

## **OCCUPATIONAL SHIFT AMONGST FISHERMEN; A CASE STUDY OF FISHING COMMUNITY IN DISTRICT LARKANA**

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### ***Abstract***

Fishing is considered as one of the primary sources of acquiring food since time immemorial. In general, Aquaculture is a production technology with its origins in Egypt and China which dates back to thousands of years. However, a significant change at global level took place as better control over the production process enabled a number of new technologies and production practices to develop since 1970s. Small-Scale fisheries currently face critical changes, socio economic development, and vulnerability to natural and human disturbance. The paper focuses on the small scale geographically based, single occupation fishing communities of district Larkana. The study was conducted over a period of two months field world through Descriptive research methodology. Due to lack of availability of sampling frame, non-probability-Purposive sampling was used. The method for data collection was in-depth interviews. One of the major reasons behind occupational abandoning amongst fishermen, is lack of Understanding the interdependency between these subsystems, particularly with regard to the socially implication on fishing communities has remained largely ignored. Apart from these, several other sources of pollution such as efflux of municipal wastes and burning effluent are also affecting the river condition exerting a synergistic effect on the process of ecological degradation. The results reflect that the social vulnerability of the fishing community to these pressures potentially diminishes the livelihoods, food security wellbeing and traditional lifestyles of coastal communities and cultures. Small scale fishing communities undergo a constant

change, and they adapt with the environmental changes alongside; one of the major implicational is occupational shift. Thus, the findings of the study could be used as a dynamic contribution in devising the policy and suitable action plan of action to combat the impacts of climate change by minimizing the vulnerability of the natural ecology and the fishing community.

**Key Words:** Occupational shift, Fishing, Coastal community, Ecological degradation

## 1.1. Introduction

Aquaculture has resulted as the world's fastest growing food sector that is animal based due to its productivity and market growth (FAO, 2006). The past few decades have witnessed a dramatic transformation in this region's fish catching and rearing industry including both rapid mechanization and industrialization. Foreign exchange earnings from exports of fish and fishery products have been steadily rising in the world.

The share of fisheries sector is meager to the economy when it comes to Pakistan. It has not received due consideration and as a result, we have not yet contributed to the export of our marine catch. In Sindh, there are extensive lands which are waterlogged and saline, they are no more suitable for crop production, and hence can be developed for fish culture (Wasim, 2007). For ages, the coastline communities have been gathering marine resources, particularly fish, though the activities were predominantly meant for the basic subsistence needs by using locally prepared equipment such as traps, weirs and hooks (Perry, 2011).

When it comes to fishing as a profession, it exhibits a discernible threat than others. It is widely agreed that the major determinant of fisherman's risk preference in terms of responses to change in fishing stock, weather conditions and market. The very behavior needs to be understood when it comes to their adaptation to cope with these risks (Mistiaen and Strand, 2000).

Not only the fishers but also there are certain other determinants involved in a complex relationship when we see the interface between ocean fisheries and human social systems the definition of a fishery system says that "fishery is a combination of such a subsystem which comprises human, natural resources and their management that are dynamically interacting and influenced by both international and external factors. The social implications on fishing community has largely been ignored due to lack of Understanding on the interdependency between these subsystems (Salas & Gaertner, 2004).

There is a lack of fisheries management system in our country. The enterprise of fish related stock management and basic scientific knowledge of fish biology is what it accounts for. The extent of fishing is determined by the human desires, the politics of fishing, and the centrally determining institutions. The communities engaged in this profession are devoid of the basic living facilities including adequate education.

Sustainability refers to a smooth and steady growth. When it comes to sustainable development, there is a trio of economic, social and environmental needs which are to be addressed. Hence, the incorporation of this human dimension is central to the challenge and sustainability in fishing sector. We come to know that, in management practice and theory, it has historically been accomplished, by a specific economic understanding of fishermen and fisheries. The management initiatives after assessment of the traditional single species, in practice, emerged since 1950s for individual fisherman (Martin, 2003).

Micro level fisheries currently face critical challenges due to the socio-economic development, and their susceptibility to natural and human disturbance. The traditional lifestyle of the coastal communities and their culture is potentially contracted by the social vulnerability to their livelihoods and food security. The process of change and adaptation is driven as a result of environmental changes is what these small-scale fishing communities constantly undergo. The ability to cope with these changes and abandoning professions are thus reflected by changes field related to fisheries parameters such as fish catch, availability, abundance, and stock size (Cinner 2009).

Occupational communities are of theoretical note only when occupational interests supersede more limited regional interests. The sociological significance of occupational community stems from an individual's ability to choose among several occupational opportunities. Salaman prefers to call geographically based, single occupation communities (such as mining and fishing villages, where there is no choice of occupation) quasi-occupational

communities (Salaman 1975).

The research aimed to study the dynamics of occupational shift amongst the fishermen community in district Larkana. There is an immense lack of comprehensive reviews on policies at governmental level which directly and indirectly are risking commercial fishing and ultimately communities. The occupational shift is a transitional stage where people are forced or attracted to let go of their professions in seeking other professions. A better understanding on the lifestyle of the fishing community, their historical background and their value in society are an integral part of the study. Fisherman is to be known as a king, of lake in which he lives whole day for catching fishes for to support his family. The routine life of the fisherman takes them from dawn to dusk. They live in extremely deprived communities lacking all the basic facilities of life. It is estimated that they earn approximately fifteen to sixteen hundred rupees per day from this profession.

## **1.2. Literature Review**

The first major fisheries on the eastern coast of North America antedate the formation of ICNAF by 425 years (Serchuk and Wigley, 1993). France and Portugal, who were later followed by England and Spain, developed their first long distance fishing fleets for cod on the Newfoundland's grand banks in the late 1500s (Innis, 1978, Lear 1998). Much of that early effort was carried out by long lining; trawling came much later. The commercial long lining began primarily near the shore shortly once the first colonists arrived in New England in the early 1600s to the south in USA waters. Fishing expanded on a magnitude, reaching further offshore to the Georges Bank in the beginning of the mid-1700s,

Climate change results invariably on the aquatic ecosystem, agriculture, energy and economics. The fishery sector is the one, on which livelihoods of world's 36 million fisheries depends. A little attention is paid which is so negligible that studying and assessing the impact of this climatic change program has not been paid any attention. One such small effort in this

context was therefore this study, which was envisaged to assess the reasons behind fishers' occupational change.

The results obtained from the studies on fishing communities worldwide, reflect a low adaptive ability of fishers. It could be attributed to the lack of awareness, education, preparation, and mitigation decision. Thus the impact of climate change to the fisheries sector can be minimized by incorporating the findings of the studies though limited, as a vital input while developing the policy and suitable action plan (Brander 2010).

When it comes to oceans and seas, the climatic changes affect fisheries through acidification, circulation patterns and changes in sea temperatures, also the frequency and severity of extreme catastrophes, rise in sea-level and allied ecological changes. When we refer to our case based issue, we need to see the causes concerning fresh water fisheries, lakes and ponds. Apart from climate changes, the most important is the human dimension which is attributed to the exploitation of these fresh water reservoirs. In both cases, the direct and indirect impacts accountable, include the impressions on targeted populations' productivity and range, food webs and their habitat, as well as the cost of fishery productivity and fishing community's livelihoods and safety.

Concerns on linking development stresses and shocks with poverty reduction were raised in 1980 and 1990s with the environmental and development movement. By the publication of Brundtland report in 1987 (WCED 1987), the term sustainability came in the lexicon in a vast following and hence became the focal point of apprehension in UN Conference on Environment and development in Rio in 1992 (Scoones 2007). In cross disciplinary academic research, the linked ecological and environmental issues consequently were explored in studies of socio ecological systems, resilience and sustainability science (Clarke and Dickson 2003).

The changes in their physical environs will hence ultimately affect the mortality, growth, and reproduction of fish along with their migration, feeding and breeding. Not just limited to the

developing countries, also European catches in the Baltic Sea have revealed a constant reduction. Currently the species is relentlessly depleted and be nominated for the IUCN Red List of Endangered Species. The reasons to the reduced fish stock status is due to exploitation, barriers to migration, parasites and disease (ICES, 2006). Also, by improving fuel efficiency, switching to more efficient gear types or vessels, sails or changing fishing practices would reduce emissions from fishing activities (FAO, 2007).

The Fisheries Acts have created a sense of awareness about the preservation of wetlands among people in general and also among the *Panchayat* level function in India. Fishing activities from harvesting of fish to marketing have grown in the inland sectors and fish farming in ponds and tanks has emerged as an important means of providing employment opportunities to the rural masses. In West Bengal, water bodies at village level are slowly being brought under government control through formation of new primary fishermen's cooperative societies (PFCS). Fishermen's cooperatives are now being increasingly recognized as one of the major institutional strengths for improving their economic condition (Kamat, 1978).

Freshwater fishing is characterized by the use of simple boats and elementary tools, which requires very limited investment as compared to ocean fishing, generally with more advanced and expensive boats. Along with fishing, mostly fishermen are involved in farming or aquaculture activities to earn supplementary income for their families (Nguyen, 2002).

### **1.3. Methodology**

Fishing can be classified into two main categories: freshwater and ocean fishing. The former includes fishing in lakes, lakes, and ponds. (Nguyen, 2002). The four lakes which were selected for the study from the district, were *Hamal, Saroh, Lungh, Drigh* in Larkana division. The research was limited to the first category of fishing, the freshwater fish. Furthermore the source of data was based on 24 in depth interviews from the fishermen over the period of two months attributed to field work for a master's level dissertation.

#### 1.4. Results And Discussion

River Indus is flowing from the north to east to southwest and touches the borders of the district along Ratodero, Larkana and Dokri Talukas. The rains of the mountains result in the formation of hill torrents locally known as *Nais*. It dries after the rainy season. There are many natural depressions known as *Dhunds* (Lakes). The research was based on the four lakes identified previously to study the reasons behind fisher folk's abandonment of their profession in Sindh.

The Climate in summer is hot and moderate in winter at the locale of study. The general sub-emersion of soil and canal networks add moisture to heat during summers. The warmth lasts up to the middle of October, after which nights get cooler and the day temperature starts to reduce too. Sea breeze does not affect the district's temperature, being situated far away from the sea. The main maximum and minimum temperature in summer season is approximately 43 C and 33 C, while that of the winter season 21 C and 11 C respectively. The average annual rainfall is minimal, i.e., about 100 to 125 millimeter per year (Sidique 2002).

#### The Meer bahar Community

The community claim that they have settled here from not earlier than two decades after getting affected from floods and other natural catastrophes. The people belonged the extremely impoverished class, poverty driven. Hence the housing was extremely simple. Their houses were built with *kacha* bricks and mud. There were sufficient arrangements for ventilation and lighting. The houses mostly consist of one to two rooms without bathrooms and kitchen. The plain shelters were without walls. People were living with their families. The community was based on both Hindu and Muslims. The Muslims claim to be *Chandio*, *Mugeri*, *Maachi*, whereas the Hindus were *Bheels* and *Kumars*. The community was living simply, was devoid of any kind of cultural or religious rituals. No worship places were seen in the community. Both Nuclear and extended families were found where the average family size ranged from 6-7 in a nuclear whereas around 11-12 people in an



extended setup. Monogamy was prevalent.

It was observed and got confirmed upon inquiry that no clean water or sanitation facilities are available in the community. Nor there was any medical health center, reproductive health center or schools. These are the factors which add on to lack of awareness, education and responsiveness of the local community. Any culture contributes to the awareness, sensitivity, responsiveness and then proficiency of its followers. Ignorance is the cradle of poverty. We can see that these individuals are not culturally responsive to the ecological niche they are exploiting. In turn, the environment is no more suitable for sustaining the livelihood of the fisher folk. The water available from the lakes is hard water, already precipitated which add on to the skin, liver, kidney diseases of the local community.

The interviewees responded that same water is used for drinking, fishing and washing. It was also seen and later informed that wastewater of the community also ends up flowing in the same lake. Also, the bigger lakes have the industrial units nearby, which dump their wastes in these water banks, resulting in extreme damage to the natural water reservoirs and disturbing the local ecological niches. People in the village used to live in the extended families. Social and kinship bonds were strong and the decision-making power is divided on both male and female. There was a feeling of social responsibility within the members of a family and residents of village, but to the disclosure, environment was devoid of their definition of “responsibility” and it was merely the *Sarkar's* responsibility in their view.

In the fisherman's nuclear family, both husband and wife are very equivalent. A woman in fishermen community feels proud to be wife of fishermen. A child or son in their community is considered as the fishing son. Along with the study of fishermen in occupational communities shows the danger of fishing which is identified as an important emotional duty or task for fishing men. While one thing also explored/observed during research that women in fishermen community were committed to supporting their men in their selected occupation which happens to be very profitable.

During this research, the gadgets used by the fishing community were also discussed such as boats and other logistics with his key informant. The fishermen community is still traditional boats and nets made up of hard thread. There were basically two types of boats, viz boats use for only fishing and second type of boats, was mostly used for riding by the local people for entertainment. The fishermen were using various types of nets made out of different locally procured items to capture fish. They were 'Thulhi Dori' drag nets, 'Saado-jaar', etc. Another method of catching fish was by various types of traps such as 'Kundi', 'Raso', 'Kupy waari Jaari', etc. However, at present, nylon nets have replaced the traditional items used for various types of nets, traps or borderlines and thus blurred the traditional distinction between various types of fishing nets and traps.

Volumetric and weight units used in the fishing industry differ over time (MacKenzie, 2002). When asked from this community, no standardized have been used. Rather, the expression of catch was indicated by the income on daily basis which was around 1500-1600 rs per day as per their claim.

There is a dynamic shift from fishing to agriculture seen in the past few years. Reasons behind this shift is claimed as, lack of water, lack of fish production, lake land possession by the land mafia. The stimulation of conflict, even before the prediction of hydrological models in water volumes was made (Carey, 2012). Power dynamics and social relations resulting from technology, not just limited to fisheries specifically, were installed to prevent a long term climate-induced disaster.

The research suggests that the role of women who support their spouses in bad times is of real significance. Formally this may be considered as a kind of hybrid between subsistence fishing and commercial fishing, since it is a form of barter (Flo, 1998). The main market problem faced by Fisher folk, ma be attributed to the lag, formulated as "too many small and too few large customers."

The climate change reduces the quality and quantity of fish harvested from the lake, reducing postharvest loss, increases in significance (Jamu, 2011). The physiochemical composition of the lake water changes overtime especially where there is a concentrated nearby population, leading to declining marine flora and fauna. Also, harvesting from natural populations often produces more variable yields than cultivated production systems with suitable climatic conditions (Bill, 1987)

Lakes serve as a recreational spot to the local visitors. But due to lack of municipal administration's attention, no measurements are taken for their maintenance and cleanliness. The visitors end up piling their waste and garbage in the very lakes, which is turning these fresh water reservoirs to garbage piles. Unclean water and garbage has attributed to dirty water and filth, which in turns reduces the fish yield in those lakes and may end up ultimately in extinction of marine culture from these lakes by leaving them to waste water dumps, if the situation prevails.

In terms of land possession and exploitation, the fishermen claimed that the land lords have started to take over the lake land as well. Now, they offer 4<sup>th</sup> part of the daily yield to the fishermen, which is an extreme kind of exploitation to the already impoverished ones. The only resource they have is their fishing skill and the catches they caught were sold locally or bartered for other goods (Sand, 1986).

If we need to bring some practical improvement to these poverty driven communities, we can take examples from our neighboring countries. When we take examples from the developing countries like that of us in our region, we see that the department of fisheries of government of India has taken up a number of schemes for improving the economic condition of the fisher folk. This includes provision of extension education, improved fishing technology, credit and subsidies. However, in spite of the financial, technical and infrastructural facilities provided by their government, these cooperatives are still constrained by a variety of organizational,

managerial, administrative and financial factors. This has constrained the cooperatives from being able to achieve their objectives. Even then, most of the fishermen in various states of India are still in the grip of poverty. (Brumett and Williams 2000).

### **1.5. Conclusion**

Rural communities in areas only marginally suited for agricultural production may look to harvesting from natural ecosystems as a basis for economic activities to sustain local communities. Fishing has been such an activity used to eradicate poverty. Aquaculture, especially fishing can be developed in the extensive, barren, and saline lands of Sindh. On the contrary we have seen an inclination of the fisher folk to agriculture. Keeping this in view, yet many fishermen have switched to agriculture, in the attraction of the availability of small loans and rental lands for agriculture offered to the farmer, that appears to give them better production and returns as compared to fishing. Perhaps, indebtedness, exploitation by the landlord, water availability, agro technology, cost and side-effects of fertilizers and pesticides have not been taken much in evaluation and consideration by these newly emerging farmers. Seeking sustainable livelihood through agriculture with such initiatives is again not an easy endeavor and will continue to gauge these communities in the vicious cycle of poverty if not educated.

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