

Research article

HEALTH STATUS OF FISHING COMMUNITIES with Special Focus on Orissa

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Abstract

The objective of this review paper was also to understand over all health problems and issues concerned to well being of the fishing communities in general. Some of the gaps in understanding the health issues of fisherman communities in Orissa and non-availability of data were overcome by referring to specific studies carried out outside Orissa. Health studies specifically in fishing communities are very scarce not only in Orissa but also across India. Even those who have attempted to study health issues among fishing communities, have not published their works, or at the most have put their work on internet. The low quality of life of Fisher folk community and the higher occupational risks that set marine fishing communities apart from the other occupational groupings. Social security measures attain paramount importance for them. Fishermen are at greater disadvantage compared to other communities which require close attention. With fishing communities, there is difficulty in defining or tracing the population at risk. A mobile and often self employed group with various length of time spent at sea and between the trips, registration and certification of all fisherman will help in reaching out and addressing the issues related to this community. Studies in the fishing community show that while the children less than 6 years of age nearly coincided with national average, where as women in reproductive age group were less than the national average. This difference shows that in the fisherman communities child population is more which could be due to large family size and it is here by indicative towards a community of low socioeconomic status and ignorance of the felt health needs

Keywords: Fishermen, Fishing community, occupational health, Policy.

Introduction

The current study on the health status of fishing communities was undertaken specifically to provide policy for sustainable livelihoods in the Fisheries Sector in Orissa. The study process involved reviewing secondary data sources from academic institutions, Government departments and visits to the Health care facilities in coastal districts. The review was largely confined to health issues related to the marine fishing communities. A non governmental perspective was taken by inviting NGOs and activists to provide their inputs in a consultative meeting.

The aim of review was also to understand over all health problems and issues concerned to well being of the fishing communities in general. Some of the gaps in understanding the health issues of fisherman communities in Orissa and non-availability of data were overcome by referring to specific studies carried out outside Orissa.

Since the duration of the present study was limited to three months, the review does not claim to be exhaustive but is meant to give a broad based understanding of the health status of fisherman communities.

1. GENERAL MORBIDITY IN THE FISHING COMMUNITIES

Health studies specifically in fishing communities are very scarce not only in Orissa but also across India. Even those who have attempted to study health issues among fishing communities, have not published their works, or at the most have put there work on internet. The current review of health status among the fishing community was done mainly through unpublished documents available with academic institutions and government departments.

Table-1: Prevalence and distribution of diseases among the fisherman communities as seen from different studies in Orissa and Pondicherry. (Figures in percentages)

CONDITION	Keuta study 2001 [1]	Gopalpur 1986 [2]	OTFWU* Findings [3]	PHC data	Pondichery study [4]
Injury		4.6	17.2		2.7
ARI		2.3	5.3	4.5	11.6
Skin	19.3		40.8	5.8	96
Diarrhoea		10.5	1.8	3.3	
Worm infection			5.4	5	
Hypertension	3.7	3.6	1.2		
Malaria			3.6	4	
Vita A deficiency			1.2	3	
Anemia	56.2		3.6	0.8	
RTI	12.96			7.8	
Gastritis		4.3		11.5	10.6
Fever		24.5		22.8	0.5
Body pain				5.8	18.4
Ear				1.5	
Low back pain	49.7	6.9			
Eye disease					5.8
Endocrine disease					0.4
nervous system					0.4
Gentio-urinary					0.4
Filariasis					0.2
Cardio vascular					4.4

* Orissa Traditional Fishermen Worker Union

A close look at the findings of these studies show that disease profile of the fishing community reflect the health problems that are peculiar to lower economic sections of the society.

Typically, diseases due to lack of hygiene and nutrition are prominent e.g. Skin disease, worm infection, diarrhoea and Acute Respiratory Infection. Nutritional problems like Vitamin-A deficiencies are common across various fishing communities

Only 20% of fishing communities are availing Government health care services, while over whelming majority dependent on private health care sector. Making them vulnerable for further exploitation

Socio Medical Factors Associated With Infectious Disease in Fishing Community

Occurrence of two of the major morbidity condition of children viz Acute Respiratory Infection and diarrhoea were further analysed on the basis of various socio medical factor, The incidence of ARI diarrhoea were found to be statistically significant with Higher birth order, higher household size, lower maternal education, poor IDCS attendance and lower birth weight.

Reduced Risk of Cardiac Disease with fish diet

Studies indicate that People with a diet rich in fish, have a reduced risk of suffering a heart attack. This is likely to be due to specific actions of fish oils and the research will look at the way this is achieved. The data indicate that eating of fish may have role in ameliorating the risk of coronary heart disease. [5]

Table-2: Health Seeking Behavior among fishing community [2]

Source of Treatment	Proportion availing services
Govt Hospital	21.1 %
Outside Hospital	14.9 %
Private practitioner	41.7 %
Health supervisor (M)	1.3 %
Lady Health visitor	3.5 %
ANM	6.3 %
MPW M	11 %

Raynaud's disease

Handling different sorts of tasks from slicing, shelling to hardening and processing a variety of marine products including squids and seaweed etc by the fisherwomen soon make them prone to various health problems. The problems range from back pain and protein related asthma to Raynaud's phenomenon a disorder that affects the blood vessel in the fingers toes ears and nose.

2. NUTRITION

Dietary Habit

1. The food pattern of fishing communities imply that the total calories consumption of the under five children were, low but not for protein. The situation is explained by the fact that the family consumption of the seafood was high. This problem is somewhat different situation compared to non coastal area where low protein intake is general picture in the low income families.
2. Food intake by Pre School children fishing communities were observed to be inadequate when compared to dietary requirements. This might be because of poor economic status, low literacy and lack of nutritional

awareness of the mother and lack of time for the mother to attend on the children. Such low intake may lead to affect cognitive function, mood and behavior of children. [1]

3. The mean intake of cereals by the preschool children in the surveyed fishing communities was found to be 136gms/day, pulse intake was 9.8 gm and milk consumption was 66gm and poultry was 16.8 gms where as fish intake was 34 grams. [7]

Low Birth Weight

1. Prevalence of LBW among the fishing community was 76.4 %, and babies born with healthy weight is only 23.6%.
2. The majority of infant mortality in the fishing community occurred among low birth weight babies accounting for 97% to total infant deaths, while only about 3% of infant deaths occurred in healthy babies. [8]

The national average of low birth weight is around 30% [9]

Malnutrition

1. Prevalence of malnutrition was 57.2% (Grade-I 32.6% + grade II-16.9% & grade III 5.2%) [1]
2. Prevalence of Malnutrition in four southern coastal district was found to be 67.5 % (Grade I=42.5%+Grade II=19.5%+ Grade 3 =6.5%) [7]
3. Prevalence of stunting in the 0-5 years age group of fisherman community was 44.1%. [7]

When we look at malnutrition of children in general population 54.4 per of children suffer from malnutrition. Prevalence of stunting was prevalent in 44 percent of children. [10]

Nutritional Deficiency disorders

69.2% of women in fishing community in four southern states were anemic. Other clinical symptoms like angulra stomatis, chelosis, bleeding gum and dryness of skin ranged from 25%-30%.[7]

In general population, 48% of women in Orissa were found to be suffering from nutritional deficiency. [10]

Anemia

Prevalence of anemia in pre school children was 31% and other nutritional deficiency signs were noticed in 35% of children. [7]

The reason for high anemia might be due to low consumption of iron rich foods, maintenance of poor health hygiene and sanitation also due to lack of nutritional awareness

There is a high presence of anemia in lactating women (69.2 %) [7]

Anthropometry

Anthropometric measurements of fisher women showed a mean weight 48.5kg, height was found to be 150cm and their BMI was found to be 21.3. Forty-nine percent of women were normal, 17% were below low normal, 10.5% were mildly nourished and 4% were moderately malnourished and 2.9% were severely malnourished. Only 11.5% were overweight and 4.6% were obese.

The mean weight of school Children was found to be 12.7kg. Majority (41%) of the children were in grade-1 category of malnutrition, 32% were in normal grades, 19% were in grade-2 category of malnutrition and the remaining were grade-3 category of malnutrition. [7]

Social determinants of Nutrition

The combined effect of insufficient food supply and of forced postponement of taking food late in the evening would further reduce the nutritional status of females. This would increase chance of females getting sick leading to lower life expectancy and longevity.

Observed lower female well being can also be the outcome of a low bargaining process where female’s self interest perception assigns lower value to her own well being. This is the case if the females have an agency role so that welfare of the family outweighs her own personal interest [11]

3. MATERNAL AND CHILD HEALTH ISSUES IN FISHING COMMUNITY

Lack of Antenatal/Post Natal Care

Lack of Antenatal care in fishing community can be seen in its effect on Infant mortality, with 62 % of Infant deaths in fishing community occurred in women who had not availed antenatal services, while 29.7% occurring in women having irregular Ante Natal Care [ANC]. While only 8% of infant mortality had occurred among the Infants of women who had taken regular ANC. [1]

All the Interventions aimed at reducing maternal morbidity are linked to attendance to ANC. Hence lower coverage of ANC will lead to lower utilization of Iron Folic Acid [IFA] and Tetanus Toxide (TT) injections , with 6.4% and 40.4% of women received TT and IFA respective among women who had not availed ANC care. [8]

Post natal care was received only by 21.4% of lactating women by lactating women.

If we look at ANC coverage in Orissa as a state, the coverage of antenatal care was rather impressive with 73.4 percent of women had received some ante natal care. [10]

Breast feeding practices

1. Lack of awareness about importance of Breast feeding among fishing community as noted by 72.9% of infant mortality occurring in children who were partially breastfed. [8]
2. Large proportion i.e., 81% of fisherwomen children were weaned at the age of 8 months and it was the food cooked for other family members and never bothered for special foods and sometime preferred to give banana
3. 42.2% of infants were not being breast fed. [8]

Table-3: Immunization Coverage of Children by Gender in Fishing Community in Orissa [2]

FEMALE			FEMALE		
BCG	DPT	POLIO	BCG	DPT	POLIO
36.6 %	25.6 %	24.7 %	31.8 %	33.6 %	27.5 %

Immunization coverage among fishing communities was found to be very low. Communities with Immunization coverage lesser than 80% will not have herd immunity due to which they are at high risk to experience disease outbreaks.

High Maternal Morbidity

1. Maternal morbidity was wide spread with 78.7% of mothers had some or other morbidity eg anemia, pelvic inflammatory diseases, or reproductive tract infections. 75.6% of infant deaths was noted when mothers had one or other morbidity during pregnancy. [8]
2. Anemia is very common with 69.2% of lactating women had anemia but only 58.6% were taking Iron Folic Acid (IFA) tablets
3. There was difference in gender with male children getting better coverage indicating gender bias.

Table-4: Age Specific Fertility Rates Of Fisherman Community in Orissa [2]

Age group	Fertility rate (fishing community)	Fertility Rate (urban India)
15-19	142.8	41.9
20-24	300	192.1
25-29	272	190.5
30-34	160	133.4
35-39	97	70.0
40-44	62	24.1
45-49	-	6.8

It can be seen in the table that fertility rate is high in all the age groups among fishermen as compared to urban India figures. The main reasons for the higher fertility rate among fishing communities could be due to lower socio-economic status and lack access to family welfare programmes by the government

Table-5: Causes of Infant Mortality in fishing community [8]

	Berhampur 03 study-	Orissa state	GIPMER study
LBW	45.90		
Diarrhoea	18.9	1.8	5.7
respiratory	16.2	24.1	20.4
septicemia	10.8		
prematuity		38.5	18.2
Birth Injury			2.90%
Congenital			2.7

4. ENVIRONMENT HEALTH

Toxic algae

Certain marine algae produce potent toxins that impact human health through the consumption of contaminated shellfish and finfish and through water or aerosol exposure. Over the past three decades, the frequency and global distribution of toxic algal incidents appear to have increased, and human intoxications from novel algal sources have

occurred. This increase is of particular concern, since it parallels recent evidence of large-scale ecologic disturbances that coincide with trends in global warming. [12]

Risk of Infection from sea

A number of bacterial, viral and other diseases can be contracted by man through exposure to sewage-polluted bathing-water or beach sand. The increasing use of the sea for recreation has led to major concern regarding health hazards to both local and tourist populations. [13]

Coastal Pollution

Coastal pollution by sewage is still a major concern and control measures vary considerably. A number of microbiological/epidemiological studies have been carried out since 1953 in an attempt to define the levels of risk following exposure to different concentrations of bacteria in bathing waters.

Discharge of sewage to sea and any resultant threat to human well-being is just one of man's effects on coastal waters. The associated health effects of bathing in coastal waters holds a high place on the public agenda. It has been recommended that the sewage should only be discharged to sea after screening, and through long sea-outfalls. They also set down three prerequisites for such discharges: sewage particles should not be able to reach bathing areas; point of discharge should be remote enough from the shore to prevent the slick causing offence to people onshore or in bathing beaches Domestic sewage discharged in coastal waters contains a particularly unhealthy mix of both harmless and infectious microorganisms. [14]

5. Occupational Safety and Health

- In a study ranking job group in Norway based on occupational injuries reported to insurance companies, fisheries had the their highest annual cost per worker
- A Study has revealed incidence rate of 7.6 injuries per 1000 workers per year. The highest injury rate was found in the 20-29 years age group.
- The highest number of injuries occurred from November to March and in May.
- Bruises, fractures, cuts and sprains were the most frequent injuries among the fisheries workers. Bruises and cuts represented a higher proportion of injuries compared with other occupations.
- The study also showed that Injury rates decreased with age. In fisheries workers above 30 years, injuries were most frequent during winter months and were more disperse over hours of the days of the week than in other occupation. Falls and machine related accidents were common, resulting most often in injuries to hands and fingers, chest and abdomen. [15]

Gap analysis

- There are no occupational health services for fishermen and, in contrast to the oil industry there is no mandatory health screening. This is largely due to self employed status of many workers.
- Fatal accident rates of fishermen were noted to be 20 times greater that those of coal mines.
- Only two studies have looked into fatalities with specific causes. One of them was study on fatal poisoning in industrial fishing and another was on air composition. [16]

Physical Vulnerability

- Living and working space on board the boats are very limited. That does not leave much living and working space. Cramped crew accommodation can result in fishermen living very close to each other and this may increase stress as well as increased risk of communicable disease.
- Risks vary with each type of fishing operation, area of operation, boat size, equipment carried and the job of each fisherman. On larger boats, the risk of being killed or injured through crushing by heavy equipment may be relatively high.
- On small and artisanal boats, the risk of capsizing from a snagged trawl, sinking while pulling in a large catch and even being attacked by dangerous marine life can be considerable.
- Bad weather, unsuitable boats are additional risks, perhaps greater for small boats than larger ones. Smaller crafts are more vulnerable to get damaged or lost in powerful storms or run down by merchant ships.
- The external environment may be seen as the cause (bad weather) or an accident may be attributed to the human element (inattention, fatigue, lack of training). Causes may be described in very general terms used for all professions (falling from height, slipping) or be specific to fishing (caught in trawl winch). They can be categorized under various headings, including by boat size

Occupational Health Risks

- A sick or injured fisherman must depend on receiving immediate medical care from other members of the crew; if fishing alone, the only help available must come from himself or from nearby fishing boats, if at all. Fishermen on artisanal craft may not have a radio to call for help.
- Fishermen also suffer from skin and respiratory diseases, effects of noise and vibration. Hypertension, coronary heart diseases, stomach cancer and lung cancer are also indicated as important problems. Some diseases, such as salt-water boils and injury by or allergic reactions to marine life are peculiar to fishing.
- Common problems include occupational asthma, hearing loss, fatal poisoning and asphyxia, skin diseases, cancers of the lip, lung and stomach. Occupational asthma was associated with several types of fish but mostly with crustaceans and mollusks. Fatal poisoning was often related to the inhalation of toxic fumes caused by fires on board. Asphyxiation or poisoning occurred due to the lack of oxygen or the build-up of toxic gases in enclosed spaces. Skin diseases were related to handling fish or other marine life without using gloves. Lip cancer (and skin cancer) is probably the result of excessive exposure to the sun. Lung cancer may be related to excessive smoking among fishermen. It may also relate to the use of asbestos and other materials in machinery spaces. Other health problems may include eye damage from excessive glare from the sun and irritations resulting from standing for long periods or sitting for long periods on cold surfaces. [17]

Table-5: Prevalence of Addiction among Fisherman Community [2]

Addiction	Male	Female	Both
Nil	43.5	52.7	47.8
Alcohol	53.5		28.1
Smoking	53.5	2.3	29.2
Tobacco chewing	53.5	42.9	48.5
Ganja	2.3		1.2
Opium	0.7	1.9	1.3

As can be seen from the table close to more than quarter of the fishing community are addicted alcohol which apart from being direct health hazard, also make them prone to accidents and injuries very often leading to death. Tobacco

addiction is also significantly high in the fishing community with more than three fourth of fishermen addicted to various forms of tobacco.

Results of an ILO survey on health and safety issues in the fishing sector

1. The results indicated that the most frequent work-related injuries in fishermen were: superficial injuries, effects of weather and exposure, injuries to the musculoskeletal system, contusions and crushing injuries, and near drowning.
2. Drowning was a leading cause of death among fishermen.
3. The leading types of accidents were: stepping on, striking against or being struck by an object, falling, overexertion.
4. The leading causes of accidents were: rough weather, fatigue, poor technical condition of the boat, inadequate or inappropriate tools, equipment, personal protective equipment and inattention.
5. The most frequent diseases among fishermen were: skin and respiratory diseases, and the effects of noise and vibration on board the boat.
6. In morbidity statistics and publications hypertension, coronary heart diseases and cancer of the lungs, bronchus and stomach were also mentioned as frequently diagnosed diseases.
7. Some diseases are specific to fishermen, such as salt-water boils, allergic reactions to cuttlefish and weeds, fish erysipeloid, acute tenosynovitis of the wrist, conjunctivitis and poisonous fish stings of certain fish in the warm waters of the tropics and subtropics.
8. In the majority of countries, medical and health care for fishermen has been organized. They are required to be medically examined prior to taking up their occupation, and later on at regular intervals, as required by law and regulations.
9. Medical staff (doctors and/or nurses) are employed in some countries to accompany the crews of large trawlers, factory ships or auxiliary ships (bases) to oversee their health. Otherwise, masters or officers are trained in medical matters and provide first aid and basic health care during the boat's voyage. Medical equipment and supplies are carried on fishing boats, and use is made of the International Medical Guide for Ships or an equivalent national publication. Ships are in contact with medical radio stations on shore and, if necessary, casualties can be transported to shore for hospital treatment, if the distance from shore allows it.

6. Injury

There is not only a great variety in fishing operations but also a great variety in the way fishing safety and health problems are qualified and quantified. For example, deaths and injuries can be related to boat casualties or to personnel accidents not involving loss or damage to the boat; they may be attributed directly to one cause (e.g. drowning) or indirectly to other causes (capsizing of boat, falling over the side).

Accidents may be attributed to a primary event or an underlying or primary cause; they may be associated with certain types of fishing (trawling, long lining) or to certain types of equipment (winches, fishing gear).

A comparison between fatality statistics in the fishing industry and general occupational fatality rates of other occupational categories shows that fishing is one of the most dangerous professions.

Fatalities

In Australia, between 1982 and 1984, the fatality rate for fishermen was 143/100,000 person-years compared to 8.1/100,000 generally; in Denmark, from 1989 to 1996, the rate was 25-30 times higher than the rate for those employed on land; in the United States in 1996, the death rate was estimated at eight times that of persons operating motor vehicles for a living, 16 times higher than such occupations as fire-fighting and police work and over 40 times the national average; in China, over 400 fishermen are reported killed in accidents each year; in Tunisia in 1994, the

rate was double the national average. The ILO's Occupational Safety and Health Branch estimates that fishing has a worldwide fatality rate of 80 per 100,000 workers or approximately 24,000 deaths per year, and estimates that there are 24 million non-fatal accidents in the sector every year.

Fatal accidents in small-scale artisan/traditional fishing

Artisanal and other small-scale boats often operate with less than adequate safety and communication equipment, first aid, search and rescue (SAR) and early warning services. In Guinea, a small country with some 7,000 artisanal marine fishermen, a survey disclosed that during one year every 15th canoe has an accident, and for every 200 registered fishermen one person (male and female fishermen, fish traders and their families) dies in a canoe accident. In Oceania, during the 1989-90 period, some 120 deaths in about 640 accidents were reported. This picture becomes worse still when the sometimes massive losses of life and equipment in tropical storms are taken into consideration.

Most fishing boats are too small to be fitted with accommodation ladders. In harbors with a rise and fall of the tide, access to boats is normally by ladders indented into the pier with steel rungs. These rungs are sometimes twisted or, even worse, missing. Due to the common method of mooring the boats in parallel, the fisherman then has to cross several boats to reach his own. Such a traverse is risky even in daylight under normal circumstances. When a fisherman returns to his boat at night (in some cases under the influence of alcohol), in the darkness with no one else around, such an obstacle course can be fatal [17]

Non-fatal accidents

Non-fatal accidents are common in the fishing industry. The body regions most frequently injured include the hands, lower limbs, head and neck and upper limbs, followed by the chest, spine and abdomen. The most common types of traumas are open wounds, fractures, strains, sprains and contusions. Many non-fatal injuries may involve amputation of fingers, hands, arms and legs as well as injuries to the head and neck. Infections, lacerations and minor traumas of the hands and finger are quite frequent. Information on the Russian fleet reveals that hands were injured in 41 per cent of accidents, legs -- 29 per cent, wrists -- 18 per cent, head and neck -- 10 per cent. A 1995 Swedish study concluded that hands and wrists were the most exposed body parts followed by shanks or knees and lower arms or elbows. Others categorize accidents according to the nature of the injury sustained. For example, a study of lost-time accidents covering 10,475 Polish deep-sea fishermen from 1977 to 1986 recorded that the most frequent types of injuries were: contusions and crushing 25.2 per cent, fractures -- 24.4 per cent and wounds 17.7 per cent.

Causes of Accidents

There are different approaches to examining the causes of accidents, but all have the same general objective -- to understand what factors, or series of factors, led to a casualty or accident, in order to prevent them in the future or mitigate their effects.

The IMO has collected information from member States on the primary causes of casualties which led to the death of fishermen. The table divides primary causes into a number of categories covering both boat and human factors.

Human error, fishing gear incidents and adverse weather appear as important primary causes in the accidents reported to the IMO. As will be seen later in this report, new investigation techniques are helping investigators obtain a better understanding of what causes accidents [17]

Human factor- determinants for safety in traditional fisheries

In long-standing traditional fisheries, fisher folk have inherited time-proven responses to crises at sea, survival strategies and weather perception that, along with their fishing know-how, evolved through ages of operating traditional technology under specific, local conditions. However, the introduction of modern technologies into

traditional systems has in many cases upset the traditional ways of doing things, not always for the better. Lack of appreciation of the limits of modern technology has led to the taking of undue risks (e.g. assuming the outboard motor will always work). This is often exacerbated by shortcomings in technical training in engine operation and maritime training in navigation, in the use of electronic aids and safety equipment, and in first aid and behavior in emergencies.

There is also a loss of traditional knowledge not only due to the shift to unfamiliar technologies but also to changes in the age composition of crews. Old, experienced fishermen for various reasons stay ashore more often. Young fishermen may not only lack the traditional survival skills and equipment but may also feel less vulnerable to accidents than their elders who, though less skilled in operating modern machinery, have more experience in the marine environment.

Another factor is a mistrust of modern weather forecasting systems and, perhaps even more so, of those who convey the information. A warning from a shore side official with no fishing experience may not be believed. For example, when the deadly November 1996 cyclone surprised the Kakinada coast in India, messengers issuing the warnings were met in some places with derision by fisherfolk who could not discern the usual storm-indicating signs in the sky and sea. On the day of the cyclone, fishing boats out taking good catches did not anticipate bad weather and would not heed the radio warnings to take shelter [17]

7. Insurance Coverage

On reviewing presently available Insurance schemes (by govt), found that they are largely life insurance schemes wherein benefits are available only in extreme events i.e., death or permanent disability e.g. Group accident insurance for fishermen (no premium is charged, but only men are eligible), Janashree bimayojana (fisherman pays Rs100/pa +Orissa govt puts in Rs 100 per annum).

The objective of the scheme is to provide life insurance protection to the rural and urban poor persons below poverty line and marginally above the poverty line.

Eligibility: A person who is aged between 18 and 59 years. Below or marginally above poverty line A member of any of the approved vocation/occupation groups

Nodal Agency: A State Government Department which is concerned with the welfare of any such vocation/occupation group, a Welfare Fund/ Society, Village Panchayat, NGO, Self-Help Group, etc.

Minimum Membership Size: Twenty five.

Saving Cum Relief Scheme

This Scheme is initiated to help fisher folk community to tide over their off season period or lean period of 4 months by providing subsistence when they can not go out into sea for fishing

Under this scheme Rs 75 is contributed by the fisherman per month for 8 months, thus contributing Rs 600 per year, Govt of Orissa contributes Rs 300 and Govt of India contributes rupees Rs.300

Community Health Insurance

There is no comprehensive health insurance for fishing community presently available in Orissa.

General mortality rate during the five year period was 42 thousand in fishing Communities and 26percent for the non fishing communities in Orissa as indicated by a study by Bay of Bengal programme. [18]

8. HEALTH SERVICES IN FISHING COMMUNITIES

Deficiencies in Health care services as documented By NGO in Ganjam [19]

1. Low percentage of routine immunization (48%).
2. Lack of pre and post natal services resulting in high IMR and MMR.
3. Low percentage of Birth Registration (16%).
4. Irregular growth monitoring and care feed is mostly misappropriated.
5. Families are forced to have recourse to traditional healer (59%).

Lack of Potable Water and Sanitation.

- a. Fresh water crisis for children to bathe and drink
- b. Children are suffering from water born diseases (60 % worm infestation and scabies – School Health checkups).

Lack of Critical Consciousness.

1. Proper care and development of individual children is affected due to lack of family planning (75 % of mother are not using any family planning method)
2. 30% of mothers have knowledge on Diarrhoea Management.
3. 84% of children have no Birth Registration.
4. 52% of the Children have not received complete immunization.

OTFWU Perspective of Health Services In Arjipally Ganjam

- One PHC (new) is situated near one of the project villages.
- 4 villages do not have a sub-center.
- Nearest PHC/ Government health center is about 15 kilometers from Ramey Patna and 4 kilometers from the Arjyapalli.

Gaps in Health services

- Health workers occasionally visit the villages generally on immunization days.
- There are Quacks/ RMPs provide health care to the people and charge very high fees
- Villages are not connected by public transport system. So at the time of emergency people find difficulty in transporting patients to the hospital and forced to see the village based quacks.

Government Health Care facilities in 6 coastal districts in Orissa

Access to specialised medical care to fishing communities is very limited. The sector PHCs which are single doctor PHC do not provide in-patient care (admit patients) hence services like surgical and obstretical care are not available at sector level. Hence, fishing community will have to depend on Block PHC hospital for these vital health care services but the access to block PHC is limited by long distances which is generally more than 20 kms.

Tabel-6: Government Health Care facilities in Coastal districts of Orissa

	Hospital	CHC	PHC	PHC (N)	MHU	TOTAL
Ganjam	13	10	15	83		121
Jagatsinghpur	2	4	4	36		46
Kendrapara	2	7	2	44		55
Bhadrak	4	6	1	49		60
Puri	11	5	6	43		65

Balasore	6	6	8	66	86
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Table-7: Average distance of Government health care facilities from fishermen villages:

DISTRICT	BLOCK PHC HOSPITAL	SECTOR PHC	DISTANCE from Block PHC	DISTANCE VILLAGE TO BLOCK PHC HOSPITAL*
Jagatsingpur	Kujang	Malanunka	5km	Average distance of fisherman village to Block PHC hospital 20- 25 kms
		Pankapal	10km	
		Raham	15km	
		Potanai	18km	
		Gorada	20km	
		Hansura	23km	
		Ersama	Ersama	
Balitut	22km			
Panchupalli	20km			
Bhadrak	Basudevapur	Basudevapur		Average distance of fisherman village to Block PHC hospital 20-25 kms
		Ertal	10km	
		Betada	8km	
		Eram	12km	
		Balimed	23km	
		Naikanidhi	22km	
Kendrapada	Rajnagar	Dangmahal	35km	Average distance of fisherman village to Block PHC hospital 35-40 kms
		Wastia	10km	
		Hq Rajnagar		

Note. Average Distance from Sector PHC to Individual fisher folk villages would be about 7-10 km. This distance would need to be covered from fishing villages while accessing Block PHC Hospital

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POLICY RECOMMENDATIONS FOR IMPROVING THE HEALTH OF FISHER FOLK COMMUNITIES

The low quality of life (on the average) of Fisher folk community and the higher occupational risks (both to human life and productive assets) that set marine fishing communities apart from the other occupational groupings. Social security measures attain paramount importance for them. Fishermen are at greater disadvantage compared to other communities which require close attention.

The following sets of recommendation are directed to improve general well being of fisherfolk community and also their occupational health.

Promotion of Family welfare programme

Incidence of Acute Respiratory Infections has significant association with house hold size, birth order, and birth weight. There is a need to promote family planning and family welfare programmes in the fishing community.

It is observed that there is higher morbidity pattern and increased Infant mortality in larger families. This is because larger families usually have overcrowding, poor environment and more economic burden than smaller families.

Strengthening Anganwadi centres

ICDS attendance helps in proper immunization and Vitamin-A prophylaxis which are important strategies for reduction of incidence of Acute Respiratory Infections and blindness. There is need for close coordination with WCD department for improving utilization of services provided by the Anganwadi centres to the fishing communities.

Improving Sanitation & Hygiene

Large scale worm infestation problems among children under 6 years age indicate that there is gross lacking of sanitary environmental, hence there is a need for emphasis on environmental hygiene

Control of malaria to reduce infant mortality

Malaria in Pregnant women predisposes to low birth weight & preterm babies which subsequently impact on high infant mortality.

Better Housing and Habitat

The importance of housing/shelter to the fishing community can not be overemphasized in the context of physical protection it provides; in addition it has direct bearing on the health of fisherman as it is associated with incidence of infectious diseases.

- Morbidity in the fishing community is found to be influenced by the per capita income, large family and housing and living condition.
- High mortality rates are observed where housing conditions are substandard overcrowding is a health problem in human dwelling. It promotes spread of respiratory infections such as influenza and diphtheria.
- Diarrhoea is shown to be associated with house hold size hence the emphasis on provision of shelter to the fisherman community.

Improving the Quality of Maternal and Child health Care

Increased access to Antenatal Care

- High prevalence of anemia in pregnant & lactating women in the fishing community poses a major concern. This is compounded by figures revealing that close to half of the lactating women in fishing community had not even received antenatal check ups. Hence extending good ante natal care to fishing community will improve safe motherhood and there by child survival.
- There is a clear association between infant mortality rate and lack of antenatal care. It is also observed that poor quality of ante natal care had an adverse effect on the fate of the infant.

Increased access to Postnatal Care

Different studies have shown that there is very low utilization of post natal care in the fishing communities. The Post natal period is very important period in life of women where many important health tips can be rendered and acceptance by them is very high. Therefore due steps should be taken for rendering adequate post natal services among the fishing community.

Sensitization of mothers to Health Services

As the literacy status of the mother bears a direct relationship on the health of the child, simultaneously, health education must be imparted to this section of women regarding, family planning, maternal and child health services of utilization and post natal care.

Early detection and prompt treatment of Reproductive Tract Infection

The Maternal morbidity during antenatal period such as reproductive tract infection, anemia and pelvic infections etc has significant impact on infant mortality.

Better access to Health care Services

Maternal morbidity is strongly associated with poor medical care especially during labor and child birth. About 70% of maternal morbidity is avoidable. Non existent and inadequate health care for pregnant mother results in the death of the child.

Addressing the Anemia problem in women

Anemia is a major contributing factor in 20-40 percent of maternal death ascribed to child birth and puerperium every year. Similarly overall health and development of children born to anemic mother is less favorable by a factor of 20-40% that of infant born to normal mother.

NUTRITION

Promotion of exclusive Breast feeding

Breast feeding was predominant practice, but it was not exclusive in nature. Simultaneously weaning was not carried out at proper age in fishing community. These factors play adverse role on the growth and development of children which is revealed by the fact that more than half of children were malnourished as per IAP classification.

Promotion of Hygiene and sanitation

The socio-environmental factors have also been chronic in nature in the fishing community due to which more than half of children of 3-5 years had features of stunting.

Widespread prevalence of anemia, diarrhoea and ARI in children in fishing community amply points to the existence of malnutrition –infection vicious cycle

In the fishing communities the prevalence of wasting gradually increased as age increased and simultaneously stunting was also maximum after 36 months of age. This points out that the fact that in the study area due to low socio economic status, ignorance in sanitary conditions the combination of acute on chronic malnutrition is widely prevalent in the fishing community.

Supplementary feeding

Children of 1-3 years of age face the maximum hazards of under nutrition. Therefore there occurs no further increase in the number of malnourished children. The role of ICDS in distributing supplementary nutrition to all the children between 3-6 years becomes paramount.

Early management of malnutrition

Although the most vulnerable period of development of malnutrition is between 6 months to 18 months, the impact on the general health of the child is left behind, though out the childhood which is affected with respect of weight and height.

Promotion of Family welfare activities

Nutrition status of children is also related with family size as children belonging to families with 5 and above number of children had more nutritional disorders.

Increase consumption of cereals.

Protein intake is not a problem in fishing communities as seen in other low income communities. However totals calories intake in the fishing community is low.

Nutritional education

Considering high prevalence of Anemia in fishing community, there is need for imparting nutritional education and importance of taking IFA tablets.

LOW BIRTH WEIGHT

Care during pregnancy

The incidence of low birth weight children in the fishing communities was found to be very high as compared to national average of 30%. Low birth weight deliveries must be viewed as an index of the status of our public health in general and of maternal health in the coastal regions.

NFHS survey shows the low birth weight babies are at 2.5 times higher risk of dying in infancy than normal weight babies.

Reduction of Infant Mortality

Infant mortality serves as vital indicator on socio demographic developments of the communities. The studies reveal that neonatal mortality accounted for nearly 3/5th of all infant deaths and low birth weight and prematurity have attributed to nearly half of causes of infant death. Some key intervention strategies that could be taken into account for reduction of infant mortality in the study area as follows

1. Intensive communication measures to achieve social mobilization for effective utilization of maternal and child health services so as to decrease the incidence of low birth weight.
2. Improvement of basic health infrastructure and creation of facilities for community level care of the new born. This can be carried out by establishing a designated home for the provision of natal services in each village and placement of trained birth attendant so as to ensure clean delivery practices and provide essential new born care such as keeping the child warm, encouraging exclusive breast feeding etc.
3. A concentrated effort must be taken up to achieve Intersectoral coordination to have a better impact on reduction of infant mortality. Along with the health department, involvement of other departments especially Panchayat raj and education departments is highly essential in the present situation. Establishment of ICDS services in the area, which is a non ICDS block will not only decrease infant mortality but also to achieve the overall health and development of the fishing community

Different studies have revealed that though mother and child are taken as one unit due to their physiological vulnerabilities to the factors affecting their health, the MCH situation of the area needs to be further strengthened. Appropriate social mobilization measures and timely health education services is very much essential for the betterment of health of fishing community.

Studies in the fishing community show that while the children less than 6 years of age nearly coincided with national average, where as women in reproductive age group were less than the national average. This difference shows that in the fisherman communities child population is more which could be due to large family size and it is here by indicative towards a community of low socioeconomic status and ignorance of the felt health needs.

Recommendation for Reducing and prevention of Sexually Transmitted Infection [STIs] & HIV infection in fishing community

Primary Stake Holders

1. Instead of Targeted Group/ High Risk Group approach in dealing with STIs, it would be better to have a unified communication system/program for the entire community to be addressed.
2. Along with formal behavioral change communication it is also important for the fishermen folk community to be reinforced /engaged with the IEC messages through outdoor visibility (information Kiosk, Wall paper, poster, paper etc.)
3. Having a clear cut STI management structure.
4. The emphasis should be on Syndromic management than specific disease treatment
5. Intensive behavior change communication for entire community

Secondary Stake Holders in STI/HIV programme

Change of attitude towards STI/HIV among following groups

- Quacks,
- Key informants,
- Godowns /processing plants,
- Transporters,
- labor contractors,
- leaders of people's group (cooperative /SHG/Apex bodies, Hoteliers & Liquor shops)

Innovative ways of sensitization programmes eg. One minute game where winner will say something on HIV/STI

Tertiary Stake Holders in STI/HIV programme.

Integrate and converge all the available resource from CBOs, NGOs, Govt Organization

Recommendation for improving General Health and Sanitation in fishing community

1. Creation of Community health Fund among fishing community
2. Greater PRI involvement especially for environmental sanitation and hygiene.
3. Establishing of drug depots or medicine points among fishing communities.
4. Provision of Mobile Health units for health care in the fishing community
5. Cultural barriers and strong superstitions need to be tackled e.g., Role and *Guniyas*
6. Uninterrupted provision of potable water supply to fishing community so that they do not use saline water for their daily use.
7. Food habits of fisher folk communities largely consist of rice and smoked fish with salt which is inadequate to meet all the nutritional requirements.
8. Promotion of personal hygiene especially daily bath and nail cutting among fishing community.
9. Reducing Vulnerability of fishing community to natural hazards /disaster like Cyclone, flooding, storm surge etc due to their proximity to coastal line
10. Increasing the accessibility and utilization of government health services among fishing community
11. Reducing gender disparity in fishing Community will go a long way in improving health status of fishing community
12. Health care services should be made more gender sensitive.
13. Improving woman participation in all the levels of decision making

OCCUPATIONAL HEALTH

With fishing communities, there is difficulty in defining or tracing the population at risk. A mobile and often self employed group with various length of time spent at sea and between the trips, registration and certification of all fisherman will help in reaching out and addressing the issues related to this community.

- The registration system death in fisherman group is deficient, creation of Marine Accident Investigation Branch could overcome this problem as all the deaths at sea could be recorded and investigated.
- Attempts to reduce work related ill health among fishermen needs to be based on principles of identifying and eliminating or reducing risks.
- Search and rescue team especially trained under the DRM Programme especially in the coastal areas should be effectively utilized for rescuing people caught in fishing related emergencies.

- While in sea, fisherman will not have access external help during emergency; it is extremely essential that they are trained in First aid to tide over the medical emergencies at least until they reach shore..
- The design construction, maintenance and operation of boats all directly affect safety and health. Hence there should be monitoring mechanism in place to look into this issue.
- Accurate Weather forecasting is extremely essential for fisherman to balance between safety and livelihood.
- Provision of simple radio instruments to the fisherman would help in immediate reaching
- Considering the dangers involved with being in sea and risk of boat capsizing provision of Survival equipments and life jackets could be considered.
- Provision of First aid kits in every boat.
- Regular Safety/mock drills for fisherman would help in preparedness and responding to emergencies.

Adherence to ILO recommendation for improving health and safety of fisherfolk community.

ILO convention prescribes the adoption of a coherent national policy on occupational safety, occupational health and the working environment. This Convention calls for:

- Establishing basic principles governing employers' responsibilities at the level of the undertaking (such as the provision of a safer workplace, adequate protective clothing and equipment, and measures to deal with emergencies and accidents, including adequate first-aid arrangements);
- it provides that arrangements made at the level of the undertaking should ensure that workers take certain actions (such as reasonable care, compliance with instructions, use of safety devices and protective equipment, reporting hazards to supervisors and reporting accidents and injuries)
- The occupational safety and health measures should not involve any expenditure for the workers
- The measures of protection, such as guarding of machinery, medical examination, and maximum weight of loads to be transported by a single worker.
- Protection against specific risks, such as ionizing radiation, benzene, asbestos, prevention of occupational cancer, prevention of air pollution, noise and vibration in the working environment and safety in the use of chemicals, including the prevention of major industrial accidents.
- *Recording and notification of occupational accidents and diseases.*

The last of these represents an attempt to develop the basic requirements for the collection, recording and notification of reliable data on occupational accidents, diseases and related statistics.

Active coordination with the **International Occupational Safety and Health Information Centre** is a worldwide service dedicated to the collection and dissemination of information on the prevention of occupational accidents and diseases. It is assisted in its work by over 120 national institutions around the world (its national and collaborating centres) which deal with Occupational Safety & Health matters in their own countries.

Medical Examination of Fishermen

No person should be engaged for employment in any capacity on a fishing boat unless he produces a certificate attesting to his fitness for the work for which he is to be employed at sea. The certificate is to be signed by a medical practitioner who shall be approved by the competent authority. Exemptions are possible, under certain conditions, for boats not normally at sea for more than three days. It provides that the competent authority is to prescribe the nature of medical examinations and the particulars to be included in medical certificates. There are special requirements for persons less than 21 years of age. There are provisions for further examination by a medical referee in the event a certificate is refused to a fisherman.

International Medical Guide for Ships

The International Medical Guide for Ships aims to enable users to diagnose and treat injured and sick seafarers; to serve as a textbook on medical problems for those studying for a certificate in medical training; and to help in giving crews some training on first aid, and on the prevention of diseases. It covers most types of injuries and illnesses experienced at sea., Diseases of fishermen, provides advice related to such diseases. Some countries require the *Guide*, or a national equivalent, to be carried on board.

Hours of Work

This Recommendation recalls a declaration in the Constitution of the ILO that all industrial communities should endeavor to adopt, so far as their special circumstances will permit, "an eight hours' day or a forty-eight hours' week" as the standard to be aimed at where it has not already been attained. It recommends that member States should enact legislation limiting in this direction the hours of work of all workers employed in the fishing industry, with such special provisions as may be necessary to meet the conditions peculiar to the fishing industry in each country and, in framing such legislation, to consult with the organizations of employers and workers concerned.

Fatigue at work

Fatigue is seen to result in the degradation of human performance and the impairment of rational decision-making and thus has implications for the overall safety of the boat and for all personnel. Reference is also made to a new appendix, which contains information on fatigue and the classification of factors contributing to it. All concerned in the operation of the boat should be aware of the contributory factors and how the effects of fatigue can prejudice the safe operation of the boat. The skipper, senior officers and other personnel having a supervisory role should be able to recognize the development of fatigue among the fishing boat's personnel.

Minimum Age (Fishermen)

This Convention stipulates that children under the age of 15 years shall not be employed or work on fishing boats. It provides that children may occasionally take part in the activities on board fishing boats during holidays, subject to certain conditions (namely, the activities are not harmful to their health or normal development, are not such as to prejudice school attendance, and are not intended for commercial profit). There are also exceptions for work on training boats, provided the work is approved and supervised by a public authority.

Injuries Prevention

Young fisheries workers are at particular high risk of occupational injuries, which can potentially be prevented by better on the job training, closer follow up of experienced workers and reduced demands for efficiency from beginners.

Training and risk awareness

- Adequate training would seem to be a prerequisite for working in such a dangerous profession.
- Generally speaking, the larger the boat, the higher the requirements for the training and certification of fishermen.
- Lack of training contributes to many stability-associated accidents, Insufficient training is also a reason for some crews' ignorance of means and ways of dealing with emergencies such as fire on board or taking water. The fishermen of a small fishing boat need to be trained to negotiate heavy seas and strong currents
- Training takes time. At sea, training (e.g. safety drills) may be seen as interfering with fishing operations or rest periods; ashore, time spent training may be viewed as unpaid work which is also keeping fishermen

from precious time with family and friends. Training can also be costly, and government funding may be difficult to obtain. Despite these difficulties training programme should be taken up.

- Training must be credible. Fishermen quickly get a sense of whether or not the person speaking on safety issues understands them and their problems. If they believe that what is presented is impracticable, costly or simply not well thought out, they may not only reject the instructor but also the idea of attending another training course or programme. Consideration might therefore be given to using experienced and respected fishermen to conduct training, such as fishermen who have left the sea due to fishing restrictions, injuries or age.
- Many fishermen cannot read. Training materials should be aimed at the education level of the target group. They should be clear and well illustrated, so they can be clearly understood by most fishermen.

HEALTH INSURANCE FOR FISHERFOLK COMMUNITY:

1. Increase awareness about need for Insurance among fisher folk community emphasizing on dangers faced by the fisherman community.
2. Shift of emphasis from life insurance to general health insurance schemes to cover major illness, surgeries and hospitalization.
3. The present insurance schemes to fishing community are only provided by the government the coverage could be increased by roping in private insurance companies e.g. ICICI Life insurance.
4. Group Accident Insurance should also be modified to cover women, which is presently restricted to Men folk.
5. Contribution of women folk to the fishing industry should be recognized by extending the same benefits as of their male counterparts.
6. The present Jana Bima Yojana scheme insists on group coverage but should also be made available to individuals.
7. By introducing Money back policy schemes will interest fisher folk community than the present conditional benefits to death and disability.
8. Risk communication should be more effective
9. To create consciousness for his / her family for the Health care.
10. Revitalization of fisherman cooperative societies

Innovations required

1. By low cost yearly non refundable premium
2. Involvement of local civil society organization
3. Intensive door to door campaign for insurance

Hurdles

1. It's a new concept still to be internalized by fishing community.
2. Lack of awareness towards health and health insurance
3. Local quacks and touts in the business
4. Availability of donor agencies.