried freshwater fishes in an Adivasi household

4.7 Summary and discussion

I began this chapter by explaining the rationale for using the social economy approach to study the value chain. Throughout the chapter, I demonstrated the social embeddedness of the value chain. As discussed in the literature review under Section 2.1.2 of Chapter Two, I argued for the necessity of looking beyond purely monetary and economic understandings of value, suggesting that the values of dried fish are situated, contextual, and subject to change (Johnson et al., 2018). This is particularly evident in the key findings of this chapter,

as both the values of dried fish and the labour of those involved are situated, contextual, and emerge from social relations.

In the production and processing segment, I described the customary method of compensation of providing fresh fish to post-harvest fishworkers. This practice has also been documented in other dried fish value chains in South Asia (Belton et al., 2018). This method of customary compensation creates multiple values for dried fish in the lives of fishworkers. Firstly, there is an economic value. Fish received as compensation supports the household economies of fishing castes like the Mitana Machhis and Godhara Machhis. Many fishworkers and their families are involved in the dried fish retail business as haat market retailers, and the fish they receive as compensation serves as a vital supply source for their businesses. Secondly, there is a subsistence value. This fish also meets household consumption needs, providing essential nutrition for the families of fishworkers. Thirdly, there is a social value. The value of dried fish is deeply embedded in the social and economic relations of fishworkers. In the barter system between fishworkers and Adivasis, dried fish is exchanged for other nutritional necessities, such as grains, pulses, and millets.

The consumption of dried fish amongst the Adivasi population is intertwined with various social relational and cultural values that depict the situated values of dried fish for the Adivasis. For example, the historical and enduring barter system where dried fish is the central object shows the importance of dried fish in reinforcing social relations between two distinct communities with distinct ways of life. From a cultural value perspective, dried fish from marine sources, and dried fish from freshwater sources have two different values in the Adivasi way of life. While the marine fish has immense nutrition and sustenance value, the freshwater fish goes beyond that and has religious as well as cultural value.

Another aspect of situated values that emerges from the results is the significance of women's contributions. Women play a major role throughout the value chain as processors, fishworkers, haat market retailers, and traditional caregivers. Therefore, accounting for women's contributions must encompass both their unpaid productive and reproductive work (Collins, 2014). As described in Section 4.2.1, female family members of boat-owners engage in unpaid productive work as fishworkers and supervisors. Additionally, hired fishworkers, family members of boat-owners, and women haat market retailers perform unpaid reproductive work as traditional caregivers within households. Thus, women contribute to every segment of the value chain through their productive and reproductive work.

Using the integrated framework for accounting for women's contributions to small-scale fisheries, developed by Pedroza-Gutiérrez & Hapke (2022), one can better understand the value of women's work in the coast-to-hinterland value chain. Women from fishing communities dominate coastal markets not only due to the division of labour in fishing communities, but also because of their skills and knowledge in marketing fish. Their entrepreneurial skills are evident in their reach to hinterland markets, their ability to source dried fish through multiple channels including non-local supply chains, and the economic decisions they make in grading dried fish based on market preferences. Through their entrepreneurship and processing skills, they add significant value to the fish harvest, a value often overlooked in neoclassical economics.

In this chapter, I demonstrate how legal pluralism is embedded in value chain governance. For instance, the production and processing segments of the value chain are governed by caste and community norms that define the division of labour and suitable roles for women.

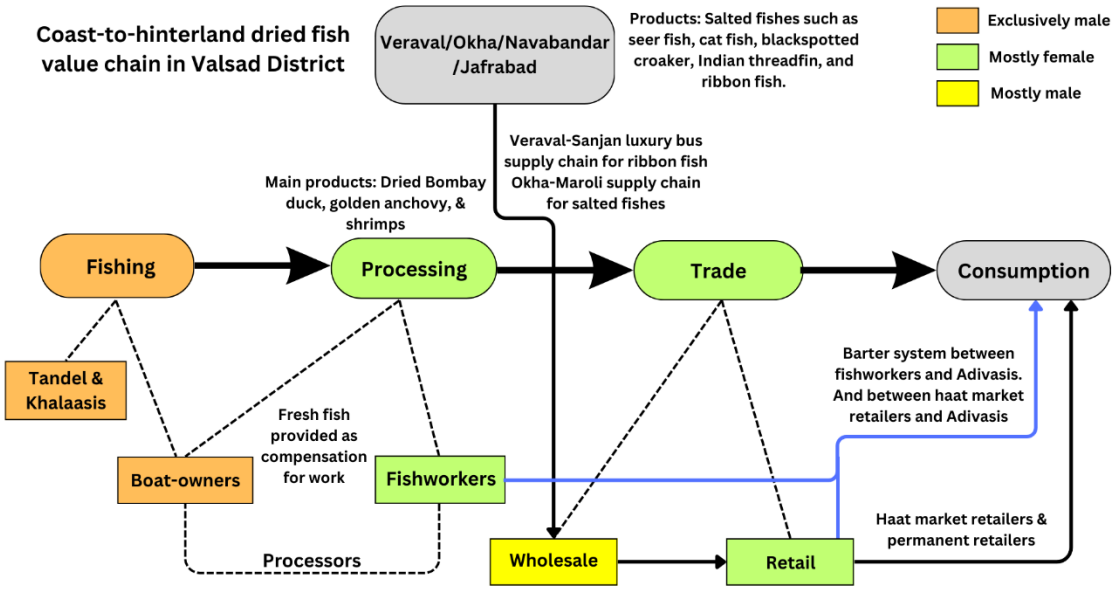
The use of customary methods of compensation for post-harvest fishworkers is another aspect of the legal pluralism that governs these segments. Additionally, the norms of wholesale trade and the presence of an informal, extra-legal supply chain featuring a customary fish grading system further illustrate legal pluralism within the value chain. The social relations in the haat market, informal transactions with private landowners, and contestations over market space all reveal how informal institutions govern the value chain. Hence, the social economy of the value chain is evident in its governance.

Through the results, I have shown the significant role of Adivasi consumers in driving the value chain, particularly in the hinterland markets where the demand for affordable varieties of dried fish is high. To meet this demand, wholesalers and retailers procure dried fish from other coastal areas of Gujarat. This demand in Adivasi regions contrasts sharply with the absence of dried fish in urban markets within Valsad District. Valsad's geographical, cultural, and linguistic diversity, along with its location as a bordering district, makes it an outlier in the general perception of fish consumption in Gujarat (Nayak et. al., 2022). This calls for a greater attention to context and the need to rethink the Gujarat government's export-oriented fisheries policy, to ensure that value chains such as the one in Valsad and neighbouring regions are not impacted adversely. As I have described in Section 4.2.2, fish handling is a major concern throughout the value chain segments. Unhygienic handling risks potential health hazards for the consumers. This calls for a greater attention to the needs of the sector.

I have described that the social economy of the dried fish value chain reflects situated values, customary practices, social relations, legal pluralism and the presence of historical

practices that endure till date. I have summarised the key aspects of the coast-to-hinterland value chain through a map in Figure 5.

Figure 5: Value chain map of the coast-to-hinterland dried fish value chain in Valsad District



Chapter Five - Human Rights, Development, and Situated Citizenship

5.1 Introduction

In this chapter, I assess substantive and procedural human rights in the processing and trade segment, building on the social economy of the coast-to-hinterland value chain described in Chapter Four. I use a situated citizenship approach to evaluate these human rights. As defined by Behl (2019), this approach views citizenship as legal status and embodied intersectional social relations. It underscores how human rights experience varies among different actors, despite their formal equality as citizens.

By applying a situated citizenship lens to the processing and trade segments, I demonstrate the necessity of situating human rights within the daily struggles of actors in the value chain. This approach is crucial for operationalising a human rights-based approach to development, as outlined in the SSF Guidelines (FAO, 2015). By focusing on context, I seek to answer the question, "Human rights, for whom?", which helps identify the marginalised and vulnerable actors and communities in the value chain. The SSF Guidelines also emphasise the need to prioritise the human rights of such actors and communities in small-scale fisheries development.

I discuss substantive rights, including community tenure rights, the right to occupational health and safety, the right to housing, wage equality, and access to markets. I also address two essential procedural human rights: the right to participate in decision-making and the right to fair dispute resolution processes. Through the findings and results, I demonstrate how factors such as legal pluralism, place of origin, lack of critical infrastructure, gender, caste, social capital, and power asymmetries impact the realisation of these rights. I also

demonstrate how certain actors are more impacted than others, thereby underscoring the situated nature of citizenship experiences.

As stated in the conceptual framework (Section 2.4), I started with a broader set of human rights. For this analysis, I focus on specific rights that emerged in the struggles of actors, as noted during data collection while in the field. It is essential to recognise that human rights are interconnected and interdependent, especially in the broader development context. For example, the right to occupational health and safety is linked to the right to sanitation. Therefore, this analysis should not be seen as a selective assessment of rights but rather as an actor-oriented approach to human rights.

5.2 Tenure rights and port-based industrialisation

As I described in Section 4.2.1 of Chapter Four, the khar lands are used for drying fish in Khattalwada. These areas, characterised by high salinity and periodic tidal flooding, are unsuitable for agriculture. The khar land ecosystem, consisting of mangroves and mudflats, becomes particularly muddy during high tide (Photo 12). These mudflats provide fertile habitats for various species, including the amphibious fish known as mudskippers or *levta*. Based on field observations and interviews with Mitana Machhi fishworkers, I learnt that mudskippers hold economic and food security importance for the Mitana Machhi community. During interviews, many women fishworkers also talked about fishing for mudskippers and selling them in the market (FW1). I observed that the mudskippers are not dried, and they are sold fresh in the Khattalwada fish market.

Based on the experiences of women fishworkers, I observed that fishing for mudskippers is considered a woman's job. The lives and livelihoods of the Mitana Machhis rely heavily

on the khar lands in the form of fish drying and mudskipper fishing. The importance of the khar lands has increased over the years as their fish drying business expanded (FS).

Photo 12: Mudflats in khar lands near Ashandevi landing centre

5.2.1 The role of the fishing cooperative society

Before the 1990s, when marine fishing was not as widespread in the area, male members of the Mitana Machhi community generally travelled to larger fishing hubs such as Veraval and Okha to work as khalaasis (FS). From informal conversations with many women fishworkers, I learnt that their husbands worked in the boats belonging to the Kharva community as well as boats belonging to fishers from south Gujarat. Meanwhile, women fished for mudskippers within mudflats and tidal pools in the khar lands, selling their catches in the market to earn an income. Mudskippers are also an essential part of the

Mitana Machhi community's diet. During interviews, female fishworkers often recalled their childhood experiences, specifically their involvement in mudskipper fishing (FW1, FW5). This practice of fishing for mudskippers has endured to date. It plays a vital role in stabilising household economies by providing an income to economically weak families and ensuring a sustainable food source for the poorest households in the community (FS).

Recognising the crucial significance of the khar lands in their lives and livelihoods, the *Uttamsagar Matsyaudhyog Sahkari Mandli*, the fishing cooperative society of Khattalwada, was established in 1980. Through an interview with the fishing cooperative society, I learnt that the cooperative's foundational objective was to serve as a unified voice for the community, advocating for the government to acknowledge their rights to access and utilise the khar lands specifically for mudskipper fishing (FS). Later, in 1984, the cooperative society successfully secured a lease for 1,224 acres of khar lands in Khattalwada. This lease was granted by the state government under the Gujarat Khar Lands Act, 1963. The lease was issued for a token amount of one rupee and extended for 30 years until 2013 (FS).

According to members of the fishing cooperative society, marine fishing and fish drying activities were not as widespread until the 1990s (BO1, BO2, FS). There were very few boats and most Mitana Machhi men worked as khalaasis in places such as Veraval. During that decade, the cooperative society, with assistance from the National Cooperative Development Council (NCDC), acquired 12 fishing boats (FS). These boats were distributed in a manner where two families would jointly own one boat. Over the subsequent years, recognising the potential for livelihood, numerous male members of the community who worked as khalaasis in other places returned to the area and bought boats

in Khattalwada leading to a gradual increase in the number of boats (FS). Simultaneously, as the number of boats in the area rose, fish drying emerged as a prominent activity in the region during the 1990s. The khar lands were the only open space available to set up fish drying kaanthis, thus the 1,224 acres of khar land leased out to the fishing cooperative society became a crucial part of the fish drying economy in this region (FS, BO1). In effect, with the rise of fish drying on khar lands, the land use of the khar lands diversified and its importance increased.

With the expansion of the fishing economy in Khattalwada, the role of the cooperative society also expanded, and the cooperative got involved in facilitating boat registrations and helping access government schemes such as diesel subsidies (FS). However, on being questioned about the role of government in the welfare of fishing communities, a community member speaking for the fishing society remarked, "*The government's involvement for the welfare of fishing community has not been seen in our area. We do not even have a proper bandar (landing centre) and the government hasn't even shown interest in developing the bandar and helping our businesses expand. We did everything by ourselves. The mandli (fishing cooperative society) can only do something when it gets the support of the government such as a grant or fund. You talked about bandars (landing centres) such as Veraval, which are big bandars. We do not have the same expectation such as that, but we must be given some facilities here to manage our business"* (FS).

5.2.2 Threat faced due to port-based industrialisation

The tenure rights over khar lands, previously acknowledged by the government through a lease to the fishing cooperative society, expired in 2013 (FS). The fishing cooperative society has been unable to renew their lease despite submitting multiple applications for

lease renewal and the state government has yet to respond (FS). This failure to formally recognise customary tenure rights poses a risk of gradual extinction of such rights by the State, especially in the light of competitive land usage which the State deems more beneficial. During an interview, members of the fishing cooperative society expressed frustration with the stalled renewal process and lamented their lack of political connections to ascertain the reason for the delay in the lease renewal (FS).

Since 1997, proposals on a commercial port at Nargol have been floated by the Gujarat government leading to widespread protests by many human rights activists, including local fishers' organisations (Joshi, 2000). Despite public outrage, the Gujarat government has remained committed to the development of a commercial port at Nargol (Nair & Kamal, 2021). In January 2024, the government announced that it has signed a Memorandum of Understanding with DP World – a global logistics firm to develop a multi-commodity port at Nargol, which reflects the larger push by the government to develop commercial ports across Gujarat's coastline (Nair, 2023). There is an apprehension amongst the members of the fishing cooperative society that the government may reclaim the khar lands for port-development purposes which will mean the loss of not just their fishing grounds but also the fish drying areas on which their livelihoods are heavily dependent. Speaking on the port issue, a cooperative member stated, *"No doubt that the government wants to build a port for national development, but at the local level, our livelihoods are impacted. We do not have clarity on this issue, and the government has not reached out to us with any assurances or information. In the future, our livelihoods are entirely dependent on this business because we do not have many educated people, and as a community we have lower levels of education"* (FS).

5.3 Occupational health and safety

During my field visits which coincided with peak fish drying season, I observed that women fishworkers endure prolonged working hours. Their shifts can last eight to ten hours and are often unpredictable, sometimes requiring them to work through the night until daybreak. While the long working hours are limited to the peak fish drying season, the overall working conditions at the landing centre and fish drying yards pose significant health and safety concerns. The more pressing issue is the impact of these working conditions on the health and safety of the fishworkers, especially women fishworkers.

As I have described in Chapter Four, all the landing centres lack post-harvest infrastructure. Critical infrastructure such as sanitation and clean drinking water is also missing. There are no roofed areas for women to work, and basic amenities are absent. The problem of sanitation extends throughout the Mitana Machhi neighbourhoods in Khattalwada. However, its impact on women's occupational health and safety is the greatest since women spend the most time at the landing centres and fish drying yards. Prolonged exposure to the sun causes women fishworkers to suffer from occasional dizziness and dehydration (FW1, FW6).

I observed that the situation is worse for Ashandevi fishworkers. Their walk to the landing centre involves traversing muddy terrain and tidal pools, which is especially difficult in the dark (FW5). A fishworker from Ashandevi described the hardship, saying, *"If the boat arrives in the evening, we have to go there with a torch. We have to walk through the muddy ground. The biggest difficulty is walking to the landing centre" (FW5).* During field observations in Ashandevi, I saw women fishworkers carrying their infants and toddlers while making barefoot journeys across the muddy khar lands to reach the landing centre

(Photo 13). I also noticed women carrying five to ten-litre bottles of water on their way to the fish drying yards, as there is no water facility available. Since their drying yards are near the landing centre, they have to carry loads of dried fish back home which adds to an already difficult commute. One fishworker described this as, *"We also have to carry our dried fish while we walk back from there. We carry the fish on our head. It is pretty difficult and tiring"* (FW5).

The informal nature of employment leaves both men and women fishworkers without health safeguards, especially for injuries or medical emergencies. In interviews, vavatras shared instances of stepping on catfish pectoral spines, which pierce through the skin of their feet and injure them (FW6). These injuries sometimes require major surgical interventions, with the vavatras bearing the costs themselves. Additionally, in landing centres like Ashandevi, accessing emergency medical care proves exceedingly challenging. When queried about medical emergencies or injuries, a boat-owner from Ashandevi said, *"We have to bring that person first to Termora in a boat because we do not have a road. We cannot carry anyone in the mud for 2 kms. One cannot even walk properly there"* (BO2). When I asked about medical emergencies, a woman fishworker from Ashandevi said, *"Then in that case there is nothing we can do. That person will unfortunately die there itself. People end up with low blood pressure as well. We cannot even go to the Termora bandar on the boat if there is a low tide because the boat will not be able to operate at low tide. So, people will end up dying there in whatever circumstances they are in"* (FW5). Therefore, while occupational health and safety challenges are a concern for all fishworkers, the women fishworkers of Ashandevi are the most vulnerable.

Photo 13: Women fishworkers walking towards the Ashandevi landing centre

5.4 Right to adequate housing

In Section 4.2.3 of Chapter Four, I have described the seasonal migration of fishworkers from Khattalwada to Nargol. Fishworkers, primarily from the Mitana Machhi community from Khattalwada, relocate with their families during the fish drying season. They set up temporary shelters near the fish drying yards, lacking essential amenities such as access to clean drinking water, sanitation facilities, or electricity connections (Photo 14). These temporary houses are considered informal structures, making it legally impossible to equip them with basic facilities. Many children of migrant fishworkers in Nargol commute to

Khattalwada daily for school. Reflecting on the plight of migrant fishworkers in Nargol, a boat-owner from Ashandevi said, *"Workers from Ashandevi live there (in Nargol) in temporary houses. They belong to our neighbourhood here. They live there in Nargol for 8 months and for 4 months here. The circumstances are so dire there that sometimes the kids cannot go to school. Their education is totally ruined*" (BO2).

During field visits to the Nargol fish drying yards, I observed that the living conditions of the migrant fishworkers are dire. I noticed that some of the temporary shelters have a separate curtained space to be used as bathrooms, however there are no proper toilet facilities. The fishworkers mentioned that they relieve themselves in the open. However, as I discussed in Section 4.2.2, many women fishworkers who hailed from Ashandevi saw their situation in Nargol as better than in Ashandevi. This is due to easier access to the landing centre and fish drying yard, and their ability to keep their infant and toddler children with them while they work. Hence, women fishworkers must navigate between two challenging situations, revealing that their migration involves more than just economic gains.

Photo 14: A temporary shelter belonging to a migrant fishworker in Nargol

5.5 Equality of wages and gendered value of work

Based on participant observation and interviews, I noticed that there is an inequality of wages[15] between men and women fishworkers, and the value of work is gendered. While the work of vavatras and women fishworkers is different, the value of their work is perceived through a gendered lens. Vavatra work is generally seen as more difficult because it requires strenuous physical labour. This perception is shared even among women fishworkers. Further, on being questioned why male vavatra workers are paid more, a female fishworker from Termora mentioned that vavatras get paid more because they are engaged in physically demanding and challenging work (FW1). As mentioned in Section

[15] I use the term 'wages' to refer to the share of fish received as compensation for work.

4.2.2, fishworkers are compensated with a share of fresh fish for unloading, sorting, and drying fish. Based on interviews and informal conversations with women fishworkers, I learned that their share of fish is worth 300-350 rupees per day for eight to ten hours of work. In contrast, vavatra workers reported that their share of fish is valued at around 1,000-1,500 rupees per day (based on working in two boats), with their working hours not exceeding 5 hours a day (FW4, FW6).

I observed that women's work is not valued equally, even when it involves the same tasks. For example, in Ashandevi, women fishworkers handle unloading fish from boats due to the absence of vavatra workers (as described in Section 4.2.2). In an interview, a woman fishworker from Ashandevi mentioned that despite unloading fish in addition to sorting and drying, she receives the same share of fish as those involved only in sorting and drying (FW5).

5.6 Legal pluralism and procedural human rights

In Chapter Four, I described the structure of the landing centres and fish drying yards in Khattalwada, where the fishworkers and boat-owners belong to the close-knit Mitana Machhi caste community. Caste and community-based institutions govern the decision-making and dispute resolution processes, with legal pluralism influencing who gets to be a decision-maker. On the other hand, the structure of the Nargol landing centre is different, as the boat-owners and fishworkers belong to different caste groups. In Nargol, fishworkers counterbalance power in dispute resolution through collective action.

5.6.1 Decision-making in landing centres and fish drying yards

Decision-making within Khattalwada's landing centres and fish drying yards is overseen by the fishing cooperative society, consisting of Mitana Machhi boat-owners (FS). Management is divided by *faliyas*, or neighbourhoods, with each faliya managed by its boat-owners, who are the primary decision-makers in landing centres and fish drying yards. Day-to-day management is informal and ad-hoc, with limited involvement from the fishing cooperative society. Most decisions about day-to-day affairs are made within each faliya. For instance, decisions on space for kaanthis are typically handled at the faliya level (BO2).

During visits to Termora and Ashandevi, I found that faliyas in Mitana Machhi areas are generally organised along family lines. Extended families or close kin typically belong to the same faliya. There are no regular formal meetings of boat-owners at this level. Instead, decision-making is integrated into daily social life. The faliya's importance extends beyond managing fish drying yards and landing centres—it is a vital aspect of community and social life for Mitana Machhis. Each faliya includes a *mandal*, an informal group representing all families. The mandal is responsible for organising religious and community events for the faliya members. The mandal raises funds for such activities through contributions from all families in the faliya.

Because the faliya is embedded in the social and community life of the Mitana Machhis, the decision-making process and the inclusion or exclusion of actors in this process reflect the prevalent power asymmetries, caste norms and gender norms. Fishworkers, especially women, are not perceived by boat-owners as having decision-making capabilities (BO1). They are seen as stakeholders affected by decisions (BO1, FS). However, strong caste and kinship ties within the community mean that women fishworkers can raise their concerns

informally. These concerns are conveyed through family and community networks to decision-making bodies or individuals such as boat-owners, the fishing cooperative, or the Gram Panchayat.

5.6.2 Dispute resolution processes

Similar to decision-making, the dispute resolution processes in Khattalwada are socially embedded. For example, in Ashandevi and Termora, where the majority of fishworkers and boat-owners belong to the same caste group, i.e. the Mitana Machhi, the dispute redressal on issues of fishing and processing segments is done through the informal community and faliya networks, where social control and adherence to the verdict or the settlement is enforced by caste and kinship-based affiliation. When questioned about the dispute resolution process, a boat-owner from Termora mentioned that the first recourse involves the boat-owners at the faliya (BO1). *"Owners of other kaanthis will first try to settle the dispute through mediation and discussion with all parties. It usually does not grow into a big conflict"* (BO2).

I observed that the fishing cooperative society also acts as a dispute resolution body in cases where disputes between parties are not solved at the faliya level. Acknowledging the role of the fishing cooperative society as a dispute resolution body, a member of the cooperative said that most issues are resolved at the faliya level and that the disputes rarely come to the fishing cooperative level (FS). I was unable to gather more information on dispute resolution by the fishing cooperative society as members of the cooperative society did not divulge more details on this function of the cooperative. Talking about the role of the cooperative as more of an appellate body of dispute resolution, a boat-owner mentioned, *"It is the cooperative then which will mediate if the dispute is not resolved at*

the faliya (neighbourhood) level. If the parties do not listen to cooperative, then there will be a police case. The police will then contact the Gram Panchayat to figure out a resolution. What will the police do? They do not know anything that happens here"(BO2). Through informal conversations with boat-owners and other community members, I learnt that for civil disputes beyond fishing and allied livelihoods, the Mitana Machhi caste council or *Panch* operating in Khattalwada is the primary dispute resolution authority for caste members. The Panch acts as a dispute resolution authority and enforces social control through adherence to caste norms.

I could not gather more information on the dispute resolution processes at the Nargol landing centre and fish drying yards. As discussed in Section 4.2.1, the boat-owners and fishworkers in Nargol belong to different caste groups, suggesting that their dispute resolution mechanisms are likely different from those in Khattalwada. Most fishworkers in Nargol are either Mitana or Godhara Machhi, while most boat-owners are Mangela or Naliya Machhi. I observed a power imbalance between these groups. To counter this imbalance, the fishworkers engage in collective action, leveraging their collective strength by working and being employed as a group rather than as individual fishworkers (FW3).

When asked about the presence of a formal fishworkers association, a Mitana Machhi woman fishworker from Nargol responded, *"There is no association as such. But we work in groups. So, if we are a group of 10-11 people, we will then decide if we want to join a boat and work there"*(FW3). I observed that fishworker groups in Nargol are based on caste affiliation, with different Mitana Machhi and Godhara Machhi groups. These groups act as a collective power counterbalance in disputes with boat-owners over issues such as fair wages. For example, if fishworkers feel they have not been compensated

proportionately to the fish catch, they collectively decide not to work the next day as a form of protest (FW3). This collective action is usually taken if the boat-owner does not address their grievance or assure them of resolving the issue.

5.6.3 Decision-making in the haat markets

In Section 4.4.2, I have described that the local Panchayat manages the haat markets. I observed that retailers are not involved in the formal decision-making process. Instead, a *bajaar samiti*, or market committee, composed of Gram Panchayat members, handles management (KB1, WS1, RS). Retailers have no direct role in formal decision-making. However, how much they are consulted, how they perceive their position, and how they assert their grievances are important procedural rights issues. I noticed different levels of participation and engagement among women retailers based on the coastal and hinterland markets. Through interviews and informal conversations, I observed that their perception of participation depended on place of origin and market structure.

In coastal markets, exclusively made up of women dried fish retailers, women saw themselves as rights-holders. They actively participated in decision-making through collective action. For example, one retailer said, *"Whenever we face an issue that concerns all of us, we get together and go to the Panchayat office. For instance, for the drinking water issue, we got together and discussed our demands with the Sarpanch"* (RS6). In hinterland markets, women retailers from fishing communities saw themselves as outsiders, not rights-holders. When I asked why they did not raise the issue of lack of sanitation facilities, one woman retailer said, *"If the locals there are not raising these issues, how can we do that? Why would they listen to just the six of us? The locals do not voice complaints at all. If local people in the market speak up, then we can also join them"*

(RS3). She referred to the Navaita Muslim and Kukna Adivasi retailers as locals, the dominant players in the hinterland haat markets.

Among Muslim and Adivasi retailers, I noticed that the Navaita Muslims are the most powerful in the hinterland markets. They have developed significant social and political capital with the Gram Panchayats over years of retailing in the region. While specific information on how they influence decision-making is unavailable, they likely wield considerable rent-seeking power. In an interview, a Navaita Muslim retailer identified himself as a 'local trader' and remarked that the women retailers are outsiders (WS1). Hence, the structure of the market, especially the place of origin or the idea of local vs non-local, are crucial indicators of situated experiences of actors in the haat markets.

5.7 The political economy of access to markets

The contestation over space in the haat markets is a major issue in accessing the market. During field visits to the haat markets, a common theme that women haat market retailers talked about was their desire to sell in more weekly haat markets. However, they could not do so because of not being allowed to secure a space in the market by the other established retailers. *"New people are not allowed to sit (to sell) in the market. Even though they pay the market fee, they cannot sit there. This is because other people have occupied that space in the market for ten or twenty years. In that case, they will not allow you to sit"* (RS6). Discussing her experience of being unable to secure a space to sit in the Talasari haat market, a Mitana Machhi retailer said, *"In the Talasari market, they don't allow me to sit there to sell fish. The people who issue tickets don't allow us to sit there because the other sellers ask them not to allow us. The Panchayat people ask us to find a place first, and only then do they issue the ticket."* This indicates that established retailers rent-seek with the

local Panchayat to enact entry barriers for newer entrants in the market. Hence, securing a market space as a new entrant is challenging. One has to break through the cycle of rent-seeking and threats posed by established retailers in order to secure access to the market.

A case in point is a group of Mitana Machhi women who have been retailing in the Sutharpada haat market for six to seven years. The group involves five members of an extended family plus another woman retailer from the same faliya in Khattalwada. During an interview, two women in the group mentioned that they secured a space to sit in the market after violent attacks from the local male retailers. *"The traders in the market did not allow us to sit in the market. They threatened us with violence and ended up beating us. Then we got in touch with the uncle of the Sarpanch from Sutharpada. And during one of the market days, he stood there where we were selling fish, and guarded us to ensure no one harassed us. Because of him, we managed to get a place there"* (RS3).

When I asked how they established a local contact in the distant Sutharpada market, one woman from the group mentioned that a rickshaw driver, a family friend, facilitated the connection. Through informal conversations with the group, I learnt that they have to bribe traffic police officials to avoid unnecessary harassment and to ensure their shared vehicle gets an easy pass on the way to the market. Notably, once this group of Mitana Machhi women managed to secure their place in the markets in Sutharpada and Kaprada, they actively threatened other women retailers from Khattalwada from trying to access those markets (RS6). Thus, they create the same entry barriers for others that they faced while trying to secure market access.

This case exemplifies how market access is influenced by power, social relations, gender, and the politics of being local versus non-local. It involves leveraging social capital and

local contacts, bribing police officials, and maintaining cordial relations with powerful individuals in the area (RS3). Access to the market is a cut-throat competitive game in which those who secure a space then become part of the established traders' network and create entry barriers for newcomers.

5.7.1 Gendered barriers of access to markets

For women retailers, access to the market also involves arranging shared private transportation to the haat markets. Through observations made during field visits and interviews with women retailers, I observed that they often travel in groups of six to eight, sharing the cost of a mini-truck or tempo. Additionally, during informal conversations with vehicle drivers, I learnt that they try to build local contacts to find access to other haat markets for their women passengers. This creates a mutually beneficial relationship where women get to sell in new markets, and drivers get business from transporting passengers.

I observed that women retailers preferred different transportation arrangements based on the market's distance from Khattalwada. For nearer markets, such as Talasari and Maroli, the auto-rickshaw or mini-truck driver drops them off at the market and returns later to pick them up (RS7). For farther markets, such as Kaprada and Sutharpada, the driver parks the vehicle in the market and stays with the women until the end of the day's business before taking them back (RS3).

In another instance, through informal conversations with retailers in the Hanmatmal haat market, I learnt that the Naliya Machhi women retailers from Valsad Taluka travel from Valsad city to Dharampur city by bus. From there, they travel to the Hantmatmal market with a Navaita Muslim retailer in his truck. They choose to travel with the male Navaita retailer due to the lack of reliable public transport from Dharampur city to Hanmatmal

village. The Navaita Muslim retailer charges them some money for the ride. On their return, they travel with him back to Dharampur, where they take a public transport bus to Valsad.

The experience of women dried fish retailers shows that travelling in a group is not only essential for splitting costs but also serves as a safety measure, particularly in remote forest areas. Additionally, the choice of the vehicle driver is crucial. They prefer someone known and reliable. The relationship between the women haat market retailers and the vehicle driver is one of trust and cooperation. On the contrary, male retailers do not face the same transport concerns. They typically own material assets like personal vehicles and are not constrained by safety considerations. Another safety concern that women retailers face, especially in the hinterland haat markets, is the absence of sanitation facilities. This forces women to find isolated spaces outside the markets, exposing them to safety risks. Hence, these issues are gendered barriers to access to markets and show the situated experiences of women retailers on the issue of the right of access to the markets.

5.8 Summary and discussion

In the introduction to this chapter, I emphasised the significance of situated citizenship in evaluating human rights and its importance for the human rights-based approach to development. The results of this chapter demonstrate that the experience and impact of human rights are not uniform across all actors in the value chain. For instance, the proposed port in Nargol will affect all fishing communities in the region. However, the Mitana Machhis will be the most affected due to their low levels of education, limited occupational diversification, and heavy reliance on the khar lands for fish drying. Over the years, the Mitana Machhi community's dependence on this resource has intensified. Their tenure rights on the khar lands should be viewed as customary rights derived from historical use

rather than through the lens of legislative recognition. The denial of leases on khar lands through bureaucratic means exemplifies a positivist understanding of law and human rights (Marks, 2016).

In Chapter Two's literature review, I discussed various discourses on human rights, including the positivist perspective that views legislative enactment as a prerequisite for recognising human rights (Marks, 2016). On the other hand, an actor-oriented approach to human rights views them as emerging from the struggles and specific experiences of actors (Nyamu-Musembi, 2005). Nyamu-Musembi (2005) quotes Medha Patkar, who argued that a human rights-based approach to development should shift the focus from "risk assessment" to "rights assessment" in development projects. The case of the Mitana Machhis and their situated experience of citizenship with tenure rights calls for such a rights assessment.

Regarding occupational health and safety, I have described how these concerns disproportionately affect women fishworkers. Women spend the most amount of time at the fish landing centres and drying yards. The lack of critical post-harvest infrastructure exacerbates their challenges, especially for those from Ashandevi who face multiple hardships. Many Ashandevi fishworkers become seasonal migrant workers in Nargol due to these difficulties. Despite living in temporary shelters, they benefit from better road connectivity, easier access to their workplace, and the ability to maintain their traditional caregiving roles more effectively. Thus, they are compelled to choose between two difficult options: relatively better working conditions or relatively better housing. This choice involves more than just economic considerations.

The situated experience of women fishworkers concerning occupational health, safety, and housing highlights that these issues are deeply intertwined with the availability of critical infrastructure such as roads, sanitation, and other public amenities. Without such infrastructure, human rights are rendered meaningless. The experience of women fishworkers regarding occupational health and safety is similar in other dried fish value chains in India. For example, Salagrama and Dasu (2021) describe similar challenges due to inadequate infrastructure facilities in fish markets in coastal Andhra Pradesh. These challenges and the situated analysis of rights demonstrate the need to move beyond a need-based approach to development to a human rights-based approach. A human rights-based approach encompasses an ethical and moral dimension to the question of basic infrastructure.

On the issue of wage inequality, I described how customary institutions and legal pluralism reinforce existing gender disparities. This study highlights the wage gap between men and women fishworkers, showing the conflict between customary practices and gender equality. One outcome of legal pluralism is the gendered valuation of work, where women's labour is undervalued compared to men's for the same tasks. As discussed in the results, even women's own perceptions reflect this disparity, indicating an internalisation of the gendered value of work. This phenomenon is also observed in other dried fish value chains, such as in Bangladesh. Belton et al. (2018) describe it as "communal self-exploitation," with women accepting lower wages to maintain harmonious community relations.

The role of legal pluralism is most evident in decision-making and dispute resolution processes. As described in the results, the faliya, a microcosm of the broader caste society, plays a predominant role in daily decision-making and dispute resolution. Male boat-

owners make most decisions within this structure. The fishing cooperative and the caste Panch also serve as appellate dispute redressal bodies, reinforcing caste norms in Khattalwada. Since women are absent from these decision-making bodies and gender norms do not recognise them as decision-makers, they exercise some agency through kin and community bonds. However, the extent to which women's indirect agency influences decisions remains unclear. Such legal pluralism in decision-making and dispute resolution is also prevalent in other fishing communities in Gujarat and India (Johnson & Sathyapalan, 2006; Bavinck, 2018).

While these institutions are pivotal in the governance and management of fisheries, they also reflect existing power asymmetries within these communities. Viewing human rights through a legal pluralist lens helps to identify the constraints and opportunities in realising human rights for marginalised actors (Provost and Sheppard, 2013). The SSF Guidelines also call for an assessment of existing power imbalances, especially regarding the procedural right to participate in decision-making (FAO, 2015).

Regarding access to markets, I have shown that it is governed extra-legally. The contestation over space in the market is a power struggle, where winners actively create barriers for new entrants. This indicates that any assessment of the human right to market access must surpass formal law and consider existing power relations. Through the different experiences of male and female retailers, I have illustrated how women face gendered barriers hindering their market access compared to men. Thus, from a situated citizenship perspective, women's experience of market access is more challenging.

Using a situated citizenship lens to analyse substantive and procedural human rights, I have demonstrated that the denial and experience of human rights are unequal across actors in

the processing and trade segment. Factors such as legal pluralism, power dynamics, social status, gender norms, place of origin, and inadequate public infrastructure all influence these experiences. Overall, this situated citizenship analysis emphasises the necessity for development policies to acknowledge these unequal experiences and strive to strengthen situated citizenships, particularly for the marginalised actors. Such an approach to human rights and development underscores the importance of context and the lived experiences of individuals and communities. I have summarised the key results from this chapter in Table 10.

Table 10: Summary of analysis of key human rights issues through a situated citizenship lens

Human Rights	**Situated Citizenship**
Tenure rights	The denial of tenure rights and reclamation of land for the upcoming port will lead to loss of coastal commons and fish drying grounds for all fishing communities in the region, however the impact on the Mitana Machhi community will be the most given their reliance on the khar lands and very little diversification of livelihoods beyond fishing.
Occupational health and safety	While the challenges to occupational health and safety are faced by all fishworkers. It is the women fishworkers who face the most challenges due to lack of critical infrastructure and health safeguards. Among the women fishworkers, the fishworkers in Ashandevi are the most vulnerable due to their situated struggles.

Human Rights	Situated Citizenship
Right to adequate housing	The right to adequate housing in the case of migrant fishworkers is also connected to the right to education of children as shown in the results. The issue of seasonal migrants and the challenges associated with housing are linked to the struggles faced by migrants in places such as Ashandevi forcing them to work as seasonal migrants.
Equality of wages	The inequality of wages between men and women is based on the gendered value of work defined by customary norms.
Procedural rights: Decision-making and dispute resolution	The right to participate in decision-making and dispute resolution are impacted by the presence of legal pluralism. Male boat-owners are the main arbitrators and decision-makers in the faliya and the fishing cooperative society. Women fishworkers participate indirectly through community and kinship networks in Khattalwada. Whereas in Nargol, women counter the power imbalance in dispute resolution through collective action in the form of working in groups and leveraging collective power to resolve disputes. Women's perception of being right-holders in the decision-making process is observed more in coastal haat markets, whereas in the hinterland markets women from the fishing communities see themselves as outsiders with no rights in the decision-making process. In hinterland markets, Muslim male retailers are dominant and have greater social capital to influence decision-making.

Human Rights	Situated Citizenship
Access to markets	The access to weekly haat markets is a power game involving a contestation over space. Established traders actively create entry barriers for newcomers. Women face greater barriers in accessing the markets compared to men, due to gendered barriers such as the considerations involved in arranging transportation and issues related to sanitation.

Chapter Six - Conclusions

6.1 Introduction

In the introduction to the thesis, I described the importance of small-scale fisheries to the lives, livelihoods, and food security of millions globally. I also emphasised the significance of the post-harvest segments of small-scale fisheries value chains and discussed the SSF Guidelines, which are rooted in the realisation of human rights. In line with the need to operationalise human rights-based development in small-scale fisheries, as outlined in the SSF Guidelines, the purpose of this research was to document and describe the social economy of the dried fish value chain in Valsad District and identify the opportunities and constraints in realising human rights in the processing and trade segments.

The specific objectives of the research, as outlined in Section 1.2, were to (i) map the dried fish value chain in Valsad District using a social economy lens, (ii) document the interactions among actors in the processing and trade segments of the value chain, with a focus on power dynamics stemming from gender, caste, religion, ethnicity, place of origin, and other social and economic inequalities, and (iii) assess the processing and trade segments of the value chain from a human rights-based perspective, considering substantive and procedural human rights. In line with the objectives, I developed a conceptual framework integrating value chain and human rights frameworks to describe the social economy of dried fish in Valsad District and used this description to assess human rights using a situated citizenship approach.

The data collection process for this research lasted five months. During this period, I employed qualitative ethnographic methods such as semi-structured interviews, participant

observations, and a review of secondary sources. Following data collection, I used NVivo, to analyse the data. In this chapter, I summarise the key findings from the research and discuss my contributions to the literature. I also enumerate the limitations of the research and propose avenues for further investigation based on the insights garnered. Towards the end of this chapter, I provide specific recommendations for public policy on dried fish. I conclude with broader questions on human rights and development that emerge from the research.

6.2 Summary of key findings

In summarising the key findings from the research, I refer to the four major themes I identified during the analysis of the dried fish value chain. These themes complement some of the key research areas identified by Belton et. al (2022) in their global literature review on dried fish. Those four areas are: (i) the role of dried fish in nutrition and food security; (ii) the livelihoods dependent on the dried fish value chain; (iii) the human rights issues in the value chain; and (iv) the cultural and social values and relations in the value chain.

One major finding of the research is the dried fish value chain connecting the coast to the hinterland in Valsad District. The primary consumers driving this value chain are Adivasi buyers who prefer cheaper varieties of dried fish. Dried fish is a crucial source of nutrition security for the Adivasis, being one of the key food items they stock up on for the monsoon season. The demand for dried fish by Adivasi buyers in the haat markets is also linked to the supply from other coastal areas of Gujarat. From a food and nutrition security perspective, the significance of dried fish for vulnerable Adivasi groups is a key finding. To my knowledge, this has not been discussed in any literature on Gujarat's fisheries.

The dried fish value chain provides livelihoods to a diverse range of actors between the coast and the hinterland. Dried fish processing and trade is a major livelihood activity for fishing communities, especially for economically weaker groups like the Mitana Machhis. This trade sustains household economies within Mitana Machhi families, with Mitana Machhi women forming the majority of fishworkers, processors, and retailers of dried fish. In the trade segment, dried fish has historically and generationally been a source of livelihood for some communities, such as the Navaita Muslims. It also supports many Adivasi retailers who sell dried fish.

The key human rights challenges identified include the potential loss of tenure rights due to port-based industrialisation, which will wreak havoc on the lives and livelihoods of groups like the Mitana Machhis. This development will also have ripple effects throughout the value chain. Additional challenges include occupational health and safety issues, the absence of post-harvest infrastructure, and the disproportionate impact on women fishworkers. These issues highlight the government's indifference to the problems plaguing this small-scale economy. Furthermore, I have highlighted the role of legal pluralism and power dynamics in questions of gender equality in the fish drying yards, landing centres, and markets.

The analysis of the value chain reveals how it is rooted in the social relations between various actors, such as those based on caste, community, and kinship at the fish landing centres and drying yards. These social relations also influence the situated values of dried fish. For example, the barter system between Adivasis and fishworkers illustrates the distinct and situated values of dried fish for both communities. Additionally, the cultural

value of freshwater dried fish in the lives of the Adivasis is another key finding from the research.

6.3 Contributions made to the literature

This research contributes significantly to three primary areas: the geographic understanding of Gujarat's fisheries, global scholarship on post-harvest segments, and methodological innovations in integrating value chain and human rights analyses.

Geographically, this study marks the first comprehensive exploration of the dried fish value chain in Valsad District. It enriches the academic discourse on south Gujarat's fisheries, a region that has been largely overlooked in favour of larger fisheries hubs within the state. By focusing on the underexplored post-harvest segments, this research adds depth to the understanding of Gujarat's fisheries. It also draws comparisons between south Gujarat's fisheries and those in other parts of the state, contributing to the existing body of scholarship by Johnson (2001), Nair & Baxi (2022), and Johnson & Sathyapalan (2006).

Globally, this study advances the literature on post-harvest segments (Belton et al., 2022; Di Cintio et al., 2022) by shedding light on the crucial role of women in small-scale fisheries and the necessity of recognising their contributions. This work contributes to the growing scholarship on feminist commodity chain analysis (Ramamurthy, 2013; Pedroza-Gutiérrez & Hapke, 2022). By addressing gaps in the research on post-harvest segments, this study provides valuable insights into the broader discourse on small-scale fisheries, particularly in relation to food and nutrition security. It reinforces the importance of dried fish in addressing these challenges, building on the work of Belton & Thilsted (2014) and Mamun et al. (2024).

Methodologically, this research introduces a novel, synthesised framework that integrates social economy and situated citizenship approaches to assess human rights within dried fish value chains. This innovative approach contributes to the ongoing development of analytical frameworks for implementing the SSF Guidelines (Nakamura et al., 2021). By employing empirical social science methods, such as value chain analysis, to examine how legal phenomena operate in daily life, this research also adds to the scholarship on New Legal Realism (Huneeus, 2015).

Moreover, this study represents the first application of the situated citizenship approach within fisheries literature, thereby contributing to the scholarship on situated citizenship (Behl, 2019). By linking legal pluralism and situated citizenship in the context of small-scale fisheries, it offers new perspectives on the role of legal pluralism in these environments (Jentoft & Bavinck, 2019; Bavinck, 2018; Bavinck et al., 2018). The integrated value chain analysis framework presented here also holds potential for broader application in assessing human rights across various domains and serves as a valuable resource for development practitioners focusing on human rights-based approaches.

6.4 Limitations of the research

While this research offers many new and original insights into the dried fish value chain in Valsad District, it has some limitations. As noted in the methodology section (Section 3.3) and described in the results, the timeframe of the field research did not allow for a thicker ethnographic description of the value chain. Given the limited time frame, I had to balance the depth of the analysis with appropriate breadth.

Another limitation stemmed from my position as a male researcher and an outsider in the communities with whom I was working with. In the landing centres and fish drying yards, I remained a familiar outsider and did not have the opportunity to deeply understand the social relations within households or the challenges faced by women beyond what they shared or what was visible. Hence, I was unable to explore many issues related to power dynamics and gender hierarchy within the household, resulting in limited data on these aspects.

As acknowledged in the results, the social diversity of the many communities involved in the value chain is not fully represented in the sample size for interview participants. For instance, the interview data set does not include members from other communities, such as Naliya Machhi or Mangela boat-owners or retailers, although I engaged with them in informal conversations. Despite my best efforts, interview recruitment from these communities was unsuccessful.

6.5 Future areas of research

Some of the future areas of research that have emerged from the insights and key findings of the present research are:

(i) Conducting a comprehensive value chain survey on dried fish consumption in south Gujarat will provide valuable insights into its consumption patterns. Such research would help solidify understanding of the population's reliance on dried fish for nutrition security and provide more empirical evidence on the importance of dried fish.

(ii) Exploring the significance of dried fish to the Adivasi way of life, particularly freshwater fish, and its role in traditional and religious ceremonies. A study of

traditional fishing and fish drying practices of Adivasi communities in this region will advance knowledge on the cultural and traditional value of dried fish.

(iii) Undertaking anthropological research on the historical barter system between Adivasis and fishing communities, especially the practice of travelling to the coast to barter for dried fish. This study could explore its nutritional implications for the communities and reflect on possible social and economic changes over the years.

(iv) Exploring the history of the Mitana Machhi community, their traditional practices, knowledge systems, and cultural rootedness. Given the limited information available about the Mitana Machhi community, future research could focus on their specific history and the processes of social and economic change they have undergone over the years. Such research is also important given their disadvantaged and precarious social and economic status.

6.6 Recommendations and conclusions

Through the findings of this research, I have uncovered a largely invisible and unacknowledged dried fish value chain in south Gujarat. Despite its significant social, cultural, economic, and food security implications for some of the most vulnerable people in south Gujarat, dried fish remains absent from Gujarat's fisheries policy which is focused on frozen fish and the export market (Nair & Baxi, 2022). Since this localised value chain does not cater to the export market, it is neglected. This neglect is evident in the critical lack of post-harvest infrastructure needed to support these livelihoods and strengthen citizenship. One of the most important recommendations from this work is the acknowledgement of the role of dried fish in supporting livelihoods, providing nutrition

security and as a culturally important food item. Specific recommendations that follow from this include:

(i) Improving basic infrastructure: The lack of basic infrastructure such as sanitation, roads, and access to water exacerbates occupational health and safety issues for fishworkers, especially women. The capacity of local governing institutions such as the Panchayat should be enhanced to ensure basic infrastructure facilities. The government should also invest in post-harvest infrastructure at the landing centres and fish drying yards.

(ii) Raising awareness on fish handling: There is limited understanding of proper fish handling through all stages of processing and marketing, much of it is also exacerbated by infrastructure issues. Capacity-building and awareness initiatives on good and safe fish handling practices are needed at the village level.

(iii) Enhancing women's participation through civil society: To address issues like market access for women retailers and to promote women's role in decision-making, creating women's self-help groups and building leadership capacity is essential. Achieving greater participation of women in issues affecting their livelihoods cannot be done through legislation alone. Civil society actions and bottom-up approaches will be more effective to enhance women's participation in decision-making.

(iv) Recognising tenure rights over coastal commons and khar lands: To secure the livelihoods of communities such as the Mitana Machhis, it is crucial for the government to recognise and protect their tenure rights over the khar lands. Along with tenure rights, civil society and government efforts must be undertaken to assist the community to sustainably manage the khar lands ecosystem.

In this thesis, I have demonstrated that the dried fish value chain in Valsad District is deeply socially embedded, serving as a major source of livelihood for many communities and contributing significantly to the food and nutrition security of economically vulnerable populations. I have illustrated how the experiences of those involved in this economy are shaped by the official neglect of its role and importance to local communities. Additionally, I have highlighted the threat posed by the government's vision of a commercial port, which could potentially dismantle this vital economy. Through these findings, I argue that a social economy lens is crucial for understanding how law and legal phenomena are experienced in the daily lives of individuals and communities as they engage in economic activity. By considering legal pluralism and power imbalances in social relations, a social economy perspective allows us to better contextualise the social embeddedness of economic activities. This, in turn, provides a more holistic understanding necessary for a meaningful assessment of human rights and the situated experiences of individuals and communities within these contexts. Moreover, this approach of linking economy and law offers a valuable framework for analysing the impacts of macro-level policies in localised contexts. For example, it sheds light on the implications of Gujarat's coastal industrialisation push for those involved in the dried fish value chain.

The bigger questions on development that this social economy and situated citizenship analysis raises are: How do we rethink the assessment of development projects from a 'risk assessment' perspective to a 'rights assessment' perspective? And how do we account for situated impacts of rights violation? More importantly, should such rights assessments be limited to the individuals and communities who are immediately impacted by development, or should the framework also include those in the downstream segments of the value chain

whose food security is affected? How can we integrate a situated analysis of human rights in our approach to development? This thesis invites readers and researchers to consider these critical questions and urges a shift in perspective towards a more situated analysis of human rights-based development in the context of small-scale fisheries and beyond.

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Appendix A – Glossary

Word	Meaning
Angadia (આંગડિયા)	A courier tasked with the transfer of cash under the angadia system
Bandar (બંદર)	Landing centre
Bajaar Samiti (બજાર સમિતિ)	Market committee
Faliya (ફળિયા)	Neighbourhood/street
Haat (હાટ)	Weekly market
Kaanthi (કાંઠી)	Fish drying rack
Khalaasi (ખલાસી)	Fishworker who is part of the boat crew
Khar land (ખાર પટ્ટી)	Saline land
Levta (લેવટા)	Mudskipper
Mandal (મંડળ)	Neighbourhood group or circle
Mandli (મંડળી)	Cooperative society
Paaudi (પાઉડી)	A tool used to sort fish
Panch (પંચ)	Caste council
Sarpanch (સરપંચ)	Head of the village
Tandel (ટંડેલ)	Captain of a fishing boat
Vavatra (વવત્રા)	Male fishworker tasked with unloading fish catch at the landing centre
Waata (વાટા)	A portion of dried fish used as a retail sale practice

Appendix B – Interview guides

Semi-structured interview guide for processors

Interviewee details

(i) Interview location:
(ii) Role of interviewee:
(iii) Name:
(iv) Phone number:
(v) Gender:
(vi) Age:
(vii) Religion:
(viii) Ethnicity/caste (try to decipher from name and avoid asking it to the interviewee)
(ix) Highest level of education completed:
(x) Place of origin: (If different from interview location, when/why moved here)
(xi) Family details: (married/unmarried, children)

General questions about processing

1. What is the name of this location?

2. During which months does fish processing business operate? Which are peak/low months?

3. How many fish processing businesses are located at this location?
   a) Where do the owners of these businesses originate from? How many of the fish processors here also own their own fishing boats?

4. What are the main species and products processed here?

Assets - who has what/who does what/how do they do it?

5. How large is the fish drying area operated by this business?

6. Who owns the land where this business is located?
   a) If rented, from whom?
   b) If the land is owned by gram panchayat/municipal corporation/other government body, how is it allocated? and who is involved in the allocation process?

7. Do you face any challenges in accessing land for drying fish? If yes, provide details.

8. What drying equipment do you own (e.g., drying racks, frames, mats, nets) and how much do these items cost?

9. Do members of your family join you in operating the fish processing business?
   a) If yes, which members? And what do they do?

b) Do they get paid? If yes, how?

10. Do you or members of your household do any work other than fish processing?
    a) If yes, when? why? Give details.

11. Do you or any members of your household own any agricultural land?
    a) If yes, where, and how much?

Buy - who does what? How do they do it?

12. How do you procure fresh fish (e.g., own fishing, buy from fishers, buy from traders etc.)?
    a) If a mix of sources, give approx. proportions.

13. What are the main locations that you source fish from? Explain the process of procurement in detail.

14. How is the price for any fresh fish that you purchase set (e.g., at auction, negotiation in market or with boat-owner, by advance contract)?
    a) When is fresh fish usually paid for (e.g., immediately in cash, after sale of dried product)?
    b) Besides fish, what other raw materials do you use (e.g. salt, wood, rice bran, chemicals)?
    a) Where do you procure these from? Provide more details.

15. Do you provide credit to any of your suppliers?
    a) If yes, which suppliers? Are they men/women suppliers?
    b) What are the terms of the credit you provide (e.g. amount, duration, interest, requirement to sell to you)?
    c) How do you ensure that suppliers who take credit repay their debts?

Make - who does what/who gets what?

16. For each of the main types of fish processed, please describe in detail all the steps in processing.

17. What happens during and after processing?
    a) Who performs each of these tasks? How long does each of the steps take?

18. Is any pesticide used at any point during processing? Why/why not?

19. How many workers work in your processing operation?
    a) Where do the workers originate from?
    b) What is their gender/ethnicity/religion/caste?
    c) How are they recruited (e.g. word of mouth, through broker, other)?
    d) Are they hired long-term or on a casual basis?

e) How much are they paid, and how frequently?
f) Do they receive any payment in kind? Give details.
g) Do they receive any advance wages? Give details.
h) Are men and women paid the same? If not, why?

20. What happens if a worker gets sick or are injured while at work?

21. Do you have sanitary facilities for workers?
    a) Do you have separate facilities for female workers?

22. If there are disputes between a processor and their workers, how are they usually resolved?

23. Are you a member of a processor's association?
    a) If yes, how many men/women are in the association?
    b) How is membership decided? What is the role and function of the association?
    c) Do you feel you have an equal say in the association?

Sell - who does what/who gets what?

24. How many regular customers do you have?
    a) How do you usually organise sales to customers (e.g. sell at auction, make agreement over phone, advance contract)?

25. What type of customers do you usually sell to (e.g., traders in wholesale urban market, local retailers etc.)?
    a) Are the customers mostly male or female?

26. Do you receive payment at the time you sell your fish, or do you have to wait for part or all of the payment?
    a) Why and for how long do you usually have to wait?
    b) How do you receive the payment (e.g. in cash, by bank transfer, by cheque)?
    c) How do you transport the product to market?
    d) Who is involved in loading, unloading, and packaging fish for transportation?

General perception of challenges linked to business

27. Have you ever received any received any support or help from government, NGOs or any other organisation? If yes, provide details.

28. Are there any government regulations, policies, or activities that restrict or cause difficulties for your business? If yes, provide details.

29. What are the biggest challenges or hazards that you face when doing business?
    a) Which aspects of your work do you like? Which aspects do you dislike? Why?

Semi-structured interview guide for fishworkers

Interviewee details

(i) Interview location:
(ii) Role of interviewee:
(iii) Name:
(iv) Phone number:
(v) Gender:
(vi) Age:
(vii) Religion:
(viii) Ethnicity/caste (try to decipher from name and avoid asking it to the interviewee)
(ix) Highest level of education completed:
(x) Place of origin: (If different from interview location, when/why moved here)
(xi) Family details: (married/unmarried, children)

General questions about workers

1. How many workers are there in this location who are doing work related to dried fish?
   a) How many are male/female?
   b) What are their roles?
   c) Where do they come from?
   d) Do they belong to specific caste/ethnic groups?

2. During which months/seasons do they do this work?

3. Are there any labour associations or unions in your locality?
   a) If yes, how many? Which are they?

4. Do labourers working with dried fish also work in other sectors (e.g. agriculture, construction, etc)?
   a) During which months/seasons do they do this work?

5. Are there any health hazards associated with work related to dried fish in this location? If so, provide details?

Assets - Who has what?

6. Do you own a home? Where is it located?

7. Do you or anyone in your household own any agricultural land?
   a) If yes, Who/How much?

8. If you originate from another place, when/why/how did you come here? Provide details.

9. Have you taken any advance or any debt to do this work?
   a) If yes, how much? And what was it used for?

b) Do you find difficulty in repaying your debt? If yes, why?

Who does what? How do they do it?

10. What type of work do you do here (related to dried fish)?
    a) What are your main responsibilities?
    b) Do you have a particular specialization or specialized skills.

11. Please describe a typical working day, starting from the time you get up, to the time you go to bed (ask details about gender role if women worker)

12. What role does your employer have (e.g. fisher, trader)?
    a) Is your employer a man or woman?
    b) Where are they from?

13. Did you know your employer before you began to work for them?
    a) If yes, how?

14. Are you employed directly by your employer or indirectly?
    a) Do you have any kind of contract (a written or verbal agreement) with your employer? If yes, provide details.

15. Do you oversee or manage any other workers?
    a) If yes, are they men/women?
    b) What type of work do they do?
    c) And where are they from?

16. Who is your supervisor (if any)?
    a) Are they male or female?
    b) What type of work do they do?
    c) Where are they from?

17. Do you have any choice regarding the number of hours/day you work (e.g. if you wanted to could you opt to work for more or fewer hours/days)?

18. Do you have children or your partner in this trade?
    a) Are they paid? If so, how much?

19. Do you do any other type of work? If so where, when, and why?

20. Are you part of any labour unions or workers collective?
    a) If yes, what is the role and function of the collective or union?
    b) How many male/female members?
    c) Do you feel you have an equal say in the collective?

Who gets what?

21. How are you paid? And how much are you paid? (e.g. an advance, regular wages; hourly; weekly; piece rate, in kind etc.). Please give details.

22. Do you receive any food or lodging or transport from your employer? Please describe.

23. Have you ever fallen ill or been injured while doing this type of work?
    a) What illness/injury did you experience? How frequently has this happened?
    b) If you are injured or fall ill while doing this type of work, what happens (e.g. would your employer provide compensation, would you lose your job?)

24. Have you ever been unpaid or underpaid for work that you did?
    a) If yes, what did you do in response?

Perceptions of work in the dried fish sector

25. What are the most important challenges you face in your daily work life?
    a) Which aspects of your work do you like? Which aspects do you dislike?

26. Do you consider your livelihood to be risky? Why/Why not?

Semi-structured interview guide for retailers

Interviewee details

(i) Interview location:
(ii) Role of interviewee:
(iii) Name:
(iv) Phone number:
(v) Gender:
(vi) Age:
(vii) Religion:
(viii) Ethnicity/caste (try to decipher from name and avoid asking it to the interviewee)
(ix) Highest level of education completed:
(x) Place of origin: (If different from interview location, when/why moved here)
(xi) Family details: (married/unmarried, children)

General questions about the market

1. What are this market's opening hours?

2. Are there any days during the week when business is particularly high or low?

3. Are there any months during the year when business is particularly high or low?
    a) If yes, which months? Why are these peak or low months?

4. Who owns and manages the market?
    a) Do they have an office in the market? Are they men/women?
    b) Do they belong to a particular caste/ethnic group?

5. Are there separate sanitary facilities for men and women in this market?

6. Is clean drinking water available in the market?

7. Is there a retailer's association/s in this market?
    a) If yes, what is the purpose of the association? What are its activities?
    b) Is membership compulsory for retailers in this market?
    c) How many members does the association have?
    d) What are the association rules?
    e) Who leads the association?

8. How many retailers are there in this market now?
    a) How many men/women?
    b) Do retailers operate informally at the edges/outside of the market?
    c) Which places do most retailers in this market originate from?
    d) What is the main ethnicity/religion/caste of retailers in this market?

9. How many other fish retail markets where dried are sold are there in this town/area?

10. What are the main dried/fermented fish species and products sold in this market?

Assets - who has what/who does what/what do they do with it?

11. Do you own this shop? If r
    a) If rented, from whom?
    b) How much rent do you pay?

12. Do you have your own space in the market?
    a) How is space allocated in the market? Who does that?
    b) Do you pay any rent or fee for your space? Provide details (for open street markets)
    c) Do you face challenges linked to space in the market? If yes, provide details.

13. Do you own any vehicles used for this business?
    - If yes, what type of vehicle?

14. How do you travel to the market?

Buy - who does what?

15. What are the most important species/products that you trade?
    a) What are the main locations that you source each of these species/products from?

16. Please describe a typical working day, starting from the time you get up, to the time you go to bed.

17. What type of suppliers do you usually procure products from (e.g. other traders in this market, processors etc)?
    a) How do you usually procure from these suppliers (e.g. buy at auction, make agreement over phone, advance contract)? Please provide details.

18. Does your supplier provide credit to you?
    a) If yes, what are the terms of the credit (e.g. amount, duration, interest, requirement to sell to you)? Provide more details.

Make - who does what/who gets what?

19. How do you store fish?
    a) How long does fish usually remain in your possession?
    b) How do you ensure that the fish you store remains in good condition?
    c) Do you experience any product losses during storage?
    d) Do you grade or clean the fish you store?
    e) Do you use any preservatives? If yes, where do you source it from?

20. Do you employ any workers to help you?
    a) If yes, how many male and female workers do you employ (permanent and temporary)?

b) What are their roles?
c) What proportion of your workers are family members (if any)?
d) Where do your workers originate from?
e) How do you recruit them?
f) Where do they live?
g) How are workers paid (e.g. daily, monthly, piece rate)?
h) How much are they paid?

Sell - who does what/who gets what?

21. What type of customers do you usually supply fish to (gender/ethnicity/ religion/caste)?

22. Do you receive credit from any of your suppliers?

23. What are the terms of the credit you receive (e.g. value, duration, interest)?

24. In case of conflict between you and other retailers based on business in the market, how is it resolved?

Perceptions about retailing in dried fish

25. What are the biggest challenges that you face when doing business?

26. Do you consider your livelihood to be risky? Why/Why not?
    a) Which aspects of your work do you like? Which aspects do you dislike?

Semi-structured interview guide for wholesalers

Interviewee details

(i) Interview location:
(ii) Role of interviewee:
(iii) Name:
(iv) Phone number:
(v) Gender:
(vi) Age:
(vii) Religion:
(viii) Ethnicity/caste (try to decipher from name and avoid asking it to the interviewee)
(ix) Highest level of education completed:
(x) Place of origin: (If different from interview location, when/why moved here)
(xi) Family details: (married/unmarried, children)

General questions about trade

1. Are there any months during the year when business is particularly high or low?
    a) If yes, which months?
    b) Why are these peak or low months?

2. Is there a wholesaler's association/s in this area?
    a) If yes, what is the purpose of the association?
    b) What are its activities?
    c) Is membership compulsory for traders?
    d) How many members does the association have?
    e) What are the association rules?
    f) Who leads the association?

3. Which places do most wholesalers in this region originate from?

4. What is main the ethnicity/religion of wholesalers in this region?

5. Are there fish wholesale markets where dried fish is sold in this town/area?

6. What are the main dried/fermented fish species and products that you sell?

Assets - who has what/who does what/what do they do with it?

7. Is your wholesale business a family business?
    a) If so, in what capacity are family members involved in the firm?
    b) Did/does any other family member have a similar trading business or business related to fishing?

8. Do you have any other businesses related to fishing (e.g. own boats, drying operations, retail shops)? If yes, provide details.

9. Do you have any businesses unrelated to fishing?
    a) If yes, what kind of business?

Buy - who does what?

10. What are the main locations that you source each the species/products you sell?

11. Is any of the fish you buy imported from abroad? Give details.

12. What type of suppliers do you usually procure these from (e.g. traders in this market, fish processors etc)?
    a) How do you usually procure from these suppliers (e.g. buy at auction, make agreement over phone, advance contract)? Provide details.

Make - who does what/who gets what?

13. How do you earn an income from trading – e.g. by buying and selling, or by taking a commission for organising sales?

14. How do you store fish?
    a) How long does fish usually remain in your possession?
    b) What is the maximum length of time?
    c) How do you ensure that the fish you store remains in good condition?
    d) Do you use any preservatives? If yes, where do you source it from?

15. Do you grade or clean the fish you store?

16. Do you employ workers to assist you?
    a) It yes, how many male and female workers do you employ (permanent and temporary)?
    b) What are their roles?
    c) How many of the workers in this business are family members (if any)?

17. Where do your workers originate from?
    a) How do you recruit them?
    b) Where do they live?
    c) How are workers paid (e.g. daily, monthly, piece rate)?
    d) How much are they paid?

    e) Do they receive wages in advance? How much, why?

18. Are you a member of any business association?
    a) If yes, which association?
    b) Does the association mediate disputes?

c) If yes, can you give an example?

19. Is membership in the association compulsory for all traders?
    a) How many men/women are in the association?
    b) Does the association/s have any political power or influence – describe.

Sell - who does what/who gets what?

20. What are the main locations (markets/areas) that you sell each of the main species/products to?
    a) Is any of the fish you sell exported? Give details.

21. What type of customers do you usually supply fish to (e.g. traders in other wholesale markets market, local retailers etc.)?
    a) Are they men/women?
    b) Where do the come from?
    c) Which caste/religion/ethnicity do they belong to?

22. How do you usually organise sales to customers (e.g. sell at auction, make agreement over phone, advance contract)?
    a) How many regular customers do you have?

23. Do you provide credit to any of your customers?
    a) If yes, what are the terms of the credit you provide (e.g. value, form, duration, interest, requirement to buy from you)?
    b) How do you ensure that customers who take credit repay their debts?

General perceptions

24. Have you ever received any received any support or help from government, NGOs or any other organisation? If yes, provide details

25. Are there any government regulations, policies, or activities that are helpful for your work? Or harmful for your work?

26. What are the biggest challenges that you face when doing business?

27. Do you consider your livelihood to be risky? Why/Why not?

28. Which aspects of your work do you like? Which aspects do you dislike?

Appendix C – NVivo codebook

Theme	Files	References
Fishing and Processing Segment		
Fishing and Processing Segment	13	36
Landing centres and fish drying areas	4	43
Fish products and processes	10	32
Types of fishworkers and roles	5	24
Ashandevi fishworkers	3	13
Khalaasis	4	9
Migrant workers – Nargol	5	21
Sorting & drying fishworkers	8	44
Vavatra workers	5	18
Trade Segment		
Wholesale trade segment	10	48
Retail trade (haat markets)	14	62
Veraval supply chain	4	11
Maroli supply chain	4	7
Barter system	7	12
Consumption		
Consumption of dried fish	10	20
Human rights		
Tenure rights over khar lands	4	6
Access to markets	10	29
Access to dispute resolution	12	16
Freedom of association	5	5
Right to health and safety	5	15
Access to sanitation and clean drinking water	13	19
Right to culturally appropriate food	13	19

Appendix D – Participant recruitment documents

RESEARCH PARTICIPANT RECRUITMENT SCRIPT AND
ORAL CONSENT DOCUMENTATION

Note: The actual conversation with the potential participant will take place in the local language – Gujarati. The recruitment script will be translated in Gujarati and conveyed in a simple colloquial way to the participants so that they can provide an informed consent based on understanding of their participation and their rights. This document will be solely used by the researcher to document participant's oral consent. The document will not be circulated.

Hello, I'm Mohammad Anas Khan, and I'm a graduate student at the University of Winnipeg in Canada. I am conducting a research project on dried fish in Gujarat, India. The research project is funded by the Social Science and Humanities Research Council of Canada, and the University of Winnipeg. I'm interested in understanding how dried fish is processed and traded and how it impacts people's lives. I'm reaching out to you because of your involvement in dried fish processing and trade. I'm looking for about 15 to 18 individuals to participate in the study.

The process will involve individual interviews of about 1.5 hours, where I'll be asking you questions about your work with dried fish. The interviews will be conducted at your convenient place and a mutually agreed upon time. The interviews will be semi-structured, meaning we'll have some prepared questions, but you're also welcome to share any other insights you think are relevant. I'll be taking notes during the interview, or if you agree, we can use a voice recording device.

I want to assure you that all your information will be kept confidential. Data will be stored in a secure password protected computer. Only myself, my supervisors, and the ethics review board of the university will have access to the data. Your name won't be used in any records unless you explicitly permit it and your identity will not be disclosed when we share the search results. The data will be stored securely in a protected drive for a period of 10 years. While all required steps will be taken secure data, there is a miniscule risk of breach which is reasonably unforeseeable.

I want to emphasize that that no information will be used in a way that could put you at risk. You are free to skip any questions that you're not comfortable with answering. Your comfort and safety are of utmost importance. While there may not be immediate direct benefits to you, the insights gathered from this research could potentially contribute to bringing forth the challenges you face in your daily work life.

After the study is complete, I'll be using the information for my Master's thesis, and there's a possibility of academic publications and presentations. If you're interested, I can also share a summary of the findings with you. If you need a paper document containing details of the research, its objectives, outcomes, and confidentiality measures – I can provide you with the same.

If you have any questions or concerns at any point or if you wish to withdraw from the study before April 2024, please feel free to reach out to me, my research supervisors, or the UHREB programs officer (contact information will be provided). Once you decide to withdraw, your details including your contact details, personal information and any other data collected from you will be deleted. Your participation is entirely voluntary, and you can choose to leave the study at any time without any negative consequences. Towards

the end of the interview, I will request you to verify and confirm the information you have provided. You also have the opportunity to receive an electronic copy of my thesis if you are interested.

Thank you for considering being a part of this research. If you agree to participate, please let me know, and we can arrange a suitable time for the interview. If you have any concerns or complaints during the research process, I'm here to address them. Your input is valuable, and I'm looking forward to your participation.

Thank you for your time!

Contact information of Principal Investigator, Supervisors, and the University of Winnipeg Ethics Program Officer

Principal Investigator: Mohammad Anas Shoebullah Khan
4M46A Environment and Society Collaborative Research Lab,
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515 Portage Ave, Winnipeg, MB
R3B 2E9, Canada
Tel: +91 9638807626 (India)
204-698-1253 (Canada)
Email address: khan-m26@webmail.uwinnipeg.ca

Research Supervisor: Dr Alan Diduck
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Tel: 204-786-9777
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Research Co-Supervisor: Dr Kirit Patel

Environmental Studies and Sciences,

Richardson Complex, University of Winnipeg,

515 Portage Ave, Winnipeg,

MB R3B 2E9, Canada

Tel: 204-952-2787

Email: k.patel@uwinnipeg.ca

Ethics Program Officer UHREB (University of Winnipeg)

Email: ethics@uwinnipeg.ca

Template for recording oral consent:

Oral consent by research participant was given on date _

Researcher's signature Place_____

RESEARCH PROJECT INFORMATION

THE UNIVERSITY OF WINNIPEG

FACULTY OF GRADUATE STUDIES

515 Portage Ave,

Winnipeg, R3B 2E9

Manitoba, Canada

Phone: 204.786.9797

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Title of Study: A human rights-based perspective on dried fish value chain in Gujarat, India

Principal Investigator: Mohammad Anas Shoebullah Khan

4M46A Environment and Society Collaborative Research Lab, Centennial Hall – University of Winnipeg, 515 Portage Ave, Winnipeg, MB R3B 2E9, Canada

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Ethics Program Officer UHREB (University of Winnipeg)

Email: ethics@uwinnipeg.ca

Purpose of this Study: The purpose of the proposed research is to map the dried fish value chain and to assess human rights in processing and trade of dried fish. The research will be conducted in the fish market, landing centres, and dried fish processing units in Valsad District, Gujarat. The specific objectives are (i) to map the dried fish value chain in the Valsad District through a human rights-based lens; (ii) to identify and document interactions among actors in the processing and trade segment of the value chain, focusing on power dynamics arising from gender, caste, economic, or other inequalities; and (iii) to assess the processing and trade segment of the value chain through a human rights-based perspective encompassing substantive and procedural human rights.

Study procedures: The method of data collection for this study will be individual semi-structured interviews and participant observation. Individual interviews will be semi-structured and answers will be recorded with hand-written notes, or using a voice recording equipment if the participant agrees. If chosen for the interview, participation in the study will be for an interview not exceeding 1.5 hour in length. The interview will be conducted in Gujarati.

Participants' Rights: Participants are free to withdraw from the study at any time until April 2024, and /or refrain from answering any questions they prefer to omit, without prejudice or consequence. There are no negative consequences with withdrawing. To withdraw, please contact me or my research supervisors by phone or email. If the participants have any concerns or complaints about this project, they may contact the researcher i.e. Principal Investigator, the research supervisors, or the University of Winnipeg's Research Implementation and Ethics Officer

Data Storage: All notes and transcripts will be stored in password-protected computer/digital files, and any hard copies will be stored in a locked cabinet. The information resulting from the interview will be kept confidential. No one other persons than the researcher, their supervisor, and auditors for the University's ethics review board will have access to the information provided by participants. The information will be stored for a period of 10 years.

Confidentiality: The researcher will do everything possible to keep participant's personal information confidential. Their name will not be used at all in the study records. A list of names and addresses of participants will be kept in a secure file so we can send participantsa summary of the results of the study or contact them for member checking. Participantshave the right to withdraw partial or full information provided by them before April 2024. They can contact the researcher or advisor to convey their withdrawal.

Expected Outcomes: A master's thesis, academic publications and presentations would be the result of this study. If the participant is interested in receiving a copy of the findings of theresearch, the researcher will make that available to them.

Feedback/Debriefing: Towards the end of each interview, the participant will be requested to verify and confirm the information they have provided, and they also have the opportunity to receive an electronic copy of the researcher's thesis if interested.

રિસર્ચ પ્રોજક્ટ માહિતી

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અભ્યાસનું શીર્ષક: ગુજરાતમાં સૂકી માછલીની વૅલ્યુ ચેન પર માનવ અધિકાર-આધારિત પરિપ્રેક્ષ્ય

મુખ્ય રિસર્ચર: મોહમ્મદ અનસ શોએબુલ્લા ખાન
4M46A એનવિરોનમેંત એન્ડ સોસાયટી કલાબોરતિવ રિસર્ચ લેબ, સેન્ટેનિયલ હૉલ - યુનિવર્સિટી ઓફ વિનીપેગ, MB R3B 2E9, કેનેડા
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એથિક્સ પ્રોગ્રામ ઓફિસર UHREB (વિનીપેગ યુનિવર્સિટી) ઇમેલ: ethics@uwinnipeg.ca

આ અભ્યાસનો હેતુ: સૂચિત અભ્યાસનો હેતુ સૂકી માછલીની વૅલ્યુ ચેન ને સમજવાનું છે અને સૂકી માછલીઓના પ્રોસેસિંગ અને વેપારમાં માનવ અધિકારોનું મૂલ્યાંકન કરવાનો છે. આ રિસર્ચ ગુજરાતના વલસાડ જિલ્લાના ફિશ માર્કેટ, બંદર અને સૂકી માછલીના કાંઠી એકમોમાં કરવામાં આવશે. આ અભ્યાસના ઉદ્દેશ્યો (i) માનવીય અધિકાર-આધારિત લેન્સ મારફતે વલસાડ જિલ્લામાં સૂકી માછલીની વૅલ્યુ ચેનનો નકશો આપવો; (ii) વૅલ્યુ ચેનના પ્રોસેસિંગ અને વેપારના સેગમેન્ટમાં સંકળાયેલા લોકો વચ્ચે વ્યવહાર અને તેમાં જાતિ, જ્ઞાતિ, આર્થિક કે અન્ય અસમાનતાઓ પર ધ્યાન કેન્દ્રિત કરવું; અને (iii) માનવીય અધિકારો-આધારિત પ્રયોજક દ્વારા વૅલ્યુ ચેનના પ્રોસેસિંગ અને વેપાર સેગમેન્ટનું મૂલ્યાંકન કરવું;

અભ્યાસ પ્રક્રિયાઓ: આ અભ્યાસ માટે ડેટા એકત્ર કરવાની પદ્ધતિ વ્યક્તિગત સેમી સ્ટ્રક્ચર્ડ ઇન્ટરવ્યુ અને સહભાગી અવલોકન હશે. વ્યક્તિગત ઇન્ટરવ્યુ સેમી સ્ટ્રક્ચર્ડ હશે અને જવાબો હાથથી લખાયેલી નોટ્સ સાથે રેકોર્ડ કરવામાં આવશે, અથવા જો સહભાગી સંમત થાય તો અવાજ રેકોર્ડિંગ સાધનોનો ઉપયોગ કરવામાં આવશે. જો ઇન્ટરવ્યુ માટે પસંદગી કરવામાં આવે તો, અભ્યાસમાં ભાગ લેવા માટે 1.5 કલાકનું ઇન્ટરવ્યુ લેવામાં આવશે. આ ઇન્ટરવ્યુ ગુજરાતી ભાષામાં યોજાશે.

પ્રતિભાગિઓ ના અધિકારો: પ્રતિભાગીઓ એપ્રિલ 2024 સુધી કોઈપણ સમયે અભ્યાસમાંથી નીકળી જવા માટે મુક્ત છે અને/અથવા કોઈપણ પ્રશ્નોના જવાબ આપવા માટે તેઓ કોઈપણ પ્રકારના પૂર્વગ્રહ વગર અથવા પરિણામ વિના કાઢી શકે છે. છૂટા પડવાના નકારાત્મક પરિણામો નથી. આ અભ્યાસમાંથી પોતાનું નામ પાછું ખેંચવા માટે, કૃપા કરીને ફોન અથવા ઇમેઇલ દ્વારા મને અથવા મારા રિસર્ચ સુપરવાઇઝરનો સંપર્ક કરો. જો સહભાગીઓને આ પ્રોજેક્ટ અંગે કોઈ ચિંતા કે ફરિયાદો હોય, તો તેઓ મુખ્ય રિસર્ચર, રિસર્ચ સુપરવાઇઝર અથવા યુનિવર્સિટીના એથિક્સ પ્રોગ્રામ ઓફિસર સંપર્ક કરી શકે.

માહિતી સંગ્રહ: બધી નોંધો અને ટ્રાંસ્ક્રિપ્ટ પાસવર્ડ-સુરક્ષિત કમ્પ્યુટર/ડિજિટલ ફાઇલમાં સંગ્રહિત કરવામાં આવશે, અને તાળુ લગાવેલી કેબિનેટમાં બધી હાર્ડ કોપીઓ સંગ્રહિત કરવામાં આવશે. આ ઈન્ટરવ્યૂના પરિણામ વિશે માહિતી ગુપ્ત રાખવામાં આવશે. રિસર્ચર, તેમના સુપરવાઇઝર અને યુનિવર્સિટી એથિક્સ સમીક્ષા બોર્ડના ઓડિટર્સ સિવાયની કોઈ પણ વ્યક્તિ સહભાગીઓ દ્વારા પૂરી પાડવામાં આવેલી માહિતી મેળવી શકશે નહીં. આ માહિતી 10 વર્ષ માટે સંગ્રહિત કરવામાં આવશે.

ગોપનીયતા: રિસર્ચર સહભાગીઓની વ્યક્તિગત માહિતી ગુપ્ત રાખવા માટે શક્ય તમામ પ્રયાસો કરશે. તેમના નામનો ઉપયોગ સ્ટડીમાં પણ કરવામાં આવશે નહીં. સહભાગીઓનાં નામો અને સરનામાંઓની યાદી સુરક્ષિત ફાઇલમાં રાખવામાં આવશે, તેથી આપણે સહભાગીઓને અભ્યાસના પરિણામોનો સારાંશ મોકલી શકીએ છીએ અથવા સભ્ય ચકાસણી માટે સંપર્ક કરી શકીએ છીએ.

અપેક્ષિત પરિણામો: માસ્ટર થિસીસ, શૈક્ષણિક પ્રકાશનો અને રજૂઆત આ અભ્યાસનું પરિણામ હશે. જો સહભાગી નિષ્કર્ષની નકલ પ્રાપ્ત કરવામાં રસ ધરાવે છે, તો સંશોધક તે તેમને ઉપલબ્ધ કરાવશે.

ફિડબેક/સંક્ષિપ્ત: દરેક ઇન્ટરવ્યુના અંતે, સહભાગીને વિનંતી કરવામાં આવશે કે તેઓ જે માહિતી પૂરી પાડવામાં આવી છે તેની ખરાઈ કરે અને તેમને રસ હોય તો રિસર્ચ ના પરિણામની ઇલેક્ટ્રોનિક નકલ પ્રાપ્ત કરવાની તક પણ મળે છે.