
CHAPTER FIVE

PAST AND PRESENT STATUS OF FISHES IN THE PANCHAGANGA RIVER
SYSTEM (PFS)

Inland fisheries play very important role in the utilization of the natural resource and life of poor people in the developing countries. The more traditional 'artisan' fisheries with gill nets and cast nets expand less rapidly, although it is of great value in contributing to low-key, labour intensive 'third world' economics by providing large quantities of inexpensive fish and a variety of job opportunities.

The importance of the riverine fish resources and their changing status has been a topic of concern for quite some time. A significant amount of work in this direction is either in progress or completed.

Starrett (1972) has given excellent example of introduction of European Carps in Illinois River in United States of America in early 1885. The exotic fish not only multiplied rapidly but due to its abundance the yield of native fishes declined by 22.2 %. The adverse effects of carp on vegetation and the fish community has been extensively discussed by Sigler (1958).

Roberts (1975) has reported 156 fish species, 45 (29 %) are cyprinids from the Zambezi River System in "High" Africa and over 300 fish species (80 % Cichlidae) from "Low" Africa. Jackson (1986 while commenting on the commercial fisheries in Zambezi River System says fish are among the most important of the region's natural resources, providing much needed animal protein foods to most of the population, as well as full or part time employment to many thousands of fishermen and ancillary

trades. However in many cases a decline in catch per unit effort, symptomatic of over fishing is reported. Due to the rapid increase in human populations much of the fish production is used for subsistence.

Stanford and Ward (1986) reported in Colorado River System the importance of riverine fish to the prehistoric man in the area. The river continues to supply sustenance, but the modes of transfer have changed dramatically. The Vicarious regulation of the Colorado River, coupled with many introductions of non native species, has caused precipitous declines among the indigenous fish.

Most of the native fish, of the Munay-Darling river system in South east Australia, have declined as a result of environmental changes, interactions with exotic species, and perhaps fishing pressure. Although the river system is the main stay of Australian freshwater fisheries it is of little commercial importance now (Walker, 1983b).

The taxonomic list of the fishes reported from the PRS during the investigations and also reported by Kalawar and Kelkar (1956), with their past and present status, has been given in table no. 15. The data presented is also based on the fisheries survey.

Work of Kalawar and Kelkar (1956) is the only earlier account of the fishes from river Panchganga. In this excellent report the workers have reported 71 fish species belonging to 7 orders, 13 families, 2 sub-families and 39 genera. The table no. 16 shows that there has been a drastic change in the

Table No. 15 : List of Fishes and their past and present status in the Panchganga river system (Based on Survey)

Sr. No.	Scientific Name	Local Marathi Name	Past			Present		
			A	C	R	A	C	R
	Order : Mastacembeliformes							
	Family: Mastacembelidae							
1.	<u>Mastacembelus armatus curv & val.</u>	Vam, Vambat	-	+	-	-	-	+
	Order : Apodes							
	Family: Anguillidae							
2.	<u>Anguilla anguilla (Ham.)</u>	Aheer	-	+	-	-	-	+
	Order : Cypriniformes							
	Family : Cyprinidae							
3.	<u>Salmostoma clupeioides (Bloch)</u>	Vadashi	+	-	-	-	+	-
4.	<u>Salmostoma phulo (Ham.)</u>	Alkut	+	-	-	-	+	-
	Sub Family : Rasborinae							
5.	<u>Danio aequipinnatus (Modelland)</u>	Balooki	-	+	-	-	-	+
6.	<u>Berillius bendelisis (Ham.)</u>	Jhorya	-	+	-	-	-	+
7.	<u>Berillius evezardi (Day)</u>	Jhorya	-	+	-	-	-	+
8.	<u>Perilampus atpar (Ham.)</u>	Sonukli	-	+	-	-	-	+
9.	<u>Brachy-donio rario (Ham.)</u>	-	-	+	-	-	-	+
10.	<u>Rasbora daniconius (Ham.)</u>	Dandai	-	+	-	-	-	+

Table No. 15 (Cohtd..)

Sr. No.	Scientific Name	Local Marathi Name	Past		Present	
			A	C	A	C
	Sub family : Cyprininae					
11.	<u>Aspicoparia morar</u> (Ham.)	Amlee	-	+	-	+
12.	<u>Balitoria shimogenis</u>	Phattar chitty	-	+	-	+
13.	<u>Puntius amphibi</u> s (C & V)	Kharali	+	-	+	-
14.	<u>Puntius jerdoni</u> (Day)	Parag	+	-	-	+
15.	<u>Puntius kolus</u> (Sykes)	Kolshi	+	+	+	-
16.	<u>Puntius melanostigma</u> (Day)	-	-	+	-	+
17.	<u>Puntius sophore</u> (Ham.)	Gerya	-	+	-	+
18.	<u>Puntius sarana</u> (Ham.)	Khavali	+	-	+	-
19.	<u>Puntius ticto</u> (Ham.)	Bombri	-	+	-	+
20.	<u>Puntius (tor) Khudree</u> (Sykes)	Mhasheer	-	+	-	+
21.	<u>Puntius (Tor) Mussulah</u> (Sykes)	Mhasheer	-	-	-	+
22.	<u>Puntius fraeseri</u> (Hora and Mishra)	Kadwi	-	-	-	+
23.	<u>Cirrhina fulunjee</u> (Sykes)	Mulicha ganna	+	-	+	-
24.	<u>Cirrhina reba</u> (Ham.)	Bhagana	-	+	-	-
25.	* <u>Cirrhina mrigala</u> (Ham.)	Mrigal	-	+	-	+
26.	<u>Garra gotyla</u> (Gray)	Mallya	+	-	+	-
27.	<u>Garra bicornuta</u> (Rao)	Mallya	-	-	-	+
28.	<u>Labeo boggut</u> (Sykes)	Sandus	-	+	-	+
29.	<u>Labeo fimbriatus</u> (Bl.)	Tambir	+	-	-	+
30.	<u>Labeo calbasu</u> (Ham.)	Kanas	+	-	-	+

Table No.15 (Contd..)

Sr. No.	Scientific Name	Local Marathi Name	Past			Present			
			A	C	R	A	C	R	Absent
31.	<u>Labeo procellus</u> (Heckel)	Tambucki	+	-	-	-	+	-	-
32.	<u>Labeo bata</u> (Ham.)	Tambti	-	+	-	-	-	-	+
33.	* <u>Labeo rohita</u> (Ham.)	Rohu	-	+	-	-	-	-	+
34.	* <u>Catla catla</u> (Ham.)	Catla	-	+	-	-	-	+	-
35.	<u>Rohtee cotia</u> (Ham.)	Bhongli	-	+	-	-	-	+	-
36.	<u>Rohtee vigorsii</u> (Sykes)	Phankut	+	-	-	-	+	-	-
37.	<u>Rohtee ogilbii</u> (Sykes)	Vatani	-	-	+	-	-	-	+
38.	<u>Schizmorhynchus</u> (Nukta) <u>nukta</u> (Sykes)	Nakata	-	+	-	-	-	+	-
Family : Cobitidae									
39.	<u>Lepidocephalichthys guntea</u> (Ham.)	Mori	-	+	-	-	-	-	+
40.	<u>Lepidocephalichthys thermalis</u> (C&V)	Mori	-	+	-	-	+	-	-
41.	<u>Nemachilichthys rupperti</u> (Sykes)	Chiku	-	+	-	-	-	+	-
42.	<u>Nemachilus denisonii</u> (Day)	Murunga	-	+	-	-	-	-	+
43.	<u>Nemachilus botius</u> (Ham.)	Chikli	-	-	+	-	-	+	-
44.	<u>Nemachilus</u> sp.	Chikli	-	+	-	-	-	-	+
45.	<u>Botia striata</u> (Rao) Var. <u>Kolhapurensis</u> Van.	Waghmesa	-	+	-	-	-	+	-
Order : Siluriformes									
Family : Siluridae									
46.	<u>Ompak bimaculatus</u> (Bl.)	Wanz	+	-	-	-	+	-	-
47.	<u>Ompak pabo</u> (Ham.)	Kaliwanz	-	+	-	-	-	-	+
48.	<u>Wallago attu</u> (Bl.)	Valeshivada	+	-	-	-	-	+	-

Table No. 15 (Contd..)

Sr. No.	Scientific Name	Local Marathi Name	Past		Present	
			A	C	A	C
Family : Bagridae						
49.	<u>Myustus cavasius</u> (Ham.)	Katirna	+	-	-	-
50.	<u>Myustus seenghala</u> (Sykes)	Singala	-	+	-	+
51.	<u>Myustus malebaricus</u> (Jerdon)	Shingti	+	-	+	-
52.	<u>Aorichthys aor</u> (Ham.)	Singalu	-	+	-	+
53.	<u>Rita kutuonee</u> (Sykes)	Kurdu	-	+	-	+
54.	<u>Rita pavimentata</u> (Val)	Ghoghrya	-	+	-	+
Family : Sisoridae						
55.	<u>Begarius begarius</u> (Ham.)	Khirit	-	+	-	+
56.	<u>Gagata gagata</u> (Ham.)	Itchlea	-	+	-	+
57.	<u>Glyptothorax lonch</u> (Sykes)	Phattarchittu	-	+	-	+
58.	<u>Glyptothorax annandali</u> (Hora)	Phattarchittu	-	-	+	+
Family : Cyprinodontidae						
59.	<u>Aplochilus lineatus</u> (C & V)	-	-	-	-	+
Family : Schilbeidae						
60.	<u>Proeutroptichthys takree</u> (Sykes)	Munvivyadi	+	-	-	+
61.	<u>Eutropichthys vacha</u> (Ham.)	Khavalchor	+	-	-	+
62.	<u>Pseudotropius atherinoides</u> (Bl.)	Sura	-	+	-	+
Family : Belontiidae						
63.	<u>Xenontodon cancella</u> (Ham.)	Tokali	-	-	+	-

Table No. 15 (Contd..)

Sr. No.	Scientific Name	Local Marathi Name	Past		Present	
			A	R	A	R
Order : Chaniformes						
Family : Chanidae						
64.	<u>Channa orientalis</u> (Schn.)	Dokrya	-	+	-	+
65.	<u>Chana marulius</u> (Ham.)	Kalamasa Murrel	-	+	-	+
66.	<u>Chana punctata</u> (Bl.)	Kalamasa	-	+	-	+
67.	<u>Chana striata</u> (Bl.)	Mhangsha	-	+	-	+
68.	* <u>Osphronemus goramy</u> (Lacep)	Gorami	-	+	-	+
Order : Perciformes						
Family : Ambassidae						
69.	<u>Ambassis ranga</u> (Ham.)	Kachki	+	-	-	+
70.	<u>Ambassis nama</u> (Ham.)	Kachki/ Chambardi	+	-	-	+
Family : Gobiidae						
71.	<u>Glossogobius giuris</u> (Ham.)	Kharpya	-	+	-	+
Family : Cichlidae						
72.	** <u>Sarotherodon mossambicus</u> (Trewavas)	Tilap	-	-	-	+

* Exotic varieties ; ** For the first time in River.

A = Abundant; C = Common ; R = Rare.

Table No. 16 : Change in the diversity of the fishes
from the PRS.

Systemic position	Past (Kalawar & Kelkar 1956)	Present	Change (+, -)	% of change
ORDER	7	6	- 1	14.28
FAMILY	13	11	- 2	15.30
SUB-FAMILY	2	2	-	-
GENERA	39	24	-15	38.45
SPECIES	71	48	-23	32.85

fish diversity of the river system. During the current investigations only 48 fish species belonging to 6 orders, 11 families, 2 sub-families, 24 genera are reported.

In the last 35 years i.e. from the report of Kalawar and Kelkar (1956) the river system has appears to have lost 1 order, 2 families, 15 genera and 23 species of fresh water fishes from the PRS. This loss is significant considering the short span in which the change has taken place.

The past and present status of fish was analysed for the 71 fish species (Table No. 17). The change in the Abundant, Common and Rare status is striking in all the fish species except in one fish species in common category, whose status is unchanged.

In the past, 20 species were abundant, 43 common and 8 species were rare. Whereas present status suggests that no species is abundant and there are only 15 species common and as many as 33 species have become rare. Almost 23 species have become totally absent from the river system as they have not been reported for many years.

One new species i.e. Saretherodon mossambicus of family chichildae is reported for the first time from the river. One more species has been discovered for the first time which has not yet been identified by Zoological survey of India, therefore it is not included in the Table No. 15.

The table no. 18 shows the fresh water fish diversity in various rivers from India. It is clear from the table that comparatively Panchganga river had rich and diverse fish fauna in the past.

Table No. 17 : Showing past and present status of 71 fish species in the PRS (based on the survey)

		Present				Total Past fish sp.	%
		Abundant	Common	Rare	Absent		
Past	Abundant	0	14	6	0	20	28.16
	Common	0	1	23	19	43	60.56
	Rare	0	0	4	4	8	11.26
Total	Present fish sp.	0	15	33	23	71	
	%		21.12	46.47	32.39		99.98

Table No. 18 : Fresh water fish diversity from some rivers in the country.

Author	State	River	Species	Family	Sub-family	Genera
Tandon and Thind (1963)	Punjab	Black Bein	40	11	3	23
Tandon and Sharma (1965)	Punjab	Ghaggar	48	11	2	28
Job et al. (1952)	Bihar	Damoder	89	20	3	48
Chacko et al. (1955)	Madras	Cauvery	80	23	-	45
Setana and Kulkarni (1946)	Ahmedabad	Sabarmati and its tributaries	46	13	4	26
Adholia (1977)	M.P.	Betwa	55	-	-	-
Kalawar and Kelkar (1956)	Maharashtra	Panchganga & tributaries	71	13	2	39
Pawar (1988)	Maharashtra	Panchganga & tributaries	48	11	2	24