



Chapter 3

Fisheries sector in Manipur: A brief profile

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3.1 INTRODUCTION: A BRIEF PROFILE OF MANIPUR

Manipur, one of the seven sisters of the North Eastern Region of India, is a small state with the State Capital at Imphal. The word Manipur literally means “a jeweled land” is a charming place encircled by nine hill ranges on all sides with a small and beautiful oval shaped valley at the center. Late Prime Minister Pandit Jawaharlal paid a fitting tribute by describing as Jewel of India. The state Manipur is marked between 92°58' E to 94°45' E longitudes and 23°50' N to 25°42' N latitudes. It is bounded by Nagaland on the north, Cachar district of Assam on the west and Chin Hills (Myanmar) and Mizoram on the south and south west and Surma Tract and upper Chindwin of Myanmar on the east. The state has 352 kms. long international border with Myanmar and carries strategic importance for international trade and commerce with the South East Asian countries.

Table 3.1: Profile of Manipur according to 2011 census (provisional)

No. of Districts	9		
No. of towns	33		
No. of villages	2391		
Area in sq. km	22327		
Total population	Persons	Male	Female
	27.21 lakh	13.69 lakh	13.51 lakh
Literacy in %	79.85	86.49	73.17
Population growth in % from 2001 census	18.65		
Density of population per sq. km	122		
% of rural population to total population	74		

Source: Census 2011(Provisional), www.censusindia.gov.in



Manipur has a geographical area of 22,329 sq. kms. which constitutes 0.7% of the total land surface area of India. Ninety percent area of the state i.e. 20,089 sq.kms is covered by hills, the remaining 2,238 sq.kms is covered by small valley and it account for one-tenth of the total area of the state.

The State has nine districts. The hill region comprises of five districts, namely, Senapati, Tamenglong, Churachandpur, Chandel and Ukhrul while valley consists of Imphal East, Imphal West, Bishnupur and Thoubal. The districts are further divided into 38(thirty eight) sub-division.

Manipur is a border land-locked state and it does not have any waterways and effective railway transport system (despite a railhead at Jiribam in south western border). The state is connected by air and roads. However, roads constitute the most important transport system. Three National Highways viz. NH- 39, NH- 53 and NH-150 connect the state with rest of the country.

3.1.1 Demographic features

Population of a country is its most important asset and resource of all kind of development of the State. Population of Manipur as per 2011 census is 27.21 lakh comprising of 13.69 lakh of males and 13.69 lakh of females. Population of Manipur constitutes nearly 0.22% of the total population of India. Manipur has a population distribution of 16.28 lakh (59.82%) people living in valley and the remaining 10.93 lakh (40.18%) thinly disperse in the hill. Nearly 74.89 % of the population lives in the rural areas according to 2001 Census. (Economic Survey 2008-09). The density of population per sq. km. in the valley is 728 which is much higher than the hill. The population density per sq.km. in hills is only 54 as per 2011 census. The following table shows district wise distribution of area and population.

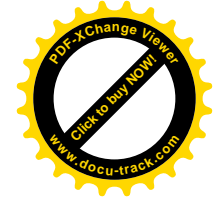


Table 3.2: Distribution of area, population, density of population and sex ratio by districts of Manipur as per 2011 census (provisional)

Sl. No.	District	Area in sq. km.	Population (in lakh)	Density of population per sq. km.	Sex ratio (female per 1000 male)
	A: Hill	20,089	10.93	54	
1	Senapati	3271	3.55	87	987
2	Tamenglong	4391	1.40	25	953
3	Churachandpur	4570	2.71	50	969
4	Chandel	3313	1.44	36	932
5	Ukhrul	4544	1.83	31	948
	B: Valley	2238	16.28	728	
6	Imphal east	709	4.52	557	1011
7	Imphal west	519	5.15	855	1029
8	Bishnupur	496	2.40	419	1000
9	Thoubal	514	4.21	708	1006
Total	Manipur	22,327	27.21	122	987
	India	32,87,263	12101.93	382	940

Source: Provisional Population Totals, www.censusindia.gov.in/2011.

3.1.2 Literacy rate in Manipur

The extent of literacy reflects the qualitative aspect of the population. Higher literacy emancipates economics and social backwardness. The literacy rate of the state, which was 62.13% as against All India Average of 52.21% as per 1991 Census, went up to 70.50% as per 2001 census and there is further increase of literacy rate in the state upto 79.85% as per census 2011 (Provisional) as compared to All India average of 74.04% in 2011. The male and female literacy rate in the state according to 2011 census (Provisional) is 86.49% and 73.17% respectively as compared to male and female literacy rate of 80.3% and 60.5% in 2001 respectively which showed gender inequality in terms of literacy. It is also found that female literacy rate is increasing faster than the male literacy rate in the state.

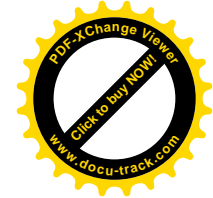


Table 3.3: District wise literacy rate as per 2011 Census (Provisional)

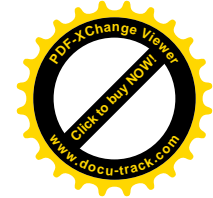
District	Literacy rate (%)			Rank
	Male	Female	Person	
Senapati	80.85	68.80	75.50	7
Tamenglong	76.74	63.76	70.40	9
Churachandpur	88.34	80.13	84.29	2
Chandel	77.93	63.26	70.85	8
Ukhrul	86.05	77.47	81.87	4
Imphal east	89.86	75.92	82.81	3
Imphal west	92.93	80.71	86.70	1
Bishnupur	85.52	67.29	76.35	6
Thoubal	85.90	67.57	76.66	5
Manipur	86.49	73.17	79.85	

Source: Provisional Population Totals, www.censusindia.gov.in/2011.

The above table shows that Imphal West District ranked first among the districts of Manipur with 86.70% literate which is followed by Churachandpur District with 84.29%. Tamenglong District has the less literate rate with only 70.40%.

3.1.3 State of economy

Manipur economy mainly depends on agriculture and allied sectors. Agriculture still occupies the most important position in the state's economy. Arable land is by and large marginal and hence agriculture had persistently been on subsistence level in Manipur. Agriculture is the main occupation of the people of Manipur. Agriculture sector contributes a major share to the total state domestic product and provides employment to about 52.19% of the total workers in Manipur. In fact, the state domestic product fluctuates depending on the performance of agricultural sector. Agriculture becomes a living proposition rather than a commercial activity. It plays a very crucial role in employment and income generation. Rice is the staple food and is grown in hill and plain areas and it accounts for about 98% of the total food grain production in the State in 2006-07 (Economic census 2008-09). The other important food crops of the state include wheat, maize and pulses. Potato, ginger, gram, cauliflower, cabbage, mustard, turmeric, and other



spices crop are the major crops of Manipur. Among the horticultural crop, pineapple, banana, lemon, orange, passion fruit, pomegranate, papaya orchid, cashew nut etc. The state has a very rich species of flora. A number of medicinal plants are found in the region. The state has got a suitable climate and environment for practising sericulture. Bamboo, oak, teak, leihao and uningthou etc. cover the forest areas. Manipur has got plenty of fishing resources in the form of lake, reservoir, tanks, ponds, marshy areas, natural basin, water lock areas and canal etc,

Economic classification of worker

The workers can be broadly classified into two categories viz. (1) main workers and (2) marginal workers. Main workers are those who worked for a major period of the year (183 or more days) and the marginal workers are those who worked for less than 183 days in a year. Census 2001 reveals that 43.6% of the populations are workers whose main activity is participation in any economically productive work by pursuing physical or mental activities. It also reveals that cultivator account for 40.17%, agricultural labourers was 12.03%, household industry contributed only 10.25% and the remaining 37.55% belonged to other workers of the total population.

Table 3.4: Distribution of workers in 2001 census

Sl. No.	District	Total workers (main and marginal)	Cultivators	Agricultural labourers	Household Industry	Other workers
1	Senapati	71,888	44,766	9,531	3,454	14,137
2	Tamenglong	50,863	39,337	888	1,228	9,410
3	Churachandpur	99,363	56,107	8,472	7,043	27,241
4	Chandel	54,545	33,578	3,897	3,525	13,545
5	Ukhrul	66,515	46,005	1,917	2,620	15,973
6	Imphal east	1,56,882	31,768	22,371	23,618	79,125
7	Imphal west	1,78,111	36,094	15,635	23,844	1,02,538
8	Bishnupur	89,703	25,196	14,107	11,395	39,005
9	Thoubal	1,77,343	66,854	36,812	20,193	53,484
	Manipur	9,45,213	3,79,705	1,13,630	96,920	3,54,958

Source: Economic Survey, Government of Manipur, 2009-10



The agricultural holding or land holding is the amount land held by a farmer. In Manipur, arable land is limited and majority of the farming community have small and marginal land holding that account for 59.88% in 2000-01 and this make farmer difficult to practice any subsistence farming. Recently, due to increase in population, tremendous pressure has been exerted to the traditional practice of equal distribution of parental land to the male offspring. The division has caused fragmentation in land holding and decline in the average size of land holdings in the valley.

Table 3.5: Distribution of land holding

Size of holding (hectare)	Category of farmer	1990-91			2000-01		
		No. of land-holding	%	Area in '000 hectare	No. of land-holding	%	Area in '000 hectare
Below 1	Marginal	69	48.59	38	75	50.34	40
1.0-2.0	Small	49	34.51	67	49	32.88	63
2.0-4.0	Semi-medium	21	14.79	54	22	14.77	55
4.0-10	Medium	3	2.11	15	3	2.01	14
10 & above	Large	Neg.	Neg.	1	Neg.	Neg.	Neg.
Total		142	100	175	149	100	172

Source: Economic Survey, Government of Manipur, 2009-10

Industries

Since Manipur is predominantly an agricultural state, contribution of the manufacturing sector to the overall economic growth of the state is very low. At present, there are no industries worth mentioning except traditional oriented ones such as khadi and village industries, handlooms and handicrafts. The Goal of the Industrial Policy 2002 of the state had laid emphasis on creating necessary conditions for maximum possible utilisation by tapping locally available raw-material and human resources for industrialisation and creating gainful employment opportunities for



local population (New Industrial Policy 2002). The contribution of the manufacturing sector to the total gross domestic product at current prices is found to be 6.62% according to the advance estimates for the year 2007-08 (Economic Survey 20008-09).

The growth of handicrafts and textiles in Manipur is related to the socio-religious functions and imbued with their philosophy of life. Woven fabrics often identify the social status of an individual. To differentiate the chief from the serf, the craftsmen produced superior and durable textiles in varied patterns and workmanship. The craftsmen improved their skills, experimenting with vegetable dyes and different kinds of yarns.

In Manipur, handloom weaving had its genesis in the need to clothe the family, and to establish strong emotional bonds within the family unit. Women as part of their domestic chores undertook weaving. It is only recently that the concept of commercialization and marketing of handloom products has gained momentum, and has become a means of providing employment to people.

3.1.4 Rural development

Manipur lives in villages. According to 2001 census, the number of villages was 2391, of which 2315 were inhabited while 76 were uninhabited. On the other hand there were only 33 towns in Manipur. About 74.89% of the total population lives in rural areas whereas only 25.11% of the total population lives in urban. The basic objective of development planning is improvement in the quality of life of the economically weaker sections of the society. As far as rural development is concerned, the Department of Rural Development and Panchayati Raj Manipur is the nodal agencies to ensure implementation of various programmes for accelerating the pace of development in rural areas of the State through District Rural Development Agencies and Panchayati Raj Institutions. A number of programmes viz. National Rural Employment Guaranteed Scheme (NREGS), Swarnjayanti Gram Swarozgar Yojana (SGSY), Sampoorna



Grameen Rozgar Yozanar (SGRY), Indira Awaas Yojana (IAY), etc. have been under implementation in the State to ensure minimum wage to rural workers and enable them to acquire assets and income through self employment ventures.

3.1.5 Banking System in Manipur:

Banks and other financial institutions play a very important role in the growth and development of industry and trade. The need for a well developed banking system in the economic life of the state cannot be ignored. Commercial Banks constitute the most important segment of the banking organization. The total number of scheduled commercial banking offices in Manipur was 77 as on 31st march 2007 of which State Bank of India accounted for 18 offices. Manipur Rural Banks had the highest number of offices in the state wit the total of 28 offices, followed by the state bank of India and United Bank of India with 18 and 15 respectively in the State. A large section of the population has very little knowledge about the saving facilities provided by modern financial institutions. These institutions are absent in the remote areas far from the reach of a large section of the population. For them, the traditional self-help organizations locally called *Marup* by the Meiteis, are the only institutions providing banking facilities to all the individuals in the region.

3.2 FISH FARMING IN MANIPUR

Agricultural and allied activities i.e. horticulture, livestock, forest, fisheries, etc. form a basic occupation for the people of Manipur. Agriculture sector has a vital place in the economy of the state. It contributes a major share to the state domestic product approximately 3% and 52.19% of the workers in Manipur are engaged as cultivators and agricultural labourers. (Economic survey, Manipur: 2007-08). Fish is the main food item of the majority of the people of the State, particularly the Meiteis who are mainly concentrated in valley. Manipur obtains more protein from the fishery products than



red meat. Extensive aquaculture has been in practice in the State for the past several years. Although the people are generally vegetarians, eating fish is allowed. No social function or ceremony is held without fish. The poor fish farmer of the state cannot take up fish farming with the latest and advance technologies due to poor economic conditions. It is estimated that there are about 34,000 fish farmers and fishermen in the state who are wholly or partly dependent on fish farming and fishing. (Annual Administrative Report, Department of Fisheries, Manipur, 2010-11)

The fish farmers play a great role in enhancing fish production in the state. With proper assistance to the fish farmers and fishermen, the production rate of table fish can be increased manifold.

3.2.1 Fishery Resources of Manipur:

Manipur has a vast potential of inland fisheries resources of around 56461.05 ha in 2001 in the form of beels, lakes, ponds, tank, rivers, etc. and 15000 ha of water areas have been brought under fish culture operation. As per land use data, the water bodies of the State occupy about 1.65% of the total land coverage. The usable land is 6.66% of the total land use pattern of Manipur. (Annual Administrative Report, Department of Fisheries, Govt. of Manipur, 2010-11).

Table 3.6: Fisheries Resources of Manipur

Sl. No.	Items /particulars	Water area (in ha)
1	Lakes, reservoirs, tanks, canals etc.	13,221.45
2	Water-logged marshy and swampy lands, beels.	11,536.23
3	Biomass.	8,596.50
4	Submerged crop lands.	3,480.50
5	Rivers and streams	13,888.27
6	Water logged areas converted into agriculture lands.	1,738.10
7	Low lying paddy fields.	4,000.00
	Total	56,461.05

Source: Annual Administrative Report, Department of Fisheries, Government of Manipur, 2010-11



The production of fish in Manipur for the year 2009-10 is 19,700 metric tons and the requirement of fish is 25,600 M.T calculated as per the Standard nutritional requirement 11kg per capita consumption of fish. The gap of fish in Manipur is partly met with import of fish from the states like Assam, Andhra, West Bengal and Uttar Pradesh. Per capita fish consumption in Manipur is far below the National Level of 11kg/person/year (Annual Administrative Report, Department of Fisheries, Govt. of Manipur, 2010-11).

Table 3.7: Fish production in Manipur

Year	Production(MT)	% change	Fish seed production (in million)
2000-01	16,050	0	116
2001-02	16,450	2.59	116
2002-03	16,600	0.91	117
2003-04	17,600	6.02	117
2004-05	17,800	1.14	118
2005-06	18,220	2.36	123
2006-07	18,600	0.2	120
2007-08	18,600	0	120
2008-09	18,800	1.08	125
2009-10	19,700	4.79	130

Source: Annual Administrative Report, Department of Fisheries, Government of Manipur, 2010-11

The above table shows that there was gap between production and consumption requirement. The production of fish is also increasing. Keeping in view the immense potential and prospects of fish production in State, this gap can be abridged by harnessing the vast natural fisheries resources of the State.



Table 3.8: Government Fish Farms in Manipur

Sl.No.	DISTRICT	NAME OF FISH FARM
1	Imphal West	D.L.F.S.F. Lamphel
2	Imphal East	F.R.C, Khudrakpam
3	Thoubal	D.L.F.S.F Wangbal
4	Thoubal	Waithou E.F.F
5	Bishnupur	D.F.F.S.F. Ningthoukhong
6	Bishnupur	Regional Pengba Seed Farm Haotak
7	Bishnupur	Takmu E.F.F. Takmu
8	Senapati	D.L.F.S.F. Keithelmanbi
9	Senapati	Cold Water Fish Farm, Molhoi
10	Ukhrul	Mirang Fish Seed Farm
11	Chandel	Fish Seed Farm, Komlathabi
12	Chandel	Fish Seed Farm, Khambathel
13	Churachandpur	Fish Seed Farm, Phailian
14	Churachandpur	Fish Seed Farm, Tuibong
15	Tamenglong	Fish Seed Farm, Tamenglong
16	Tamenglong	Fish Seed Farm, Khoupum
17	Jirbam Sub Disn.	Fish Seed Farm, Patchao.
18	Jirbam Sub Division	Compite Fish Farm, Kutikhong.

3.2.2 Growth of fisheries sector in Manipur:

Fisheries sector plays an important role in the economy of Manipur. Gross State Domestic Product of fishing has increased from Rs.6925 lakh in 1999-2000 to Rs. 12333 lakh in 2006-07. Share of agriculture and allied activities in the GSDP has been declining. Contribution of fisheries sector to SGDP had increased from 7.89% in 1999-2000 to 9.79% in 2001-02 but after 2002-03 it started declining and in 2006-07, it came to 8.78%.



Table 3.9: Gross State Domestic Product of Manipur at current prices

Year	Gross State Domestic product(GSDP) (` in lakhs)			% contribution	
	Fishing	Agriculture and Allied Activity	Total economic activity	Fishing to agricultural GSDP	% GSDP
1999-00	6231	82891	295411	7.89	2.12
2000-01	7820	86850	281364	9.53	2.82
2001-02	8273	91078	301408	9.79	2.82
2002-03	8577	95320	314173	9.78	2.83
2003-04	9240	111292	356435	8.92	2.64
2004-05	10081	124090	405826	8.84	2.55
2005-06	9593	125359	447721	8.81	2.37
2006-07	10228	131379	478654	8.78	2.31
2007-08	10651	135935	518130	7.84	2.06
2008-09	11119	139404	562344	7.98	1.98

Source: *Economic Survey 2009-10, Directorate of Economic and Statistics, Government of Manipur.*

3.2.3 Fisheries Cooperative societies in Manipur:

Co-operation is the basis of all human life. Mutual help and complete inter-dependence are to be met within the societies at all levels. Therefore, the co-operative movement in Manipur has played a significant role in the social and economic development of the state, particularly in rural areas. One Credit Co-operative Society in the field of fishery has been established under Centrally Sponsored Schemes. There are about 330 fisheries Cooperative Societies in 1998-99 with 13,502 members and there is a slight increase to 346 cooperatives societies with 19,538 members in 2007-08. Details of fisheries Co-operative societies in Manipur are given below.

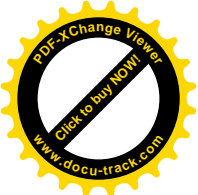


Table 3.10: Fisheries Cooperative Societies in Manipur
(1998-1999 to 2007-08)

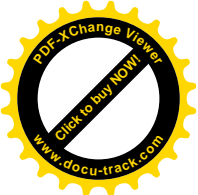
Year	No. of Cooperatives	Members	Paid up share(₹ Lakh)	Working capital(₹ Lakh)
1998-99	330	13502	70.74	187.82
1999-00	331	15312	56.52	187.34
2000-01	338	17887	32.38	214.92
2001-02	337	16714	29.96	202.13
2003-04	330	20935	37.95	101.09
2006-07	346	23865	67.79	109.97
2007-08	346	19538	80.00	120.75

Source: Administrative Report, Department of Cooperative, Government of Manipur (1998-99 to 2007-08)

3.2.4 Development programmes and schemes for fisheries development in Manipur:

Fisheries development is a state matter in India. The Government of Manipur formulates policies for the development of fish farming in the state. The Department of Fisheries implements programmes and schemes for development of infrastructures, improvement of inland fish production and upliftment of the socio-economic condition of the fisher-folks. The Department also opens avenues for utilization of information technology for fishermen and the general public for dissemination of fishery technologies and for redressing grievances.

The State Government of Manipur is taking up various developmental policies and programmes with the main objective of augmenting fish production and uplifting the socio-economic conditions of the farmers and fishermen of the state through the Department of Fisheries, Manipur. Some of the developmental schemes are as follows:



1. *Strengthening of supervisory and executive staff*

Suitable manpower, both technical and administrative, along with infrastructure, along with infrastructure and working capital are essential for implementing schemes. Under the scheme, the department is manned by a total of 989 employees to carry out the programmes of fisheries development in all the districts of Manipur.

2. *Inland fisheries development*

Fish seed is the most crucial input for fish farming. Production of fish is an important programme taken up by the fisheries department. The state has produced 125 million of fish seeds and 18,800 tonnes of table fish during 2008-09 both from public and private sector.

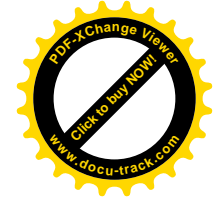
3. *Fish marketing, craft and gear*

Under the marketing programme, the Fisheries Department organized fish Fair cum competition every year on the eve of Ningol Chakouba Festival for making fish available to the general public at reasonable price. Cold storage plant with a capacity of 10 M.T. along with ice plant of 5 M.T. capacities had been constructed. One refrigerated van and tricycles fitted with insulated box had been procured under this scheme.

4. *Fisheries extension, training and research*

a) Extension: Scientific methods of fish culture were demonstrated in private individual or cooperative own tanks or ponds in different villages in the valley district of Manipur. Extension of advance fisheries technologies have also been performed by the experienced officers of the fisheries department for general awareness of the farmer through mass media like Doordarshan and AIR, supplemented with periodical publication of Fisheries news, guidelines etc. on fisheries in the local newspapers.

b) Training: The fisheries department regularly conducted 1(one) year training course on Inland Fisheries Development and Management at the departmental Inland Fisheries training Centre at Lamphelpat. Training is imparted to 40 persons during 2007-08, another 40 person during 2008-09 and



another 35 persons during 2009-10 which include 11 persons from Arunachal Pradesh, Nagaland and Meghalaya.

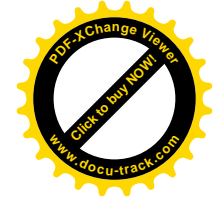
- c) Research: Various researches have been conducted in inland fisheries training centre, Lamlelpat. The centre has initiated studies on (a) Live Fish Culture, (b) Composite Fish Culture and (c) Genetic Improvement of Carps. Various research projects on economically important indigenous fishes of Manipur have been taken up.

5. *Assistance to pisciculturists*

Under the scheme, the latest findings on advanced scientific techniques of fish culture has been demonstrated and made known to the private fish farmers or pisciculturists. This scheme has been implemented through panchayats of four (4) valley districts of Manipur.

6. *Centrally Sponsored Schemes*

- a) FFDAs: Under centrally Sponsored schemes, eight (8) Fish Farmers' Development Authorities are functioning in the State of Manipur at Imphal, Thoubal, Bishnupur, Churachandpur, Chandel, Ukhrul and Tamenglong to extend technical as well as financial assistance to the private fish farmers. So far, 2973.69 hectare of water areas have been brought under intensive fish culture and 10,027 numbers of fish farmers have been benefited of which 5473 were trained in fisheries technologies under the schemes. The total expenditure is shared between the State and Central Government on 25:75 share basis.
- b) National Welfare Fund for Fishermen: National Welfare Fund for Fishermen is a continuing scheme of the central Government. The aims to uplift the socio-economic condition of the weakest section of the fishermen community by providing housing materials, constructing community hall, installation of tube well for every 20 houses for drinking purposes and establishing credit cooperative societies at free of cost. Certain schemes that



have been taken by the State for the welfare of fishermen and fish farmers are as follows:

- i) Housing scheme: Under the National Welfare Fund for Fishermen Scheme, poor fishermen are given financial assistance for construction of their dwelling houses, community tanks and tube-wells etc. During 2007-08, 120 numbers of low cost houses had been constructed for fishermen.
 - ii) Accident Insurance Scheme: Under the schemes, fish farmers and fishermen are being brought under insurance cover. The premium for each policy holder is Rs. 15 per annum which is borne by the Government of India and State on 50:50 basis. Every year 100 numbers of fishermen and fish farmers are insured.
7. Establishment of fish aquarium and museum: Under this scheme, fish aquarium cum museum has been constructed in order to display various aquarium fishes and get preserved specimen of educational importance and for recreational and educational purposes.

3.2.5 Importance of ICTs in Fisheries

Information played an important role in all societies since the dawn of civilization. The world is undergoing an Information Communication Technology (ICT) revolution, a revolution that has enormous socio-economic implications for the developed and developing countries. ICTs play a vital role for the development of the status of agriculture and allied areas in our country. The latest innovations of ICTs in fisheries sectors have brought about a tremendous change in the life styles of the fish farmers. But the rural communities still lack basic knowledge and communication infrastructure.

New information and communication technologies (ICTs) are being used across the fisheries sector, from resource assessment, capture or culture to processing and commercialization of fishing



industry. Introduction of mobile phones in India has brought about a tremendous change in fisheries sector. One result was a dramatic improvement in the efficiency and profitability of the fishing industry. As mobile phone service spread, it allowed fishermen to land their catches where there were wholesalers ready to purchase them. This reduced waste from between 5-8 per cent of total catch to close to zero and increased average profitability by around 8 per cent. At the same time, consumer prices fell by 4 per cent (Jensen, 2007). Different communication technologies have been used by the fishermen, entrepreneurs, aquaculturist, extension workers, etc. Of all these, radio has been found to be most widely used by farmers. Information on various innovations of fisheries technologies are being disseminated among the farmers.

The internet is emerging as a tool with potential to contribute to rural development. Internet enables rural communities to receive information and assistance from other development organizations offer opportunities for two-way and horizontal communication and for opening up communication channels for rural communities and development organisations. The Internet has proven valuable for the development of Fisheries in developing countries like India. (Yumlembam et.al, 2010)

Fisheries department has established an IT Cell at the directorate office at Lamphelpat for strengthening of information technology. The cell is headed by a fishery officer supported by technical staff.

In accordance with the requirements of the Right to Information Act, 2005, the general information regarding the department has been published. Any number of public, fish farmer or fishermen can approach the Additional Director of Fisheries, the State Public Information Officer and all the District Fishery Officers of the Fishery Department for any information required in respect of the Fishery Department.

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(Osteo brama belangerii)



Women catching fish in Loktak lake



Researcher in conversation with fish farmers