

Dry fish trade practises in Village of Raigad, Maharashtra: A Case study

Introduction

Maharashtra is second most populous state in India with 720 km of long coastline. It has six coastal districts namely Palghar, Thane, Mumbai, Raigad, Ratnagiri and Sindhudurga with 456 marine fishing villages. According to marine fisheries census of 2010 majority of mechanised crafts owned by fishers in the state are dolnetters (47%) and gillnetters (32%) contributing totally 79% and trawlers (12%). Greater Mumbai and Ratnagiri districts have major number of commercial ports; industries also contribute 87 % of trawlers in the state which engage in multiday fishing. Maharashtra also has largest number of women fishworkers operating in a country. Women fishworkers are traditionally involved to some extent in preharvest and majorly in post harvest operations. In post harvest there are two kinds of fish markets, one for wet fish and one for processed fish. In big coastal cities like Mumbai, there is great demand for fish for consumption in its retail fish markets as well as for export of commercially important species. On the other hand, rural fishing villages are mainly engaged in small scale fishing and lacks infrastructure facilities, emphasis is given on processing/drying in which women play a critical role. In the processed fish it can be processed by varied techniques like drying, salting, freezing etc. While freezing and peeling remained with major fish processing plants located in big cities or industrial areas, they are not the subject of this study. In Maharashtra majority of fish gets processed through drying done in traditional ways in fishing villages. Trend in fish demand shows demand for dried fish is ever increasing. There are some fishing villages which are solely engaged in fish drying creating vibrant local economy involving women fishworkers. This case study focuses on traditional dry fish trade practises in one of such village in Raigad district.

Navedar Navagaon is a fishing village located 9 km east of Alibag which is tahsil place. Out of 895(SECC, 2011) households 591 (Marine fisheries census 2010) belongs to fishing families. Rashtriya chemical factory has engulfed part of the village running towards navagaon phata a four way point connecting village to outside world. According to socioeconomic and caste census of 2011, out of 3737 of population 2965 persons have received some kind of education and sex ratio is near to equal. It also says 2535 person in the village belongs to schedule tribe category. Village have fisheries cooperative society with 2557 members and around 130 numbers of boatowners. Marine fisheries census 2010 shows there are 606 numbers of active fishermen and 1131 persons are engaged in fishing allied activities of which 602 are engaged in fish processing.

This shows fishworkers in this village are dominating in fish processing sector. Boatowners are majorly involved in one day dol net fishing in their traditional fishing grounds. Fish caught mostly is small suitable for drying like kolim/Jawala/baby shrimp, red prawns, ribbon fish, Bombay duck, squids, Indian sardines etc. fish drying is done solely by women workers who share boatowners fish catch with the oral contract to repay two parts of her income back to boatowner at the end of fishing year (August/September to May). Boatowner invest in capital, labour, craft, gear, business

management costs while women has to invest in maintenance of fish drying land and her own labour. Boatowners and women fishworkers have been following this practice of fishing and sharing of fish catch for generations. All the fish processing activities drying takes place on community land whose unofficial ownership and conflict management lies with the traditional panchayat. This land is divided among fishing families and it is being passed down to daughter in laws of the house without any cost to women using those land for fish processing activities. Though they can rent the place to others for drying their fish, they can't sell the land as nobody owns the land. 7

Unwritten ownership to fishing grounds and selling of rights of harvesting fish is also looked over by boat owner's traditional association called *Nakhava* mandal and traditional Panchayat. System of sharing catch and income from dried fish trade is a business relationship between boatowner and women fishworkers associated with his boat. Fish marketing is managed by *Nakhava* mandal and fish traders/agents. While fish marketing is looked over by *nakhava* mandal/association of boatowners covering tasks like maintaining fish selling site to remuneration to workers at fish selling site to price fixing to transport and business relations with traders. Women fishworkers role is only to apply her labour on her share of fish catch and pay back two parts of income back to boatowner either on regular basis or at the end of business-fishing year.

This case study delves into three major aspects of fish trade practises, fishing practise from boatowners point of view, fish processing practise from women fishworkers point of view and fish marketing practise looking at role of agent/trader, cooperative, introduction of technology in the trade and its impact on it. Finally it concludes with highlighting major issues that came up through discussions.

Fishing

Boatowner locally called as *Nakhava* owns assets required for fish harvesting, also has rights on his ancestral fishing grounds and boat, fishing gears, hires boat crew, provides all the capital required for fishing business, look overall business management with the help of his wife and family. and he is also a member of cooperative. He is member of association of boatowners locally called *Nakhava* mandal and village fisheries cooperative. He and his wife at the beginning of each fishing season look for women fish processors or *padavkarin* as she is locally called to work on fish catch. He usually divide his boats catch in 12 shares, earlier it used to be in 14 shares, so in a particular year he may able to find only 6 women or maybe in some year 12 women to work on his fish. Sometimes one woman can choose two shares to work upon. So whatever will be days catch, it will be equally divided among the women based on the no of shares they have agreed to work upon. If catch is smaller crew on the boat may already sort it on the boat itself, if it will be bigger they would bring it on the shore so women divide it among themselves. *Nakhava's* work at landing site is to see that day's catch is being landed down at the shore, to inform women about boat's arrival if somebody from women found still missing at the shore to receive her share, to care for fish from being getting washed away at the time of high tide and hand it over to women fish processor.

Nowdays there is a concrete/*pucca* road connecting to village and landing site so with increased access of tempo/ three wheeler vehicles *Nakhava* directly load their already sorted fish in designated tempo with whom they have fixed arrangement and this driver then ferry around fish drying sites unloading each women's fish processors fish at her drying site associated to each *Nakhava*. Sometimes *Nakhava* has to also take share of work on his fish catch usually handled by his

Formatted: Font: Italic

wife or daughter in law if in case he doesn't get enough women to share his catch. *Nakhava* favours this method than working solely on all of his fish catch. It is always his responsibility to find women fishworkers to work upon his fish catch as this system gives him 2 shares of income and women fish possessor can retain 1 share for herself. Sometimes fish catch is big and he has to throw most of it as land and labour required to work on bigger catch is more. While sharing system among 6 to 12 women ensure that even smallest of fish species get dried and processed neatly thus increasing income from dried fish.

Traditionally fishers of Navagaon are involved in one day fishing using dol net. Their most of the catch is fish species suitable for drying like kolim/baby prawns, prawns, ribbon fish, Bombay duck, anchovies, Indian sardines etc. Commercially important fish is sorted out by crew on the boat itself for boatowner to sell it in wet fish market through auction. This sorted fish includes pomfret, tiger prawns, kingfish etc. some boatowners have diversified their livelihood by acquiring fish gears targeted at big fishes like in *dalda* fishing which is 2-3 days fishing targeting big fish but that season lasts only for 1-2 months and input cost per fishing trip is high so major livelihood source remains dol net fishing. Boatowners generally have upto 6 cylinder boat with 5-6 no of crew on daily wage basis.

Fishing season start is marked by day of *Narli pournima/coconut day* when traditional fishers pay their respect to the sea with community gathering. With the coming of festival of Ganesh chaturthi dol net boatowner starts to ply their boats in the sea but not much drying happens in this early season as monsoon is withdrawing and many times hard work invested in processing fish gets washed away by rain, it also has infection and hygiene problems due to wet and humid conditions of weather, fish and drying land. Real [season work](#) begins with September when there is high produce of Bombay duck, pomfrets, king fish and prawns, this season in local language called as *kadav* lasts for three months up to the festival of *Diwali/ festival of light* in the month of November. After *Diwali* when winter starts it is general perception among fishers that fish catch is lesser in these months. Kolim/baby shrimp starts to come in the net as well other small fishes like *khade, haid, salhind*, red prawns, and this season last till 15th of February which they locally called as *bhang/low* fishing season. ~~This season also collides with changing of fish drying lands as each woman fishworker work on two fish drying lands which is gets exchanged with other women decided by their ancestors and this practise is still continuing. She work for temporarily once fishing season begins in end of August on others land then at Diwali she exchange her land and continues to work on it till the end of business year/monsoon ban.~~ From the end of February till the end of May is again considered as *kadav/high fishing season* as fish catch gets frequent sometimes twice in a day. Many times fishing boat even comes with catch in night time making it three times landing of fish on the shore. This season starts from 15 April and lasts till 30th may. This season brings *kolim/baby* prawns, shrimp with different grade/quality, red prawns, ribbon fish and other variety of small fishes. This season is economically important as most of the income from fish trade comes from this season ~~and savings of dried fish is made fo home consumption in monsoon months and also this season makes the days of saving dried fish for home consumption and also for selling in retail fish markets for monsoon season.~~

At the end of the May boatowners withdraw their gears from the boat and lands their boat. Earlier for both carrying gears and boat manual labour was needed now with the *tempas* and cranes it has become simpler to transport gears and boat on the land. This event is marked by community worship of god shiva in village temple. In these monsoon months boatowners rest their crew, boat,

gears but other activities like settlement of accounts with agents/traders and women fishworkers associated with boat, repairing and maintenance of craft and gear continue. In these months villagers arrange tourism trip to famous temple sites all over India as this is the only time in year they can engage themselves in recreational activities.

Kolim fishery is economical when its dried compared to selling in wet form also there is no market for wet shrimps at local level. Retail wet fish market demands for commercially important big fishes like king fish, tiger prawns, pomfrets which are sorted and sold by Nakhava from his days catch in open auction. Rest fish is dried and sold to dry fish agents fetching more price than in wet form. Nakhava favours sharing of his catch by women fishworkers as drying it by hired labour has more disadvantages than by drying it by sharing catch with women fish processors. If he chooses to process his whole fish catch apart from investing in capital for fisheries business/dhanda he has to invest in land and labour required for processing activity. Irrespective of ownership of craft or gear, share for each fishing family is always divided equally so each family has limited land to work upon. Nakhava has to rent an extra fish drying place he needs from community land which is nowadays has become more like a commercial activity where traditional panch committee calls for auction of land and those with higher bids get land to use it for a business-fishing year, also he has to hire labour on work basis or on daily basis if he doesn't have enough family members to apply their labour, quality of dried produce is lesser as hired labour doesn't have part ownership on the catch. When women fish processors share his catch each woman wants to earn most out of it so she does it with great care, she has customary land for which she doesn't have to pay thus increasing amount of land put in use for drying fish catch otherwise boatowner have to pay for land as well. This arrangement benefits boatowner and women. Nakhava invest in capital and women use their land and labour. also get to work without investing much in the business. This traditional system of sharing fish catch and profit between boatowner and fish processors is still continuing as people are getting livelihood and happy with it.

Fish Processing/drying through case study of woman fishworker

Malan is 32 years old and been resident of village Navagaon since her birth. She got married in the same village as per tradition follows. Almost 95 % of marriages happen within village as it favours the livelihood system of fish drying. Women from fishing communities of other villages are not used to hard work involved in fish drying. They also don't get training from their families as this trade practises like sharing of fish catch, small investment from the women side don't exist in nearby villages. Surrounding villages like Thal, Sasvane either sell the whole produce to fish vendors, agents or fish processors or work on it by hiring labour as they focus mostly on selling wet fish and fish drying is complimentary activity. Cases where woman gets widowed or deserted, there are more livelihood opportunities present within village itself. She also get support network of close kith and kins, for all these reasons women prefer groom within a village.

She is SSC failed and then decided to not to continue her education. She got more interested in fish processing work which was family business at her marital home. She is born and brought up in a joint family where her three uncles and their wives were engaged in fishing and fish drying. She lost her father at very young age so she, her mother and sister continued to stay within joint family supporting family business. Everybody from children to old person was so busy in the fishing business very few children reached up to graduation level. All girls in the family dropped out either

by 10th or 12th standard. She got married at the age of 19 years to the boy from same village. She has two children, one daughter and one son. Her husband died out of medical complications some four years ago. She works as fish processor in the village itself. She wants to educate her children as she has understood the importance of education and doesn't want her children to become dropout like her. She doesn't own house, land, boat or fish processing instruments. She is widow so can't wear ornaments, good cloths, she has to forgo her marriage symbols like bindi, green colour bangles, mangalsutra/ marriage necklace, flowers in her hair, colourful cloths etc. She can't take part in various religious and social functions like marriage, birth and death in forefront. Still she feels safe and content in the village as it provides her livelihood and keeps her close to kins.

Life as a fish processor

According to her, village has around 125 boats which goes daily to fish and comes back on second day bringing fish on the shore. They have a traditional system to manage fishing and fish processing operations. Fish marketing is of more formal nature in which she doesn't have role in price fixing or distribution of money. She doesn't need to invest in capital, craft, and gear or buy fish from boatowner. ~~She provides her labour to the share of fish catch from boatowner.~~ At the end of the day she has to store dried fish at her workplace or at her home in bamboo baskets. After say 2-3 days or 5-6 days once enough fish is stored, *Nakhava* and traders/agents fix the price for the dried produce by negotiating. Once the price is fixed, she along with other women associated with *Nakhava* take their fish to Kata/godowns where fish selling takes place, a place where total produce sold by each women fish processor for each *Nakhava* is recorded and from where trader packs and transports dried produce to other areas. After each 15 days accounts are calculated and traders distribute the money to Kata/ godown accountant. He then allots this money to women fish processor according to her account book which has details of dried fish she sold at particular day and rate of fish for that day. Whatever money she gets once in a fortnight she has to keep one part for her daily expenses and other 2 parts are considered as income of *Nakhava* which she has to return to him in an 8 months working period. ~~She is fully independent to decide how much she has to keep for herself for each fortnight's income and how much to give to *Nakhava* but finally at the end of working year she has to payback to *Nakhava* 2 parts of her income.~~ If in a particular year she has earned 50000 INR then she can spend 16000 for herself while she has to pay 32000 INR to *Nakhava*. So she gives small amount to *Nakhava* at each fortnight rather than pressurising herself to give all the 2 parts income in one go at the end of working year. *Nakhava* also has provision to collect fund at godown, if income in particular fortnight is good then he can ask accountant to keep aside some money from women's earning as fund which can be substantial like 500 INR out of 5000 INR income for that fortnight, likewise this fund gets accumulated which helps women to pay for *Nakhava* at the end of year.

This settlement of accounts ~~for the fishing year~~ happens at the end of June when all business operations have stopped, ~~and~~ accounts with agents have been settled and godowns are shut down. *Nakhava* calls for meeting with women fishworkers working on his fish catch. *Nakhava* then shows accounts done by him/provided by kata accountant for dried fish produce sold from his boat. accordingly he number women's account book based on highest to lowest profit made/dried fish produced by women. First number account belongs to woman who has worked carefully to maintain quality and minutely on various fish species like if she is lazy she can throw prawn in waste fish instead of peeling and drying them which is costliest fish. Earning depends on her careful and minute

hard work. Likewise each woman's accounts books are numbered. *Nakhava* can select one account book based on which division of income can be decided for that [business-fishing](#) year. Women then negotiate with him by speaking in unison to consider account book in middle position. If 6 women are sharing fish catch they can ask *Nakhava* to consider 3rd number account book which is neither shows too much profit or too much of loss benefiting both parties. So if first number account book shows 70000 INR as total income and 3rd number shows 60000 INR and last number shows 50000 INR as income, women negotiate for considering middle one so each woman has to pay 40000 INR to *Nakhava* irrespective of profit or loss she made on her earnings. Once this decision has been made *Nakhava* and women check their personal account for how much they have repaid in year. How much fund has been collected is also seen. Then if she has paid more than her share *Nakhava* gives her fund earnings back to her. If she had paid less than her share then *Nakhava* deducts the sum from the fund and return balanced amount to women. This completes business transaction for a year. Then woman can decide whether to work on share from same *Nakhava* or she can shift to other one where she thinks have better prospects.

Daily life

Her day starts early in the morning, she cooks food for her children and then moves out to her fish processing site which is just adjacent to beach area like others. This piece of land is her in laws ancestral land which is she is using after her mother in law. There is clear division of land among villagers and everybody uses land in their family generation after generation. She has to look for her *Nakhava's* boat at the landing centre when boats start to land at the beginning of day. When fish is less, crew on the boat divide the fish in number of shares each fish processor has agreed to work upon for *Nakhava*. When fish catch is in large quantity, crew sort out high valued fish like pomfret, large sized prawns, and big fish etc. [which is then sold by *Nakhava* in fresh fish market on daily basis at the landing site itself.](#) Fish baskets once landed on the shore by crew and male members of *Nakhava* family. It is women then take over for processing it.

Historically fishing in village was meant for jawala/baby shrimps like fish. There are other fish comes in season like prawns, Bombay duck. Women shareholders then divide the fish among themselves. Malan has to carry her share on her head if it is small and if at certain day large share comes she has to divide it in 2-3 parts and do 2-3 travels carrying fish on her head to and fro from landing site to her fish drying site. Nowadays fish is transported to Womens' fish drying sites by *Nakhava* or member of his family by tempo. Women have to pay 30 INR per trip to the tempo driver. She has to prepare her drying land at the beginning of season in September and again when land exchange happens at the time of Diwali or beginning of high fishing season. So in local language they refer these two fish drying lands as *bhangache khale* and *kadvache khale*. She has to exchange this land with fixed partner from the village. This partnership was decided by their ancestors and it is still continuing. So she has to prepare drying land twice a year. She usually hires labourers or sometimes women pool in together to work on each other's land. Red stoned soil locally called as *morroom* is bought from contractors and for 1000 sq ft of land each truckload is emptied which is then sprinkled with water and loads of cow dung. Then laborious task of making it flat by hammering it with flat heavy surface/*Chopan* begins which takes around 8 hours in two shifts. Again cow dung slurry is spread for final finish and land then is ready for fish drying mainly *kolim/baby shrimps*. She has to make bamboo structure to dry fishes like ribbon fish, Bombay duck which she gets done by male members from family. She has to take care to build bamboo structure on her land and not on others

which results in quarrel. She has also buy bamboo baskets depending on their sizes to wash and store her dried fish which range from 5-6 big bamboo baskets, 2-3 small bamboo baskets. She has to invest in good cutting instrument to cut small fishes, gutting squids, coconut brooms to spread *kolim*/shrimp on land, plastic sheets to dry costly fish like red prawns to maintain hygiene and quality. Apart from this she has to maintain the drying land clean and flat with spreading cow dung slurry at each fortnight otherwise quality of dried fish gets lessen. She needs one basket full of cow dung which costs between 100 to 300 INR depending on size of basket and availability. Many of the instruments last long but land preparation and maintenance are frequent expenditures.

Once fish comes to her land she has to first sort out different species like from mixed catch of small fishes she sorts out big red prawn taking care to sort them all as they incur highest price ~~called as *sode*~~ after drying which nowadays fetches 2000 INR/10 kg, then she sort squids, Bombay duck, ribbon fish, other small fishes from ~~lager-kolim~~/baby shrimps. Then she work on each sorted species according to drying technique like she spread *kolim*/baby shrimps on drying land after which she washes all her fishes which includes gutting of squids then spread ribbon fish on land, cover red prawns in her shed where there is shadow to keep it fresh and succulent till she gets time to peel them. Then she arranges Bombay duck in the neck of each other and makes them go on bamboo structure along with gutted squids. Then times come to move the *kolim* on the land evenly which is half dried by separating each grain of shrimp from other by using coconut broom delicately among them. This task requires skill and patience as one has to work in constantly bent position. She then peels the ~~prawns~~, wash it and spread it on plastic sheet, by that time her ribbon fish is ready to be arrange by binding together 4-5 fishes together this again goes on the bamboo structure. She has to dry waste from prawns and other waste which fetches lower price but it still has some economical value. If she is alone in family then she has to go back to home to make lunch mostly involving rice, rice bread which she had made in the morning before going to her workplace and fresh fish curry using fish from that days catch. If she has someone at home to cook then they send her meal to her wokplace usually through children of the house. She takes lunch and again time comes to move *kolim* with broom. Afterward if there is no call from godown she can rest or work on her dried fish for that day by collecting it from land and storing it in bamboo baskets. If there is call from godown she has to carry her dried fish to godown, get it passed by agent/ trader and weigh her fish on the weighing scale and help labourers from kata to carry her fish inside the godown. She then collects her account book from godowns accountant. Likewise after each fortnight she has to collect money for the produce she sold.

Fish Marketing

Main concern boatowner expressed was about the price fixing for their dried produce. They have regular number of dried fish agents who comes to mandala or price fixing ceremony at each fortnight. Nakhava mandal/Boatowners association have 8-10 numbers of fish selling godowns where price fixing, fish selling, fish storing happens. Each selling site has 10-14 boats associated with it, one accountant, one informer, 3-4 or based on work daily wage labourers/packers. Agents/traders are fixed one and they don't let anyone else to enter in trade. They make strategy on how to fix the price of certain commodities, they also decide among themselves about which commodity who will claim and what should be the last bargaining price. When price fixing starts

each boatowner presents his sample for that fortnight **or sometimes for that day** based on species of fish dried and also often based on quality of single fish species like Jawala grade 1, Jawala grade 2 etc. Usually prices of dried fish produced fixed at first mandla or price fixing happening at first godown is lesser compared to middle and last mandla.

Boatowners places all godowns **name-number** in each piece of paper and then through lucky draw method decided which godown should go first and which should have last price fixing. Sample from each *Nakhava*/boatowner is collected and presented to the fish traders/ agents in the meeting arranged at godown. Representatives of boatowners decided by boat owners associated with that godown auction for the price with agents. *Nakhava* if agreed for the price trader has asked for can say yes in public, ~~or if-sometimes~~ he may have doubts **then sometimes**—he can consult with his representative in private and may reject to give his produce at said price. Likewise prices for all the fish species and of each boatowner associated with that godown get fixed for. Accountant has to keep record of fish species sample and price agreed by each trader for each boat owner. Once prices are fixed, informer appointed with godown then ferries through all the women associated with each boatowner of godown informing the day and time for selling their produce at the godown.

Women fish processors then bring their produce nowadays usually by tempo to godown where it is get inspected by fish trader/ agent for dryness, whether quality is as per sample or not. If he is not satisfied he may ask women to dry it further or sort it further. Once it is passed by trader women weigh their produce on the weighing scale provided by godown, make sure it is recorded by accountant for weight, rate and fish species in his register and as well as in notebook dedicated for her. She then collects this notebook and moves out of godown. If fish trader in some cases refuses to take some women's fish produce, they call to boatowner who eventually settles the matter with agents by requesting despite this if trader refuse to buy produce then it is loss both for women and boat owner.

Bought fish is stored in godowns and packed by wage labourers in gunny bags. Accountant has to keep record of bags packed according to each fish agent and load it to their appointed fish transport vehicles. Loading and transport costs are borne by agents. Then fish is transported to its destination by agents. Main market for dried fish produce is inland areas like Mahad, Pune sometimes even fish goes to Hyderabad based on agents linkages with other bigger fish merchants. Boatowners said they don't get proper price for their produce. Middlemen eat lot of their income. If agents' buys kolim grade 1 for 1200 INR for 10 kg he will sell it to bigger merchant for 2000 INR for 10 kg and even ask for transport and labour cost. Agents also get 2 % commission from boat owners. **Fish godowns are managed by Nakhava mandal, they collect small amount from that fortnights income to maintain fish godown covering building cost, repairing, payment of workers at godown, price fixing meeting costs. Fish is stored only temporary till it gets packed and transported on the same day it bought by the traders. Fish god owns, land on which they are built considered as community land whose management leis with traditional panch committee.**

Fishers have demanded for fair price to be decided by government as they do for agricultural commodities ~~produce~~. **For now fishers don't get information on dried fish prises in egional and national markets, for how much their traders are selling it and final cost their consumers Aspaying. As dried fish quality gets changeds over time fishers many times are forced to sell at lower prices. In addition fish traders or their agents are all outsiders and have not changed over time. New entrant is**

discouraged in fish trading as it has become a complex web of networks where prices gets fixed beforehand even before looking at samples from traders side. If we look at the income side fish traders gets the most followed by boatowner and last comes women.

Over all this year's only thing changed in fish marketing practises is introduction of digital weighing scales in fish godowns. It is to be noted that after government initiative only this could happened. Earlier there were mechanical weighing scales in operation which introduced some malpractices in the trade. After governments rule to use only digital weighing scales these practises have stopped and now fisherwomen and boat owner both are happy that now even 100 gm of fish is also getting counted. Fishers want more such transparent trade practises. Another thing fishers want to change is monopoly of fish traders in price fixing to increase their share in income. The only government institution created to help fishers and existed in the village, Fisheries cooperative is certainly not helping in dry fish marketing. fault lies with government as well fisheries cooperative network was established, strengthen and given support to increase fishers share in rupee earned but over the time it is now as if they were created only for fish harvesters interests as all the schemes, credit and subsidies are oriented towards them fish marketing and in that scope for dry fish marketing is even scarce.

Conclusion

Village of Navedar Navagaon has seen many changes in terms of infrastructure, education, political systems, technology over time -but Method of fishing, fish drying, division of labour and catch has not changed. There were times when people threw their fish in the sea as they couldn't work on it such was the enormous fish catch. Now fish catch is less and dried fish prices have also risen but fishers feel they are not getting fair price and middlemen eats most of their income -Mechanisation of boats, ownership of target specific gears, introduction of roads, lights, digital weighing scales and mobiles have made life easier for fishermen and fisherwomen as quotient of hard work and time required for all this operations have come down over the years. Earlier there was large fish catch and lesser price now it is vice versa. Key element in surviving this age old traditional system has remained in division of land. Whole stretch of land in between seashore and creek is divided among traditional fishing families. Those whose families got divided as per children they had to take land further away thus increasing their distance from landing site. As vast proportion of land is required to dry equally vast proportion of fish catch by 130 boats other two forces of production capital and labour falls short. Women have survived in this system as they have right to their in laws land which is nearer to seashore to get livelihood. Boatowner has capital, he can hire labour but he doesn't have land in proportion required. He can only lease land which is another side of creek in open auction which costs much more and highest bidder always gets better land. Women also favours sharing system over daily wage labour for Nakhava as she owns her share and independently manages it, she can use wet fish for home consumption and saves portion of dried fish for monsoon months, flexibility in spending her income as per her needs gives more freedom from fixed daily wages. There are four dominant issues emerging over the discussion, rights to customary land and fishing grounds, problems of capital required for fishing owned by limited no of boatowners in this case around 130 number of men, problem of labour involving women fish processors, migrant labour and their conditions, other allied labours in fish godown, landing site etc and fair fish marketing of dried fish produce.

Customary rights over fishing grounds and land is fiercely maintained by fishing community in a village but they don't have legal status over those. Land is the crucial component in dry fish processing and thus security of land to women as entrusted by age old system must be recognised legally. Problems of fish harvesters or capital owners are many. Fish catches have lowered over the years. There are many reasons for dwindling fish catches, all said in unison that pollution caused by various industries have had great impact on fish catch. People complained over RCF factory, saying their poisonous water has slowly killed fish in nearer waters earlier there was abundant fish in creek and seashore, many fishers who couldn't work on boat as crew who mostly belonged to poorer families used to fish in these waters with simple nets like *pag* for subsistence by selling fish in retail fish market. These fishers catch is negligible now. After hours of work they catch 3-10 numbers of fishes in their net. Another reason they cited is increased number of boats. ~~After the Government's~~ schemes on boat loans and subsidies encouraged many crew members to own a boat as a result there are more boats in the sea than intended lowering catch per boat.

Some boatowners blamed purse seine and trawlers for coming in their fishing grounds thus impacting adversely on their catches. Traditionally fishers of the village fish in their traditional fishing grounds without moving from one place as they have right to fish on that place and no other boatowner can come and fish in his place. Fisher can sell this right on fishing ground to other fisher only if he has stopped fishing business. Any new entrant in a fishing who doesn't have ancestral fishing ground has to buy either rights or explore in the new fishing grounds but cannot fish in already marked fishing ground by that particular boatowner. Other big boats like purse seine come in these fishers fishing grounds that have neither right nor respect for customary laws. There is no monitoring or control on number of boats and which boat fishing in which area by the government. Fishers expressed their inability to fight with big owners which have bigger boats and craft and crew and more equipped to threaten fishers on small boats. Sometimes they destroy fishers nets, so fishers many times take a stand "you fish in our area but do not break our nets" as damage to one net cost a fortune to boatowner back at village.

Increased cost of per fishing trip is another major concern, diesel subsidy takes 3-6 months to get refund in fishers account, introduction of new nets cost much which again subsidy is not timely, labour is another major problem as traditional system of permanent labour or members from fishing family working on their own boat as a crew is dwindling. Nowday almost 50-60 % crew on boat is from migrant labour. Trained labour often working as captain of boat fetches more than 1000 INR per day as daily wage; other semiskilled workers get 600-800 per day. Getting a constant labour to work on boat is a big headache for boatowner sometimes labourer commits to come on boat and instead goes on other boat giving slight increased wages. *Nakhava* has to arrange for food for labour, look after maintenance of boat and craft, incur transport costs, other instruments required for business like plastic tups to store fish catch, account books. With all this impacting on fish catch has forced some to diversify their nets with target specific fisheries which may range from 3-4 days based on season and availability of fish.

If *Nakhava* decided to go for multiday fishing or for commercially important wet fish/ big fishes then women fishworkers has to sit at home. Sometimes if season calls *Nakhava* can stop altogether operating dol net fishing which gives daily livelihood to women. In those times women if get work on

other's fishing grounds on work basis like sorting of one big bamboo basket of fish fetches 60-70 INR, likewise peeling small basket of prawns fetches 100-200 INR. She can go on daily wage to boatowners who were unable to get shareholders for their fish catch or have deliberately decided to work on their whole catch. Sometimes she can find work at godown to pack gunny bags with dried fish. She will do this type of work related to dry fish but never get shifted to wet fish vending or any other work which is not related to fisheries. According to women in case study she always gets enough income from dry fishing to feed the family but not to lead satisfied life. With the labour costs of crew is rising women's also thinking their share from the business should be increased. Majority of boatowner feels as they invest more they ought to get 2 parts of income from women's earning. There are many migrant labours in village mostly from North Indian states. They learn fishing and related work over a period of time and work on daily wage basis which is quite high compared to other daily wage works in the state. With increases wages comes increased risk, there is no proper sea safety program for crew on small boats from government only scheme given by government is for bigger boats for the provision of wireless and GPS sets. Safty of crew the falls on the shoulder of boatowner who cannot provide it as crew regularly change their owner/boat for better wages.

In dried fish marketing some agents have made their monopoly by trading fish for years from the same village from the same people to same merchants. According to fishers agents have made racket which discourages others to enter in the trade as new agent. They also decide prices even before coming to price fixing ceremony and in a way force boatowners to sell fish produce on already agreed prices among themselves. Cooperative doesn't take part in dry fish trade even its wet fish trade in trouble as many *Nakhava* choose to sell their catch rather than through cooperative. Fishers needs more proactive role from government in price fixing, Minimum fair price for their dried fish produce as per agricultural commodities, provision of fish marketing systems, Better fish marketing institutions managed by government like agricultural produce marketing committees (APMC). They need infrastructure to reduce their vulnerability on the account of perishability of wet fish and loss in quality of dry fish over time thus losing in income. In rainy season if they get system in place to dry their produce like low cost technology with minimum maintenance and catering to vast amount of quantity with fair access o all can save lots of income. Also if facilities to store their dried fish without losing its quality to get better price. Transparent price structures from both traders and fishers side will solve some of the major concerns they have in price fixing-

Traditional and formal Institutions currently in place to resolve their problems don't have fair women representation though they play critical role in value chain. Out of 2535 members of cooperatives around 25% are a woman which doesn't take part in dry fish marketing. They don't take part in general meetings or cooperative meetings. They don't have representation in traditional panchayat or *Nakhava* mandal. They don't have their formal association to negotiate with other bodies. Their role remains only to sell their labour. Land management; fishing and fish marketing management are all men dominated areas. They don't have ownership of all the fixed assets like land, boat, gear or even home. They can't improve their land as it remains community land like converting it into cement platform or raised counters for fish drying to maintain hygiene and improve product quality. They don't have any in deciding where should *Nakhava* fish, how many days can fish and which gears to use. Women feel their share of income from fish trade should be made equal to that of boatowner as they feel it is less (1 part of income against 2 shares of income of boatowner) to feed their families in today's world. With the introduction of SSF guidelines which

recognise critical role women play in value chain it becomes clearer that fishing communities have to give attention to their women's needs for development, representation and secure livelihood.

There needs to be a conscious policies shift from both formal and imformal organisations impacting daily lives of fishers of Navedar Navagaon. Boatowners who have access to capital and often wealthier than their women fishworkers have tried to diversify their fishing gears with the government aide but women who have only customary rights over land and their labour have no other means but to depend on boatowners for share of their fish catch. Government should strengthen customary management systems of fishing and fish processing already strong both historically and economically and most importantly rooted in people's minds and emotions. Policies aiming at more fish harvesting with subsidies and loans aggravate the problem of already overfished stock by increasing no of boats, gears and cater to few no of boatowners. Immediate efforts need to made to working and life conditions of labourers engaged in whole value chain securing their access to livelihood. Strengthening of fish marketing systems with more budgetary allocations and encouraging fair trade practises like introduction of digital weighing scales have mde great impact on fisher's lives. Need to support women's paid and unpaid labour considering women do double work than their men in fisheries. Changing community's mindset over gender differences will take time but efforts should be continued to catalyse the process.

Comment [NN1]: This is not clear, please explain