THE CIRCULATION AND POLITICS OF KNOWLEDGE: CLIMATE CHANGE AND LIVELIHOOD STRUGGLES IN A COASTAL FISHING COMMUNITY

SUNIL D. SANTHA Tata Institute of Social Sciences (India) sunilds@tiss.edu

Abstract: Exploring the role of knowledge circulation in everyday life could provide interesting insights on how different forms of knowledge shapes the lifeworld and subjective realities of people. In the context of everyday livelihood struggles of a coastal fishing community, this paper examines the nature of knowledge circulation at the local level and its micropolitics in wider social arenas. Exploring the nature of local knowledge systems prevalent among small-scale fishworkers, this paper further examines the politics of knowledge, when it circulates from the local social worlds to their solidarity networks. This paper is based on a qualitative study conducted in a coastal fishing village at Munambam situated along the Cochin Estuary in Kerala, India. The study was conducted in two phases. In the first phase of the study, data was collected through in-depth interviews by using a semi-structured interview schedule. In the second phase, a content analysis of media reports was carried out with an aim to analyse the discourses prevalent among diverse solidarity networks of fishworkers. The findings of this paper show that local knowledge is situated and intersectional. Further, the everyday lives of fishworkers are shaped by different knowledge claims that also signify their everyday struggles to access basic livelihood resources. It is amidst these diverse knowledge claims that one needs to critically examine the narratives of modernisation, climate change and the role of solidarity networks among fishworkers.

Keywords: fishworkers, climate change, knowledge, solidarity networks, livelihoods.

INTRODUCTION

Everydayness could be understood as a "lived process of routinisation that all actors experience" (Felski 2000: 95). The circulation of knowledge in the form of concepts, ideas or worldviews from one place to another is part of our daily life and is also an enabler for intellectual practice (Said 1983). Exploring the role of knowledge circulation in everyday life

ISSN 2283-7949 GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.2020.3.6 Published online by "Globus et Locus" at https://glocalismjournal.org



could provide interesting insights on how different forms of knowledge shapes the lifeworld and subjective realties of people. Knowledge, as such can be understood as "a generalised capacity to act" on the world, and enables actors to create, sustain or change their existential conditions in everyday life (Adolf, Stehr 2017:18). Knowledge exists in a variety of forms such as pure/applied, abstract/concrete, explicit/implicit, learned/popular, local/universal and gendered (Burke 2016). These knowledge forms are dynamic and entangled with power structures that are rooted in specific institutions and social processes (Raj 2007; Santha 2008). Certain knowledge forms will be a part of what we take for granted in our daily lives (Hammar 2018) and could be at the origin of "long transaction chains that can end in simple expulsions" (Sassen 2014b: 1). However, in a world risk society, the livelihood practices of several marginalised and poor communities are profoundly affected and controlled by certain dominating forms of knowledge.

The production and circulation of specific knowledge forms are shaped by certain social and historical contexts (Raj 2007; Lässig 2016), and extends to all routine activities associated with people's everyday practices (Adolf, Stehr 2017). In the context of everyday livelihood struggles of a coastal fishing community, this paper examines the nature of knowledge circulation at the local level and its micropolitics in wider social arenas. To begin with, this paper examines the nature of local knowledge systems prevalent among the fishing community and its situatedness-cum-variations in the context of climate change and everyday livelihood practices. It further examines the politics of knowledge, as it circulates from the local social worlds to wider social arenas (and vice versa) consisting of fishworkers' solidarity networks. An underlying assumption of this paper is that the localised construction of knowledge is never local. Though the livelihood practices of fishworkers are embedded in their routines and immediate social-ecological system, different forms of knowledge relations recursively shape their social world and subjective realities.

This paper is based on a qualitative study conducted in a coastal fishing village at Munambam situated along the Cochin

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org



Estuary in Kerala. The Cochin estuary is a micro-tidal estuarine system covering a total area of 300 square kilometres. The Munambam fishing village is situated at the northern inlet of the estuary and has a coastal length of two kilometres. The village is surrounded by the Arabian sea at the west and the Perivar river in the east. The Perivar river discharges freshwater into the estuarine system, which flows out into the Arabian Sea. In the year 2004, interfacing with the high tides, the tsunami waves had entered the estuary upstream up to 500 metres causing flooding up to a level of 2.5 metres, and extensively damaged houses located in the eastern part of the village (Kurian 2006). Studies have also shown that over the years, tidal friction has resulted in flooding events at the northern inlet of the Cochin Estuary, namely where the Munambam fishing village is situated (Vinita 2015). Siltation caused due to deforestation and agricultural activities in the uplands, anthropogenic activities along the coast such as construction of breakwaters, seawalls, groins, mining activities, dredged spoil disposal and erosion of soil in the riverbanks have resulted in deposition at the estuarine mouth causing navigation challenges and flooding events in Munambam (Korakandy 2000; Sajinkumar 2020; Selvan 2020). This has increased considerably in the last two decades (Nair 2018). Referring to the works of Kumar (2010), Nayak (2013) notes that in a span of hundred years, the coast between Munambam and Nayarambalam has suffered a net loss of 4.675 sq. km. due to coastal submergence and other factors. In recent years, climate change is also being recognised as one of the critical issues impacting the livelihood security of small-scale fishworkers in the region.

The village is heterogenous in terms of socio-economic indicators, namely in terms of religion, gender and caste compositions. There are approximately 400 fishing households. The nature of artisanal fisheries in this region began to change by the early 1960s, when mechanised fishing gained popularity among fishworkers. Earlier artisanal fishworkers in the village used non-motorised country fishing boats and ring seine nets to capture fish. Today, they are mostly involved in fishing using small-scale motorised crafts and mechanised gears. Some of them are also involved in lift net or Chinese net fishery. These Chinese



fishing nets and associated practices also have their own historical and cultural significance and is promoted as a popular tourist attraction. Only a few households in this village own big mechanised trawlers. These big boats employ around 12-15 migrant workers to execute the fishing operations at sea. Munambam has a fishing harbour, which today has the capacity to anchor more than 400 mechanised trawlers. During the peak seasons, it acts as a source of livelihood for more than 4000 fishworkers, and conducts daily businesses worth of approximately three crores. Local fishermen claim that about 90 per cent of labourers who work in the harbour are migrant workers from other states of India. The fish sold at Munambam harbour is also well-known for its freshness and therefore cater to the needs of several industries dealing with value added products such as fish oil and poultry feed. Branded as Munambam fish, the fish reaching this harbour is also exported to different countries across the world. Thus, Munambam in terms of its spatial location is also at the interface of diverse local and global forces shaping the social-ecological system and livelihood practices of small-scale fishworkers in the region.

CIRCULATION OF KNOWLEDGE AND THE POLITICS OF EVERYDAY LIFE

The circulation of knowledge as a perspective assumes that knowledge emerges out of contested and negotiated spaces. In everyday life, different knowledge claims could interact with each other (Heidenblad 2018). Different forms of knowledge circulate in parallel, and partly interact or counteract with each other (Ahlbäck 2018). However, in a neoliberal and globalised world, such knowledge claims can become more and more ambiguous, where "stable meanings can become highly unstable" (Sassen 2014a: 3). Knowledge production and its circulation thus happen in a dynamic interactive environment and not always in closed or restricted communication spaces (Keim 2014). Aspects such as situatedness, socio-cultural contexts, historicity, institutional networks and power could affect the production and circulation of

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

knowledge (Raj 2007; Keim 2016; Connell 2007). One needs to therefore recognise the multi-layered, complex and conflictual processes that are embedded within; and such an understanding could also caution us from moving towards any form of homogenisation and universalisation of knowledge (Neumann, Nünning 2012). Connell (2007) observes that the theories of the metropole that are largely shaped by the positivist forms of knowledge and development disregard indigenous knowledge systems at the periphery. To counter the circulation and imposition of such dominant knowledge frames, Connell advocates to shift our focus on the micropolitics where situatedness, power, autonomy and fluidity of local popular culture and politics of everyday life in the peripheries gain significance (ibid.). In this regard, Connell advocates for theories that are rooted to the ground in which the theorists are situated, where the local is a key site of knowledge or the only legitimate site of politics (*ibid.*). Such an approach would help generalisations to emerge from the specific social contexts to which they are rooted and shaped. The data and theory thus generated would be capable of mutually critiquing one another as well as illuminating a particular situation in its concreteness (*ibid.*).

The concept of circulation also acts as a useful analytical tool for studying different forms of power relations, and specifically the processes of "encounter, power and resistance, negotiations and reconfigurations that occur across cross-cultural interactions" (Raj 2013: 343). Both power and domination are constituent elements in the analysis of circulation of knowledge (Sörlin, Vessuri 2007). For, knowledge circulation is also about different actors eventually gaining hegemony over the other (Grundmann 2007). It is power that enables the circulation of a narrative or blocking its development and other narratives as well (Said 1994). The dominant knowledge that is under circulation usually reflect the perspectives, taste and worldview of privileged actors and structures in power and disregard the knowledge systems of the marginalised sections in the society (Nieto 2010; Marglin, Marglin 1990). Agreeing to or accepting a specific knowledge does not mean that the actors have agreed upon the content but adhere to certain basic rules of the game



regarding its usage or conceptualisation (Bal 2002). Gaining insights on specific structures of difference and transitions that enable or block the development of specific narratives and analysing the political consequences of these epistemic claims on people's everyday life thus becomes crucial (Neumann, Nünning 2012; Hammar 2018).

In today's globalised economy, the divide between those who have access to resources and services, and those who are denied these have widened and almost become irreversible (Sassen 2014b). Climate change as a narrative therefore could evoke multiple meanings among diverse intersectional actors, as these actors located across different social positions could view the events, experiences and transitions quite differently. It would thus become important to explore whose knowledge counts; and critically question what passes as knowledge by inquiring whose knowledge is represented, whose perspectives are absent, and who benefits from such omissions and selections (Banks 2008; Foster 2012). An empirical analysis on the circulation of knowledge would therefore require the analysis of the politics of knowledge that shape diverse forms of knowing and knowledge claims (Adolf, Stehr 2017). It is via exploring these processes of knowledge construction and power struggles in everyday practice, we could understand the nature of actors' agency, and how some actors are privileged while others are being excluded in risk reduction or the adaptation processes (Pettenger 2007). A circulation of knowledge perspective would thus help us to analyse how different actors identify and frame risk in particular contexts, and how the politics of knowledge surrounding these processes are organised. In the context of climate change, it is important to examine what aspects of knowledge does become meaningful in actors' everyday lives? And how certain forms of knowledge is selected, filtered and applied to deal with risk? Similar to the approach followed by Hillmann and Spaan (2017), this paper also explores how diverse constellation of actors in the solidarity network reconnect or side-line local realities associated with climate change to larger development dynamics. Such a perspective of knowledge would also help us to understand whether today's complex problems such as climate change are

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gippi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

extreme versions of old troubles or reflections of new or emerging challenges (Sassen 2014b).

METHODOLOGY

This paper is part of a qualitative research project that has been studying local knowledge systems among coastal fishing communities in India. The first phase of this research titled "Local knowledge and early warning systems to coastal hazards" was conducted during 2012-14 and was funded by the Indian Council of Social Science Research (ICSSR). During this phase, a total of 400 households from 20 fishing villages across five coastal districts of Kerala were covered for the study. The village Munambam based on which the present paper is developed is one among the 20 fishing villages that were studied. A total of 28 interviews were conducted in Munambam and the section on "local knowledge, climate change and livelihood struggles" of this paper has been analysed and written solely based on this data. The focus of the first phase was largely towards unearthing the characteristics and dynamics of local knowledge as a specific category. The analytical journey that followed this phase is similar to Sassen's (2014a: 4) reflection on her work,

My work as a social scientist has not been replication, to test whether something is correct or not, to test on the wrinkles, accepting the foundational elements, but it has been to want to discover what has been left out.

Thus, while analysing local knowledge, it also led to a gradual discovery that "circulation of knowledge and its politics in the wider social arena and among solidarity networks in particular" was left out in the first phase of the study. This realisation led to the second phase of the study (from 2016 to 2020) that focused on the "role of solidarity networks and the politics of knowledge" among fishworkers. The second phase of the study was self-funded, and resources were mobilised

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.20200.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org



with the support from the Centre for Livelihoods and Social Innovation at the Tata Institute of Social Sciences, Mumbai.

In the first phase of the study (2012-2014), data was collected through in-depth interviews by using a semi-structured interview schedule. In the second phase (2016-2020), a content analysis of media reports was carried out with an aim to analyse the discourses prevalent among diverse solidarity networks of fishworkers. During the first phase, the research participants from Munambam included 20 men and 8 women who were all actively involved in small-scale fisheries. Most of the men had had experience with different types of fisheries namely, gill net and ring seine fishery, lift net fishery and small-scale mechanised trawlers. As per the seasonal changes these men move from one fishery to another, and correspondingly shift their fishing sites from the estuarine and backwater regions to the inshore seas and if need arises to the deep sea. The women were mainly involved with picking clams and shellfish. Some of them also used to sell fish. These participants were purposively selected, as they were active fishworkers, were aware of their oral histories and possessed rich local knowledge of their social-ecological system. Preliminary access to these respondents were largely possible through the wardlevel elected representatives at the local governance institutions such as the Gram Panchayat. Subsequently snowball sampling was applied to identify the respondents. The principle of saturation pertaining to new information, themes and key actors were applied while deciding on the size of the sample. The qualitative data thus collected was transcribed and thematically organised for analysis. Certain questions that guided this phase of analysis were: a) What are the livelihood risks and uncertainties that fishworkers face in their everyday life? b) How has climate change related risks contributed to these livelihood uncertainties? c) How are knowledge pertaining to livelihood practices located among fishworkers and how does it differ with respect to intersectionality such as gender and class? (As Ley – 2003 – mentions that it is the differences that are the normative part of everyday life and as social scientists, exploring these differences could be the beginning point for us to understand and cope with it).

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

In the second phase of this research, with the aim of analysing the circulation of knowledge to wider social arenas, a content analysis was carried out based on the media reports pertaining to the action strategies of diverse solidarity networks of fishworkers. These solidarity networks included the Kerala Swatantra Matsyathozhilali Federation (KSMTF, or the Kerala Independent Fishworkers Federation), National Fishworkers Forum (NFF), World Forum of Fisher Peoples (WFFP), Maharashtra Machimar Kriti Samiti (MMKS), Association of Deep Sea Going Artisanal Fishermen (ADSGAF), Kerala Boat Operator's Association (KBOA), Munambam Fishing Boat Owners' Association, and the Munambam Harbour Management Society. These solidarity networks have a wider reach and often represent the issues of fishworkers at a regional, state, national and international levels. Certain questions that guided such an analysis were: a) What is the nature of knowledge circulation and its micropolitics at the local community level and how does it vary at the level of solidarity networks? And why? b) What could be the knowledge outcomes of such processes?

LOCAL KNOWLEDGE, CLIMATE CHANGE AND LIVELIHOOD STRUGGLES

The livelihood practices of coastal small-scale fishworkers are part of a complex social-ecological system. They have been surviving in their occupation and adapting to the transitions in the external environment by closely observing, forecasting, and experiencing the seasonal changes in different spheres of their coastal ecological system. According to them, any extreme hazard event happening in the climatic, geological, and oceanic realms have to be understood as highly interconnected events that has the capacity to severely impact their social-ecological system. Be it the arrival of the monsoons, a cyclonic storm, a sea surge or coastal erosion, they associate all these changes to a comprehensive natural phenomenon called "ko-lu". They believe that it is the kolu that ensures the balance and health of the coastal and marine ecosystems. In this re-

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.20200.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

gard, the practice of forecasting *kolu* is associated with the change of seasons and interweaved into their local knowledge systems. They closely observe the changes happening to nature, monitor cloud movements, wind direction, water flow, or behaviour of marine animals and validate their inferences with proverbs, local legends and other elements that are part of their oral history (Santha 2104a, 2014b, 2014c).

Local knowledge among fishworkers is however, situated and varied due to diverse intersectional factors such as class and gender differences and type of fisheries they are regularly involved with. Due to same reason, it will not serve any meaning if we try to aggregate, universalise or homogenise local knowledge. For instance, one of the common predictors of *kolu* that the participants of this study referred to were related to the abundant availability of specific fish varieties in their catch. An elderly fisherman shared his understanding as follows,

for every weather or climatic condition, we get different fish varieties. We understand these through experiences. Based on atmospheric changes and the corresponding disturbances in the sea bed, the type of fish that we get abundantly in our daily catch will also change. We make note of these changes through proper observations

The fishermen working in small-scale mechanised trawlers refer to the abundant availability of fish varieties such as *Thirandi* (Sting Ray), *Vatta* (Trevally) and *Koori* (Cat Fish) as predictors of *kolu*. Their understanding was that these species come to the surface due to the disturbance in the sea bed. However, some select elderly fishermen among them also cautioned that we cannot generalise this understanding as there are different varieties of *Thirandi*. In the words of an elderly fisherman who was active in mechanised trawling said,

when we get those fishes such as *Thirandi* in abundance, we can assume that the sea is going to become turbulent. The *kolu* will set in two to three days' time. During the month of *Mithunam* [corresponds to the English months of mid-July] and *Karkidakam* [corresponds to the English months of mid-July to mid-July

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

August], the sea bed will be disturbed and all these fishes will come out. If we get the *Padaval Thirandi*, then we know that the sea is going to turn turbulent. On the other hand, if we get *Kakka Thirandi*, we cannot infer so. This is because *Kakka Thirandi* is a commonly available fish variety.

Quite differently, the motorised and country boat fishermen who usually are involved in onshore fisheries claim that the abundant availability of fish varieties such as *Chaala* (Sardine), *Ayala* (Mackerel), *Vazhikaatti kanambu* (Mullet), and *Kora meen* (Salmon) indicates the arrival of *kolu*. However, men and women involved in estuarine fisheries refer to the availability of prawns, crabs, conches and other forms of shell fish in abundance as a predictor of *kolu*. A woman clam picker used a metaphor to elaborate her understanding as follows,

when the *pola vellam* arrives, the fishes also come to the surface of water. They will behave as if they are in a drunken state. The water will be yellowish and red in colour. Our ancestors used to say that the *pola vellam* arrives when our mother sea has got her menstrual periods. Only if it happens like this, the sea will have enough of fish.

Yet another woman substantiated this understanding by commenting that

during high tide these fishes escape from the sea to the river bed. And when the water is murkier like this, there will be *kolu* – wind and sea surge.

However, there was one participant who disagreed with such observations. He was a young man in his late thirties who was working as a labourer in one of the big mechanised trawlers and was involved in deep sea fishing. In his own words,

actually, during turbulent times, we do not get any catch. We remain job less. People used to say about such relationships between fish availability and *kolu*. But I have never seen such things happening when I go to sea for fishing.

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.20200, 3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

The small-scale motorised and country boat fishermen also shared their strategy of predicting a *kolu* by observing the cycle of waves hitting the shore. According to them,

we usually count the waves, so as to push our boat into the sea. Sometimes a wave cycle will consist of three, five, seven or fourteen waves [...]. If the sea is calm, the number of waves will also be less. Sometimes it will be five waves or sometimes seven waves. Usually during the monsoon season, the seventh strong wave would end one particular wave cycle. After that the sea will be calm for some time. However, if the next wave recurs immediately, then we will not set out for work. The *kolu* will be severe and there will be sea surge [...]. It is the South West wind (*thenmaaru*) that creates such a wave cycle. The fourteenth wave will be a very strong wave. After the fourteenth one, the sea will be calm for a few moments [...]. In contrast, if the wind is from the North, then the number of waves will be more, but weaker in strength.

None among the women participants were familiar with such a knowledge system. Instead, women were more observant about the behaviour of marine animals residing in the estuarine habitat. For example, an elderly woman recollected,

if a ring forms around the moon, we can understand that the turtle is about to lay eggs. All the marine animals near the estuary will lay eggs along the shore during such days [...]. On the other hand, when there is a ring around the sun and if it corresponds to a full moon night, there will be sea surge. If the surge does not happen during the full moon day, it will occur on the eighth day.

Women participants also provided their understanding on the behaviour of birds and their association to *kolu*. According to them,

the birds come to know about the changes in nature first. Some birds fly together in a particular direction [...]. When the migratory *kolu kaaka/pongathi* [a kind of white migratory bird resembling a sea crow] arrives in our shore from the sea, we know that the season of *kolu* is about to begin.

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gippi.2020,3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

Nevertheless, the participants of this study believe that their social-ecological systems are undergoing drastic transitions and their livelihood security is in peril. All the participants of my study mentioned that they are now frequently witnessing coastal erosion/deposition, coastal flooding, strong and unpredictable tidal waves, severe sea surge, and sea level rise. Further, in recent years, it has become difficult for them to forecast *kolu* based on observing the change in seasons and related predictors. They believe that today the risk emerging out of *kolu* related events, largely due to the unpredictability of the climate has become part of their everyday lives. Other studies in the region have also mentioned about how fisherfolk are constrained to apply their experiential knowledge to find rich fishing grounds (Sundar 2018). A fisherman commented,

earlier we were able to predict accurately the availability of specific fish varieties during particular seasons. Today, these situations are changing [...] largely due to the changes in climatic conditions. These days we cannot forecast the availability of fish with our local knowledge alone. Instead we have to go farther deep in search of the fish. Consequently, the hard labour and investments in resources has increased, but the returns remain low and often unpredictable.

There are similar studies across the world depicting the plight of fishworkers who are forced to migrate to farther fishing grounds in search of fish (Hillmann, Spaan 2017; Brewer 2014). It is true that the expert fishermen know how to predict fish yield using their local knowledge systems. Nevertheless, fishermen observe that climate change and other anthropogenic activities are bringing about changes in the migratory and breeding behaviour of fish. And this has been affecting the biodiversity and livelihood security of the region. All my research participants did observe that the changing climate has made them more vulnerable to livelihood shocks and knowledge uncertainties. In the words of a fisherman,

turbulent seas and surges were always part of our everyday life. At sea they were always so. But, in the recent years they are felt closer to our land [...]. In the last decade, there were many occasions [...] even during the active fishing seasons, we were unable to go for

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gicpi.20200.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

work due to the storms and surges. We cannot even push our boats in to the sea against the recurrent strong waves hitting the shore. Due to the same reason, we had to borrow money and many among us are unable to repay it. Some among us had mortgaged our homes, and are now facing the problems of liquidation.

Yet another fisherman who was present during the discussion added to this narrative.

with everyday risks, there are everyday struggles as well [...] such as indebtedness and homelessness.

Related studies show that the average outstanding debt per indebted household in Munambam was approximately fifty-seven thousand Indian rupees (Sathiadhas, Narayanakumar 2002). The changes in climate and the knowledge uncertainties emerging at the local have its own implications on fisherfolk's livelihood security. In the words of an elderly woman clam picker,

my livelihood is dependent on the estuary and the clams. When the sea is turbulent, I cannot go for picking clams or other shellfish. My children are also unable to venture out into the sea. My fellow fisherwomen have lost clams worth two lakh rupees due to sea surge.

The loss of livelihood assets due to extreme hazard events is thus a key threat to the survival of small-scale fishworkers. Most of my research participants have said that they had lost their craft and gears including lift nets due to bad weather events.

Climate change can induce similar environmental disruptions across regions. However, depending on the regional economic and socio-cultural context, it could impact the everyday life and livelihood practices of people in these regions in entirely different ways (Hillmann, Spaan, 2017). It is also important to note that from the perspective of knowledge circulation there are variations in how different community actors conceptualise and articulate both risk and loss. For example, the women's articulation of sea surge and loss of livelihood assets also signify the patriarchal and class-based structures that

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org



define the nature of risk, its impact and loss. Consequently, the experiential knowing of risk and loss of clams as an asset is restricted within a social circle whose livelihood practices are routinised by the occupation of clam picking and is largely gendered. However, what is counted as "impact and loss" due to the hazard event in formal records is largely shaped by how the boat owners of mechanised trawlers articulate risk and its impact, and how the state officials define "loss" and "compensation". Thus, the knowledge of women clam pickers is not only restricted in its circulation outward by patriarchal and class boundaries, but also by the larger political economy that shapes resource use and governance.

In a similar vein, small-scale fishworkers who use country boats or small motorized boats for fishing articulate risk and its impacts differently. In the words of one such fisherman,

our traditional fishing grounds or *padu* has changed due to climate change and other oceanic disturbances. Due to this, we have to face severe hardships as well as loss. Due to strong waves near our coast, we have to take new routes to the sea, farther away from our village [...] and we have to go in search of newer fishing grounds [...]. This results in additional expenses on fuel and other related items as well as conflicts with other fishworkers.

In a larger political economy of resource use and governance, the voices of these small-scale fishermen are seldom recognised by the powerful players. The articulation by small-scale fishermen about climate change and risk is also an expression of their everyday livelihood struggles, which is reflected in their use of certain reiterating concepts such as manual labour, rising inflation, livelihood insecurities etc. Furthermore, when the nature of risks become more and more unpredictable, it could also result in anxieties, knowledge blocks, and conflicts. The usual narrative of courage and risk taking (for which traditional fishworkers are popularly known for) transforms to that of fear, envy or anxiety.

One needs to be aware that within the same socialecological world, the knowledge frames promoted by different actors are never homogenous. They are situated, varied and

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.20200.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

intersectional. These are evident from the different knowledge claims given below. In the words of a country boat fisherman,

when there is sea surge, we cannot anchor our boats in the sea. Neither could we place our nets. On the other hand, the fishermen who fish using Chinese nets do not have to worry about anything. They remain safely in their houses and enjoy their profits.

The researcher also came across a Chinese net owner who was earlier involved in gill net fishery. When he lost his mechanised boat in the surge, he shifted to a seemingly more secure shore operated lift net fishery. But it is also important here to reflect upon who has the capability to shift to a capital intense fishery such as the lift net fishery? The man should have had adequate capital to launch and sustain a lift-net fishery and also possess adequate social and political capital to influence the bureaucracy or other regulatory agencies to get appropriate licenses to operate the lift net. However, a former Chinese net (shore operated lift net) owner rejected such arguments. He narrated his plight as follows,

earlier, I used to sail into the ocean to capture fish. As it was more hazard prone, I had shifted to Chinese net fishing at the lake. Moreover, the sea job was not profitable. However, with my fish catch from lift net declining accompanied by a severe scarcity of labour, I had to sell my own Chinese net. Now, I work under another person.

In the above-mentioned context, one could see that the less privileged group of fishermen believe that shifting to a lift net fishery is a trait of the upper-class fishermen. And the former believe that the latter do not have to face any risk like they do and can earn money by just sitting at home. However, the narratives of the lift net owners tell a different story. According to them, there are different threats near the land than the sea. The labour is very costly and many among them had to sell their lift nets, as they were unable to meet the labour costs. And thus, one could see that they themselves had become labourers. Discourses among fishworkers at the local, though situated and intersectional are thus largely about cli-

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gicpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

mate change and its impact on their livelihood practices, which also reflect the everyday class struggles negotiating access to assets. Multiple knowledge claims emerge, where the dominant players who have resources and occupy positions of privilege acquire new forms of knowledge, capital and are able to diversify their livelihoods. In contrast, the individual knowledge claims of the less privileged actors often go unheard or unrecognised; and their capabilities to diversify their livelihoods are also minimal.

When a fisherman owns his own boat and gear, he has control over his knowledge and behaviour. And he has freedom to make decisions on his work. The more his knowledge and skills pertaining to the fishery is, the greater he is recognised as an expert fisherman. This identity as an expert fisherman and the autonomy that the livelihood guarantees them are very important for fishworkers. However, climate change and extreme hazard events can create new politics of knowledge among fishworkers themselves. In a complex resource management regime such as marine fisheries, such class hierarchies are highly situated and dynamic. Ownership and control over resources can collapse or become scarce due to various risks and shocks. For example, epidemic outbreaks in shrimps or fish can affect the lift net fishery. In a similar vein, labour shortage and high cost of labour can affect the smallscale mechanised trawling sector. The glocal market prices pertaining to fish trade are very dynamic, and could fuel extensive losses among those fishworkers who necessarily do not have the business acumen to switch resources and negotiate strategically with competing actors.

Climate change and extreme hazard events can also facilitate new types of knowledge circulation. It can disrupt existing forms of knowledge circulation and create new ones. The State itself acts an important actor promoting specific kinds of knowledge. I have observed from my interactions with the State actors that their knowledge systems about risk are more formal, impersonal and hierarchical. Moreover, the State actors use different concepts to forecast risk. The naming of specific cyclones, strength and intensity of rain, wind speed and height of waves with a warning that "fish-workers should"



avoid venturing out into the sea" form the key concepts of their risk communication. Gradually, these terminologies also become part of the local, whereby fisherfolk recollect the memories of specific storms to their official names. Earlier the fisherfolk used to recollect the occurrence of extreme hazard events like a cyclone with reference to a particular year or a place where the event had the landfall (such as Orissa super cyclone). These days they refer to such events by their formal names like Ayla, Okhi etc. The transition in the conceptualisation of climatic events from the notion of kolu to the universal and scientific nomenclatures attributed to extreme hazard events is in itself indicative of the circulation of knowledge in specific ways, i.e. from the global to the local. On the other hand, the hazards also create a kind of dependent relationships between the bureaucrats and the fishworkers. The politics of knowledge here is about who controls whom through knowledge of procedures and regulations. The fishworkers would be in dire need of financial compensations and relief to re-start their fisheries-based livelihoods. However, they may not have any control for ensuring that their claims are well considered, if they proceed with their request as an individual fishworker. It is then left to the discretion of the bureaucrats and their formal language they rely on to assess the nature of impact and loss. How do fishworkers then negotiate with these power structures? It is through their solidarity networks that they are able to claim their rights to the sea, their livelihood spaces, and the legitimation of their knowledge systems

SOLIDARITY NETWORKS AND THE POLITICS OF KNOWLEDGE

The localised construction of knowledge is never local. Instead, these are multi-layered, dynamic processes embedded within the politics of the glocal. The fishworkers' narratives about their everyday life are closely connected to their identity, resource claims and livelihood security, which are often portrayed as concerns arising out of localised class struggles. The discourse of climate change is an important element in

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gippi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

these narratives and they do accept that climate change induced risks and uncertainties have become part of their everyday life. One could gain an impression from the above narratives and knowledge claims that climate change is real and has been negatively impacting the lifeworld of fishworkers. Nevertheless, the analysis of the involvement of fishworkers' solidarity networks and their micropolitics reveal that their knowledge claims necessarily does not promote climate change as a key agenda to be prioritised and addressed immediately. Instead, it is the reflection of their class struggles within a glocalised world economy that becomes more evident. Further, these networks maintain a narrative frame critiquing the trajectories and designs of capitalist development and modernisation processes in the coastal and fisheries sector. Though varied and situated in its construction, these knowledge claims and contestations are often an expression against the dominant global forces that threaten small-scale fishworkers' livelihood security and resource sovereignty. And there exists a knowledge interface between the privileged and deprived class of local actors in these discourses and counterdiscourses. To understand the micropolitics, it is important to briefly understand the historical discourses pertaining to the modernisation of fisheries in India.

Salagrama (2001) has categorised the modernisation of fisheries into four phases. The first phase of modern fisheries management in India began in the late 19th century, with reforms introduced by colonial rulers. During this phase, the policy makers believed that fishing industry was rather primitive, with simple technology and bound by custom and ignorance. It was taken for granted that the industry could be strengthened only by the initiative of the government officers, and so the Department of Fisheries was established during this period. The second phase commenced in the 1950s with the assistance of developed nations like United States. This is said to be the period when entrepreneurs invested in sophisticated technologies in modernising the fisheries. Outsiders, by and large, who had the economic capacity to invest in the new technology entered this sector. Trawling, industrial fishing and aquaculture began to emerge, encouraged by generous State



subsidies and loans. In the third phase, from late 1970s to the late 1990s, capital financing was done for advanced technology. This period also witnessed a gradual but imminent displacement of the traditional industry and artisanal fishermen along with the degradation of vulnerable resources like that of the mangroves and coral reefs. The State governments heavily subsidised the purchase of trawlers as well as supported endeavours such as the reclamation of wetlands (Gadgil, Guha 1995). Mechanisation in fisheries through the introduction of trawlers and purse seines to increase the capacity of production; development of cold storage and canning facilities to pack, store, and facilitate export of fish and other marine products were all significant interventions of the modernisation phase. The post-2000 modernisation period is considered as the fourth phase that is characterised by declining fish catch in inshore areas, depletion of fish stock, resource use conflicts and mounting investment needs. At the same time, the policy drive has been towards expanding fishing operations in its offshore Exclusive Economic Zone (EEZ) (Salagrama 2001; World Bank 2010). Salagrama (2001) observes that these modernisation processes have affected small-scale fishworkers, displacing them from their traditional means of livelihood.

The nature of such a political economy is that the coastal environment and the lifeworld of fishworkers have become too complex and has resulted in certain "elementary brutalities" as well (Sassen 2014b: 2). The mechanisation drive did initially boost the fish catch, earning of foreign exchange through the export of shrimps, and increased the supply of fish to the inland towns of India. Nevertheless, in the long run this has resulted in overfishing, destruction of marine habitats and decline in fish production (Kurien, Achari 1994; Gadgil, Guha 1995; Shiva 2000). Various factors such as the transformation of common pool nature of marine resources to private or open access forms of resource appropriation, perpetuation of unscientific fishing practices with the advancement of technology, booming demand for select marine species, State subsidies towards mechanisation, and increase in population pressure (due to the presence of both artisanal and mechanised trawler fishermen) in the onshore waters have all led to over

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gicpi.2020, 3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

fishing. This has resulted in declining productivity and income of small-scale artisanal fishworkers, which also began to manifest in the increasing economic disparity between artisanal fishworkers and owners of mechanised fishing crafts and gears. These processes also fragmented the tight knit structures of traditional fishing communities (Platteau 1984). In this regard, there are reports which describe the nature of conflicts that had erupted between small-scale artisanal fishermen and mechanised purse seine fishermen near Munambam in the year 1982 (Nair, Jayaprakash 1983). These histories of class conflicts between artisanal fishworkers and owners of mechanised crafts and gears still linger in the everyday lives of the fishing community, which is also evident in their narratives mentioned in the earlier section. Studies also shows that with the mechanisation and adoption of advanced technology, fishermen travelling in big boats seldom depend on their local knowledge systems to find fish or predict extreme weather events (Subramanian 2000; Sundar 2018).

The solidarity networks and social movements by fishworkers emerged in this context of mechanisation and modernisation of fisheries and the huge resource inequities that it created in the fisheries sector. Studies show that some among these networks such as the KSMTF, a trade union of smallscale traditional fishworkers played a very important role in the political conscientisation of the fishing community in the early 1980s (Aerthavil 2000). They were able to organise the small-scale fishworkers against the commercial trawlers as well as resist the forces of large capitalist interventions in fisheries. This movement was initially led by few radical clergy inspired by the liberation theology and emerged as a strong solidarity network ever striving to organise the subaltern classes on their basic problems and to exert pressure on the government to meet their demands through collective action (ibid.). Subramanian (2000) observes that such solidarity networks have enabled traditional fishing communities to retain rights to their local resources and at the same time relocate State power from the national to local level.

In Munambam, we can see the presence of diverse solidarity networks. There are trade unions such as the KSMTF



that stands for the rights of artisanal and small-scale fishworkers. They also have strong associations at the national level with rights-based organisations such as the NFF, MMKS and at a global level with the WFFP. Systematically analysing the activities of these solidarity networks reveal that they have been actively engaging in several discourses that critique the capitalist and commercial exploitation of natural resources and at the same time striving to protect the livelihood security of small-scale fishworkers. Some of the key domains in which this solidarity network was visibly engaged with in the last five years are as follows (this is based on the content analysis of several media reports such as local and national newspapers, and social media pages of these networks): a) opposition to the entry of mechanised fishing boats from other states to their territory and market spaces. b) Protest against providing foreign vessels and big ships permission to engage in deep sea fishing in the country's Exclusive Economic Zone (EEZ). c) Nation-wide protest against the proposed shipping corridor from Gujarat to Kanyakumari. Intense protest against a proposed shipping route planned very close to the coast in Kollam district of Kerala, which has the potential to destroy the livelihood base of many fishworkers. d) Actively voicing their opposition to the National Marine Fisheries (Regulation and Management) Bill 2019, which threatens to enhance the corporatisation and privatisation of marine resources and paving way for the entry of big private firms in the fishing sector. The solidarity networks argue that the Bill could displace traditional fishworkers from their resource base. They also raised the urgent need to translate the Bill in to local languages such that fisher people at the grassroots are able to understand the provisions of the bill. *e*) Protesting against the trawling ban violation by mechanised trawlers. Raising voices against the increasing number of accidents between the big fishing vessels and small boats. Protest against unscientific and irregulating fishing in the Exclusive Economic Zones. f) Opposition against price rise of fossil fuels such as petrol, diesel and kerosene. Protest against the disruption of providing kerosene subsidy to fishworkers. g) Applying pressure group strategies to ensure that fisherwomen are guaranteed rights to sell fish in major market places as well as in

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12899/gippi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org



roadside markets, which are predominantly restricted to men fish merchants. *b*) Overwhelming protest against the Citizenship Amendment Act (CAA) passed by the parliament. *i*) Protest against the construction of cement factory and similar infrastructure and subsequent displacement of traditional fishing communities. *j*) Protest against marine pollution, interlinking of rivers, and coastal aquaculture. *k*) Protest against unscientific constructions of risk mitigation structures such as groins and breakwaters. *l*) Protest against formal risk communication strategies by the State and the need to integrate the local knowledge systems of fishworkers. *m*) Towards strengthening the Public Distribution System such as the provision of rations during the lean season and times of sea surge. Also, towards ensuring relief and compensation due to loss of workdays induced by climate change and extreme hazard events such as cyclones.

It is evident that climate change has not been a prominent discourse, except the last three points as mentioned above were scantily mentioned in some forums. Some of the solidarity networks that represent the voices of the fishermen involved in the mechanised fishing sector largely resorted to protect their livelihood security and fishing spaces by bargaining and negotiating with the State. They were more organised against the State's surveillance of unregulated and unscientific fishing practices in their sector. These networks were also against the national shipping corridor as they feared that it would affect their livelihood spaces. However, climate change was not an important issue present in their public discourses. At present the discourses of climate change are only visible in seminars and webinars organised by scientific organisations in which the leaders of these networks also participate as an expert.

Having briefed the kind of discourse that solidarity networks maintain in the context of mechanisation and modernisation of fisheries, let us examine how diverse actors in Munambam are involved in the micropolitics. For example, small-scale fishworkers in Munambam claim that they are unable to work in the estuaries when big boats traverse through them. In the words of a fisherman,

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gicpi.20200.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

earlier days, the boats were small. We used to go only up to a shorter distance to fish. That time we used to get large quantities of fish. Today the crafts are two to three times bigger than what it was then. The iron boats are around 80 feet long. The engines can run the boats at greater speed. However, we have to move farther away from the coast to get a good catch. This is because the stock has declined onshore. As big boats have arrived, the exploitation of resources have also increased. The large boats use wireless, GPS, and eco-sounders to catch fish. The expenses towards fuel have also increased and it has become very difficult to save amidst resource scarcity [...]. The estuarine mouth here is just wide enough as a stream. When big vessels traverse through them, we are unable to work. When accidents happen both the craft and gears are damaged. Our livelihood options also diminish due to these.

There are studies that support the above argument of fisherfolk. For instance, Sathiadhas, Narayanakumar (2002) have found that the excessive fishing pressure exerted by the mechanised sector during monsoon season in the onshore region up to a depth of about 50m near Munambam has affected the existence of certain species of shellfishes and finfishes as well. Vivekanandan (2013) has noted that the marine fisheries sector with the mechanisation and modernisation of fisheries has witnessed an enhancement of fishing efforts and a corresponding increase in diesel consumption. This has also contributed towards a significant increase in carbon-di-oxide emissions (*ibid.*).

However, as we probe the prevailing narratives further, one could observe that there are counter voices against the critiques of modernisation and capitalism in the fisheries sector. Those fishermen and mechanised boat owners who support the modernisation drive in fisheries argue that they are able to escape climate induced risks or have the capability to face them because of mechanisation and other advanced technology-based developments in the fisheries sector. In the words of a *Srank* (boat navigator or skipper of a fishing vessel),

earlier, we used to sail in wooden boats that were 10-30 feet wide. Today the iron boats are around 80 feet long. Due to this we can go safely for fishing. We capture the fish and pull the nets using engines. This also help us to reach the shore faster during storms and

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

sea surges. These changes have also helped us to mitigate climate risks and extreme hazard events to a great extent.

These actors thus use the discourse of risk and hazards to counter the criticisms raised against them. From a class perspective, these are also social groups who have a better capacity to act and access resources in the context of modernisation. It is thus significant to observe how knowledge circulates among resource users in the context of risk and modernity. The modernisation and risk discourses produce two types of circulation of knowledge. One group who believes that modernisation is the main reason for the risk. On the other hand, there are other actors within the same livelihood arena who believes that modernisation has helped to counter risk. In this regard, it is important to examine how diverse actors construct "risk". While for the critiques of modernisation and capitalism, risk is something that has deprived the less privileged from sustaining their resource base such as fishing grounds or accessing these resources due to lack of ability to maintain the fishing crafts and gears or insuring them against any calamities. Their social construction of risk is largely interweaved within the relations of power and capital, which is routinised as part of their everyday life. On the other hand, those actors who favour modernisation in fisheries believe that risk is an "act of nature" manifested through climate change, cyclonic storms or sea surge, which prevent them from accessing the resource base. For these actors, risk is more seasonal and they believe that they can counter these acts of nature only via the path of modernisation and technological development.

Such contradictory and contesting worldviews are important characteristics of the prevailing politics of knowledge. While a group of actors believe that modernisation of fisheries and overexploitation of resources has led to resource scarcity; there is another group that believes that the climate change and extreme hazard events have affected fish behaviour and therefore resulting in the decline of fish catch from their regular fishing grounds. Such interpretations of reality are quite complex. Both arguments seem to be true but at the same time remain incomprehensible as well. While one knowledge relies



on the historical continuation of progress and deprivation, the other view takes a more experiential account of what they are witnessing in terms of hazard events. Yet another set of knowledge claims state that the fishing grounds have been affected due to the present-day risk reduction strategies such as the construction of groins and breakwater. A fisherman commented,

today there are no fishing grounds near our coast. All these have been disrupted due to harbour development and the construction of breakwaters. The fishes have changed their directions. We have to go farther away into the sea and therefore we fish using engines. Though these developments have increased our expenses, it assures that we have work to do.

Research studies on the coastal towns of Keta, Ghana and Semarang, Indonesia also share similar experiences on the failure of formal and structural adaptation strategies; and the disruption in everyday livelihood practices due to these structures (Hillmann, Spaan 2017).

CONCLUDING REFLECTIONS

Local knowledge among fishworkers is situated and varied due to diverse intersectional factors such as class and gender differences and type of fisheries they are regularly involved with. In a similar vein, there are variations of how diverse actors within the local community conceptualise climate induced risk and uncertainties. Forces such as patriarchy, capitalism and class-based structures, which shape their everyday livelihood struggles and knowledge systems also define the nature of risk, its impact and loss. The social positions of actors and their ability to access resources thus mediate the circulation of specific forms of knowledge at the local level. And at a larger political economy of resource access and governance, the knowledge systems of traditional small-scale fishworkers and their situatedness are seldom recognised by the State or other powerful players. Multiple knowledge claims co-exist, where the dominant players who have resources and occupy posi-

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

tions of privilege acquire new forms of knowledge and capital. In contrast, the individual knowledge claims of the less privileged actors often go unheard or unrecognised. Nevertheless, climate change and extreme hazard events can result in a newer politics of knowledge, where ownership and control over resources can collapse or become weak due to various risks and shocks. Instead of shaping knowledge claims serving dominant economic spaces and power centres, perhaps it is time to re-imagine and re-design the "organising logic" surrounding climate change by staying "close to the ground" (Sassen 2014b).

Two aspects in the production of knowledge are its localisation and circulation dynamics (Moity-Maïzi 2011). The concept of localisation emphasises the active and voluntary aspect of human activity, which makes it possible to generate knowledge that can be qualified as local (*ibid*.). The fact that "knowledge is locally positioned does not mean that it has to be false - nor that it has to be correct - before some generic vardstick" (Lev 2003: 556). This is evident in the local knowledge systems prevailing among small-scale fishworkers in Munambam. On the other hand, the concept of circulation refers to the transmission, transfer or exchange, and thus emphasises on the diversity of the processes, networks and filters through which knowledge travels (Moity-Maïzi 2011). The everyday lives of fishworkers are shaped by different knowledge claims, which can have different trajectories as it moves away from a particular social world to wider social arenas. There are actors that claim that modernisation and mechanisation of fisheries has worsened their everyday livelihood struggles as well as destroyed the land and marine resources. On the other hand, there are another set of actors who are convinced that modernisation is the way forward to deal with climate induced risks and other crisis events. The narratives pertaining to climate change are manoeuvred by different actors to critique or defend the knowledge claims pertaining to the mechanisation and modernisation in fisheries. In this regard, we also need to understand that local knowledge while in circulation is part of a larger assemblage of diverse factors interlocked with multiple knowledge claims and complex



technologies (Sassen 2014b). Nevertheless, we cannot attribute a direct causal relationship between these knowledge systems, technologies and their extreme outcomes (*ibid.*).

We also need to recognise that there already exists a global meta-narrative of climate change, which is largely dominated by scientific knowledge and represented by institutions that legitimises these knowledge claims (McCarthy 2010; Chaturvedi 2014). Scientific knowledge in part is local knowledge that is partial and partisan in nature, however characterised by dominant value frames (Ley 2003). This also distorts its capacity to engage with the everyday realities of the world (*ibid.*). Such a meta-narrative not only ignores local and indigenous knowledge systems, but also is characterised by its own limitations and contradictions in addressing existing inequalities, vulnerabilities and livelihood insecurities of marginalised natural resource dependent communities (Chaturvedi 2014). Such meta-narratives and environmental discourses are pervasive and operate at several levels and often result in the formulation of policies that fail to recognise grassroots realities (Gupta 2008). Instead, they tend to be more regressive, oppressive and exclusionary in terms of their approach and outcome (Doyle, Chaturvedi 2011). Further, the prevailing metanarrative also strives to co-opt the environmental discourses and solidarity movements at the local and national scales (Chaturvedi 2014; Chaturvedi, Doyle 2015). Instead, we need knowledge, actions and movements situated from the multiple standpoints of intersectional and marginalised actors. Without the recognition of this situated nature of knowledge in a glocalised world, we could err towards universalising the impact of climate change on all affected populations alike, missing out the everyday struggles and vulnerability contexts of diverse marginalised social actors.

As Sassen (2014b) points out, the globalisation of capital and the sharp rise in technical capabilities as part of fisheries modernisation has also produced major scaling effects. In the beginning years the impacts of these processes were related to the displacement of artisanal and traditional fishworkers from their livelihood resources and were largely reflected in the narratives of class struggles, poverty and access barriers to tech-



nology. However, these impacts could be felt today more in terms of environmental devastations as well (*ibid*.). It is in this context we need to critically understand the role of solidarity networks. As mentioned earlier, the climate change narratives do not emerge as a prominent discourse in the wider social arena of fishworkers. Instead, the prominent discourses and counter-discourses are anchored to the impacts of mechanisation and modernisation in fisheries, which is also indicative of the underlying class struggles in their social worlds/arenas. Though, as Medina (2014) rightly points out that it is often a challenge to connect the situated experiences of people involved in the process of circulation with the broader patterns, power structures, and contextual factors that condition such experiences. More importantly, the politics of knowledge in a risk society is also about the politics of who can sustain their access to resources. Several coastal fishing communities are today threatened with displacement and loss of access to their regular fishing grounds. Their livelihood security is continuously being threatened by larger forces governing the political economy of the coast and the oceans. The solidarity networks prioritise these issues as the most urgent ones to be addressed and are always alert to the same. According to my research participants, though risks and uncertainties exist due to climate change, they are hopeful of adapting to it, as they have always learnt to adapt to harsh weather conditions. Their local knowledge systems act as an important asset in adaptation. However, they are more threatened by the forces of capitalism, privatisation and corporatisation of coastal and marine resources.

The critical consciousness of actors plays an important role in the acceptance of ideas or any other forms of knowledge (Said 1983). Circulation of knowledge is also affected by the kind of values guiding certain narratives. The success to the circulation of a particular kind of knowledge also depends on the nature of its people-centredness and relevance attributed accordingly (Davis 1986). Legitimisation by a prominent authority or the affiliation of particular knowledge to a proclaimed school of thought also contributes to successful knowledge circulations (Lamont 1987). In the context of



this paper, the solidarity networks among fisherfolk, the political ideology promoted by these networks and the affiliation of these networks to national and global networks all shape the circulation of knowledge. Images of knowledge play an important role in shaping the circulation of knowledge. Raj (2007: 166-167) defines images of knowledge as "the place knowledge holds inside the value system of a social group at any given time of its history". In a more general sense, the image showcases the promises that a particular knowledge holds out for the wider society. For the fishworkers, this image is about the success stories of their collective struggles by adhering to critical narrative of how they have resisted the forces of capitalism and modernisation in fisheries. This image forms part of their social interactions with the wider social arenas, especially their solidarity networks. And here we need to understand that there is a tendency among such networks to resist the imposition of newer narratives as well as erasing the narratives of the past (Ley 2003). According to Raj (2007), any change in these narratives would call for a corresponding reconfiguration of the image of knowledge as well.

To conclude, there are still some thoughts unanswered. The politics of knowledge in a fishery could get complicated with climate change. Climate change can also result in the disruption of knowledge circulation in everyday life and could add up to new forms of knowledge uncertainties at the local level. Nevertheless, what gets missed in the transition and circulation of knowledge among fishworkers and their solidarity networks is that certain narratives of risk get prioritised over the other, even if the latter is a more visible construction of their everyday experience. Perhaps, every emerging class will have their own solidarity networks. While certain networks will demonstrate their strength through their ideological positioning and action frames, there will be others who would manifest their force through technological dominance and brutal power. And it may be the case that newer discourses such as climate change (at the local level) are filtered through "familiar thick realities" (be it poverty, inequality, or modernisation) as they circulate to wider social arenas, and thereby take on "familiar forms" at the regional/national/global levels,

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gicpi.2020, 3.6
Published online by "Globus et Locus" at https://glocalismjournal.org

signalling the dynamics and politics of knowledge and emerging practices with new meanings (Sassen 2014b: 6). The consequences of such filtering of knowledge may not only be livelihood uncertainties but also the weakening of solidarity networks, as the standpoints of these networks may not always reflect the grassroot realities. Nevertheless, to end on a more optimistic note, these solidarity networks could be visualised as actors having some "porosity to conversations across their borders", and thus more open to development and change (Ley 2003: 546). With an eye to the future, it will also be worth reflecting upon how solidarity networks would shape the discourses of climate change amidst a glocalised capitalist world order.

AKNOWLEDGEMENTS

I would like to thank the Indian Council of Social Science Research for funding the first phase of this research. I am also grateful to my colleagues at the Centre for Livelihoods and Social Innovation (TISS) who provided adequate support and encouragement towards continuously pursuing the research on the circulation of knowledge and its politics. I also thank all my research participants from Munambam, former colleagues Ashwin and Gahana, and representatives of the KSMTF in providing rich insights to the study. Also, I wish to thank two anonymous reviewers for providing extremely valuable comments, which has essentially made this paper more meaningful.

REFERENCES

- M. Adolf, N. Stehr (2017), Knowledge: Is Knowledge Power? (London: Routledge).
- M. Aerthayil (2000), Fishworkers' Movement in Kerala (1977-1994): The Role of Non-party Political Organisation in Social Transformation in India (New Delhi: Indian Social Institute).
- A. Ahlbäck (2018), *Unwelcome knowledge: Resistance to pedagogical knowledge in a university setting, c.1965–2005*, in J. Östling (ed.), *Circulation of Knowledge: Explorations in the History of Knowledge* (Lund: Nordic Academic Press), pp. 125-143.
- M. Bal (2002), *Travelling Concepts in the Humanities: A Rough Guide* (Toronto: University of Toronto Press).
- J.A. Banks (2008), An Introduction to Multicultural Education (Boston, MA: Pearson, Allyn & Bacon).
- J.F. Brewer (2014), Harvesting a knowledge commons: Collective action, transparency, and innovation at the Portland Fish Exchange, in "International Journal of the Commons", 8, 1, pp. 155-178.

ISSN 2283-7949 GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.20200.3.6 Published online by "Globus et Locus" at https://glocalismjournal.org



- P. Burke (2016), What is the History of Knowledge? (Cambridge: Polity).
- S. Chaturvedi (2014), Marginalized coastal communities and struggles for social innovation in India and China: Towards a micro-geopolitics of environmental sustainability in the era of climate change, Working Paper Series, India China Institute, https://indiachinainstitute.org/wp-content/uploads/2014/04/Chaturvedi_Marginalize d-Coastal-Communities-and-Struggles-for-Social-Innovation-in-India-and-China_WP S_2014.pdf.
- R. Connell (2007), Southern Theory: The global Dynamics of Knowledge in Social Science (Cambridge: Polity Press).
- M.S. Davis (1986), "That's classic!" The phenomenology and rhetoric of successful social theories, in "Philosophy of the Social Sciences", 16, pp. 285-301.
- T. Doyle, S. Chaturvedi (2011), Climate change and refugees: Conceptualizations, categories and contestations, in S. John (ed.), The Oxford Handbook of Climate Change and Society (Oxford: Oxford University Press), pp. 1-12.
- R. Felski (2000), *Doing Time: Feminist Theory and Postmodern Culture* (New York and London: New York University Press).
- S. Foster (2012), A qualitative understanding of preservice teachers' critical examination of textbook curriculum units as political text, in H. Hickman, B.J. Porfilio (eds.), The New Politics of the Textbook: Problematizing the Portrayal of Marginalized Groups in Textbooks (Rotterdam: Sense Publishers), pp. 3-16.
- M. Gadgil, R. Guha (1995), Ecology and Equity: The Use and Abuse of Nature in Contemporary India (New Delhi: Penguin Books).
- R. Grundmann (2007), *Climate change and knowledge politics*, in "Environmental Politics", 16, 3, pp. 414-432.
- P. Gupta (2008), From Chipko to climate change: Remote rural communities grapple with global environmental agenda, in "Mountain Research and Development", 28, 1, pp. 4-7.
- A.N. Hammar (2018), Theoria, praxis, and poiesis: Theoretical considerations on the circulation of knowledge in everyday life, in J. Östling (ed.), Circulation of Knowledge: Explorations in the History of Knowledge (Lund: Nordic Academic Press), pp. 107-124.
- D.L. Heidenblad (2018), From content to circulation: Influential books and the history of knowledge, in J. Östling (ed.), Circulation of Knowledge: Explorations in the History of Knowledge (Lund: Nordic Academic Press), pp. 71-81.
- F. Hillmann and E. Spaan (2017), On the regional rootedness of population mobility and environmental change, in "Comparative Population Studies: Zeitschrift für Bevölkerungswissenschaft", 42, pp. 25-54.
- W. Keim (2014), Conceptualizing circulation of knowledge in the social sciences, in W. Keim et al. (eds.), Global Knowledge in the Social Sciences: Made in Circulation (Farnham: Ashgate), pp. 87-113.
- W. Keim (2016), The international circulation of social science knowledge: Relevant factors for acceptance and rejection of travelling texts, in "Revue d'anthropologie des connaissances", 10, 1.
- R. Korakandy (2000), State of the environment in Kerala: What price the development model?, in "Economic and Political Weekly", 35, 21/22, pp. 1801-1804.
- P.K. Kumar et al. (2010), The changing shoreline during the last hundred years around Periyar river mouth, north of Kochi, Kerala (Hyderabad: Geological Survey of India).
- N.P. Kurian et al. (2006), *Inundation characteristics and geomorphological impacts of December 2004 tsunami on Kerala coast*, in "Current Science", 90, 2, pp. 240-249.
- J. Kurien, T. Achari (1994), Overfishing and the coastal commons: Causes and consequences, in R. Guha (ed.), Social Ecology (New Delhi: Oxford University Press), pp. 218-244.
- M. Lamont (1987), How to become a dominant French philosopher: The case of Jacques Derrida, in "American Journal of Sociology", 93, 3, pp. 584-622.
- S. Lässig (2016), The history of knowledge and the expansion of the historical research agenda, in "Bulletin of the German Historical Institute", 59, pp. 29-58.

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION
2020, 3, DOI: 10.12893/gjcpi.2020.3.6
Published online by "Globus et Locus" at https://glocalismjournal.org



- D. Ley (2003), Forgetting postmodernism? Recuperating a social history of local knowledge, in "Progress in Human Geography", 27, 5, pp. 537-560.
- F.A. Marglin, S.A. Marglin (eds.), (1990), *Dominating Knowledge: Development, Culture, and Resistance* (Oxford: Clarendon Press).
- G. McCarthy (2010), The climate change metanarrative, state of exception and China's modernization, in "Journal of the Indian Ocean Region", 6, 2, pp. 252-266.
- L.M. Medina (2014), The Circulation of European knowledge: Niklas Luhmann in the Hispanic Americas (New York: Palgrave Macmillan).
- P. Moity-Maïzi (2011), *Questioning the localisation and circulation of knowledge in Africa*, in "Revue d'anthropologie des connaissances", 5, 3.
- K.V.S. Nair, A.A. Jayaprakash (1983), *Clash between purse seine and artisanal fishermen at Cochin*, in "Marine Fisheries Information Service", Technical and Extension Series, 49 (Cochin: CMFRI).
- S. Nair et al. (2018), Coastal morphology and long-term shoreline changes along the Southwest Coast of India, in "Journal Geological Society of India", 92, pp. 588-595.
- S. Nayak (ed.) (2013), Estimation of Indian coastal areas inundated into the sea due to sea-level rise during the 20th century, in "Current Science", 104, 5, pp. 583-585.
- B. Neumann, A. Nünning (2012), Travelling concepts as a model for the study of culture, in B. Neumann, A. Nünning (eds.), Travelling Concepts for the Study of Culture (Berlin-Boston: De Gruyter), pp. 1-22.
- S. Nieto (2010), *The Light in Their Eyes: Creating Multicultural Learning Communities* (New York: Teachers College Press).
- M.E. Pettenger (2007), Introduction: power, knowledge and the social construction of climate change, in M.E. Pettenger (ed.), The Social Construction of Climate Change: Power, Knowledge, Norms, Discourses (Hampshire: Ashgate), pp. 1-19.
- J-P. Platteau (1984), The drive towards mechanisation of small-scale fisheries in Kerala: A study of the transformation process of traditional village societies, in "Development and Change", 15, pp. 65-103.
- K. Raj (2007), Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650–1900 (New York: Palgrave Macmillan).
- K. Raj (2013), Beyond Postcolonialism...and Postpositivism: Circulation and the global history of Science, in "Isis", 104, 2, pp. 337-347.
 - E. Said (1983), The world, the Text and, the Critic (Cambridge: Harvard University Press).
 - E. Said (1994), Culture and Imperialism (London: Vintage).
- K.S. Sajinkumar et al. (2020), Picturing beach erosion and deposition trends using PSInSAR: an example from the non-barred southern west coast of India, in "Wetlands Ecology and Management".
- V. Salagrama (2001), Coastal area degradation on the East Coast of India: Impact on fishworkers, Proceedings of the "Forging Unity: Coastal communities and the Indian Ocean's Future Conference", Chennai, India, October 9-13.
- S.D. Santha (2008), Local ecological knowledge and riverine fisheries management: A study among the riverine fishing communities in Kerala, India, in "Local Environment: International Journal of Justice and Sustainability", 13, 5, pp. 423-435.
- S.D. Santha et al. (2014a), Exploring risk, resistance and the power of myths among coastal fishing communities in Kerala, India, in "Natural Resources Forum: A United Nations Sustainable Development Journal", 38, pp. 118-128.
- S.D. Santha et al. (2014b), Local knowledge, early warning and coastal hazards: Participatory inquiry among fishworkers in Kerala, India, in "Action Research", 12,3, pp. 273-292.
- S.D. Santha et al. (2014c), *Proverbs on coastal hazards: Exploring community capacities for people-centred disaster risk reduction in Kerala*, in "Loyola Journal of Social Sciences", 28, 1, pp. 23-44.
- S. Sassen (2014a), *Before method*, in "Social Science Bites", Sage Research Methods Podcast (transcript), https://dx.doi.org/10.4135/9781526459848.

ISSN 2283-7949
GLOCALISM: JOURNAL OF CULTURE, POLITICS AND INNOVATION 2020, 3, DOI: 10.12893/gjcpi.20200.3.6
Published online by "Globus et Locus" at bttps://glocalismjournal.org



- S. Sassen (2014b), Expulsions: Brutality and Complexity in the Global Economy (Cambridge: The Belknap Press of Harvard University Press).
- R. Sathiadhas, R. Narayanakumar (2002), Environmental economic analysis of inshore fishery resource utilization of coastal Kerala, EERC Working Paper Series: MES-3 (Cochin: Central Marine Fisheries Research Institute).
- S.C. Selvan et al. (2020), Shoreline change along Kerala, south-west coast of India, using geo-spatial techniques and field measurement, in "Natural Hazards", 100, pp. 17-38.
- V. Shiva (2000), Stolen Harvest: The Hijacking of the Global Food Supply (New Delhi: India Research Press).
- S. Sörlin, H. Vessuri (2007), Introduction: The democratic deficit of knowledge economies, in S. Sörlin, H. Vessuri (eds.), Knowledge Society vs. Knowledge Economy: Knowledge, Power, and Politics (New York: Palgrave Macmillan), pp. 1-33.
- A. Subramanian (2000), *Turbulent Waters: State, Community and the Politics of Development in Southern India*, Dissertation (Durham: Department of Cultural Anthropology, Duke University).
- A. Sundar (2018), Skills for work and the work of skills: community, labour and technological change in India's artisanal fisheries, in "Journal of South Asian Development", 13, 3, pp. 272-292.
- J. Vinita et al. (2015), Spatial tidal asymmetry of Cochin estuary, West Coast, India, in "Journal of Coastal Conservation", 19, 4, pp. 537-551.
- E. Vivekanandan et al. (2013), Carbon footprint by marine fishing boats of India, in "Current Science", 105, 3, pp. 361-366.

World Bank, The (2010), *India marine fisheries: issues, opportunities and transitions for sustainable development*, Report No. 54259-IN, Agriculture and Rural Development Sector Unit South Asia Region, The World Bank.