FISH MONITORING SURVEY OF BHARATHAPUZHA AND THUTHA PUZHA RIVERS, KERALA

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Submitted to
Kerala State Biodiversity Board, Thiruvananthapuram
30.8.2010

Sl.No	Name	Address with pincode, phone number with STD code (including mobile) and e mail
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2	Members(i) Subash (ii) Crispy (iii) Biju	Cooperative College Thrissur
3	Name of Fisherman:-Omanakuttan	

Introduction

The Bharathapuzha also known as Nila, Perar or Ponnanipuzha is the second longest river on the southwest coast of India. It originates at Kovittola Betta Kundra reserve forest of Tamil Nadu, in the Western Ghats at an elevation of 2336m above mean sea level. It flows through Coimbatore district of Tamil Nadu and Palakkad, Thrissur and Malapuram districts of Kerala and finally joins the Arabian Sea at Ponnani. The main tributaries of Nila are Gayathripuzha, Chitturpuzha, (Kannadi or Amaravathipuzha), Kalpathipuzha and Thuthapuzha. From the confluence of Kalpathipuzha and Chitturpuzha at Parali, the river acquires the name Bharathapuzha. The river was often described as the cultural stream of Malabar. Bharathapuzha has a long tradition of outstanding contributions in literary, linguistic, cultural, political, social, economical, commercial and other aspects. This river is intimately intertwined with the lives of more than 23, 00,000 people of the state of Kerala. Bijukumar and Sushama (2001) reported 61 species of fishes from this river.

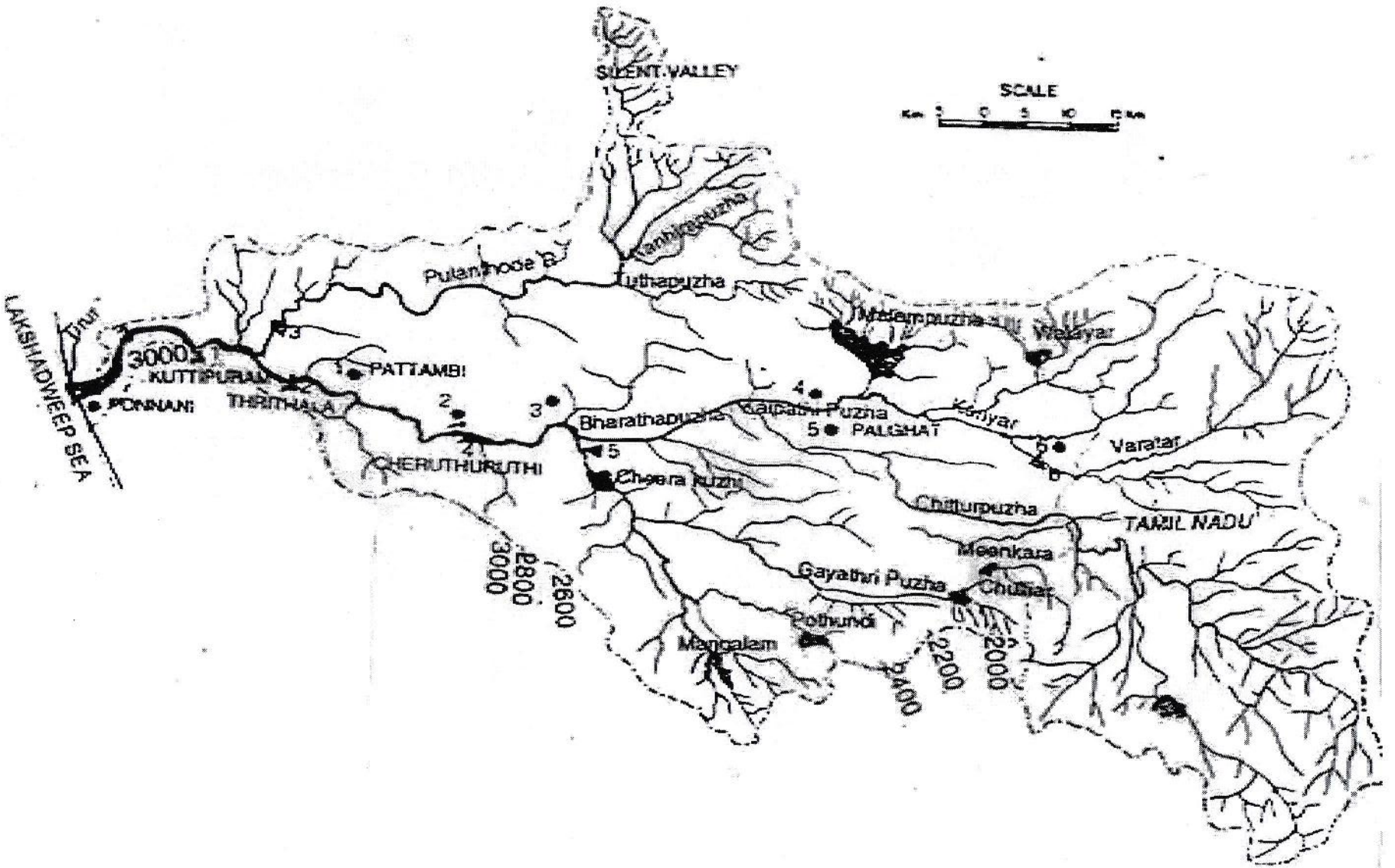
Bharatahpuzha and its environs not only reflect the rich heritage, long history and the lushful beauty of the Kerala State but also represent a microcosm of its rich and varied bioresources. The river Nila has contributed tremendously to the all round development of the Kerala State.

Study Period and Localities:-26.5.2010

The Bharathapuzha has a total length of 209km and a total basin area of 6186sq km of which 4400sq km is in Kerala state and the remaining in Tamil Nadu (CWRDM, 1991). The general elevation ranges from 75m to 2383m in the upper region, 10m to 75m in the middle region and less than 5m in the lower region. The Bharathapuzha watershed lies between $10^0$25' to $11^0$15' North latitudes and $75^0$50' to $76^0$55' East longitudes. The watershed has a total area of 3852.04sq km and covers one hundred and twenty one revenue villages in one hundred and three panchayats, seventeen blocks and three districts. About 80% of Palakkad district falls within Nila basin. Three stations are selected as suggested by the KSBB. The highland site is at Peringottukurissi (10 46'N&76 29'E).There is a permanent concrete check dam of 120mts length,2 metre height and 0.5 metre width.the site is bordered by rice fields and coconut plantations.

The midland site is selected near the Lakkidi weir close to the Lakkidi bridge, on the down streamside of the weir. The width of the river at this area is 220mts.There is a check dam of about 50 metres length, 2 metres height and 0.5 metres width. Water is clear and fast flowing below the weir. The bottom substratum consists mainly of stones and pebbles with patches of sand. Local people use this area for bathing and washing. Fishing is very effective along this stretch of the river and fishermen used to get good catch from here. The site is bordered by paddy fields and coconut palms and various other agricultural crops. A Panchayath cemetery is functioning on the river bank.

The low land site is selected at Cheruthuruthy below the Cochin Bridge. The width of the river is about 300 mts. The water is muddy and fast flowing. Huge Boulders are deposited under the bridge which causes channalization of the river. The substratum is mainly sandy. The surroundings are highly polluted with human excrements and plastics as the site is very near to Shornur Railway Station. The site is used for fishing and bathing by local people and also by nomads. The rate of sand mining at site is mind bogging.The whole area is stenchy and degraded. A Municipality cemetery is functioning down stream on the river bank.



BHARATHAPUZHA BASIN

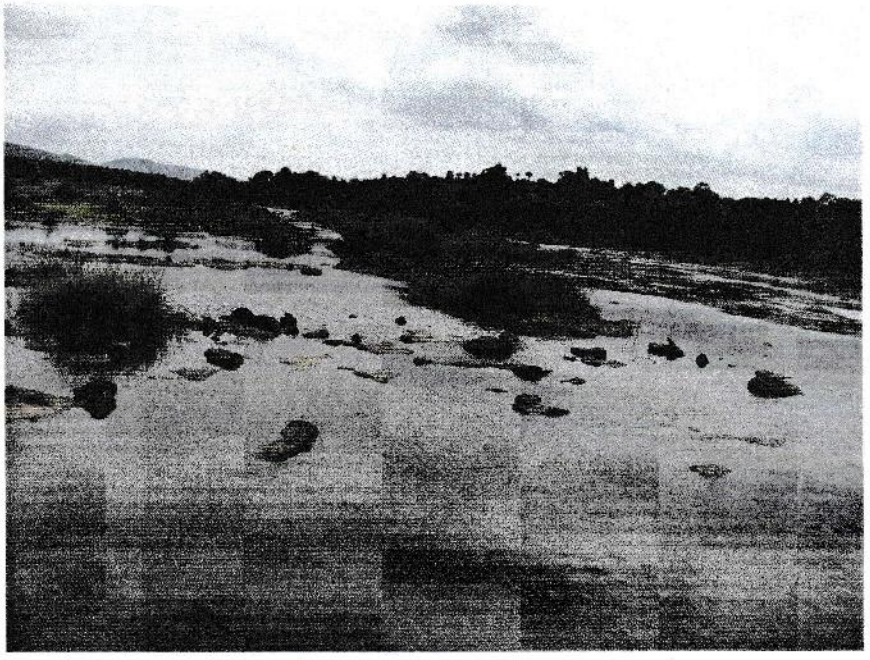


Fig.1.High land Peringotukurrusy

Fig.2 Highland

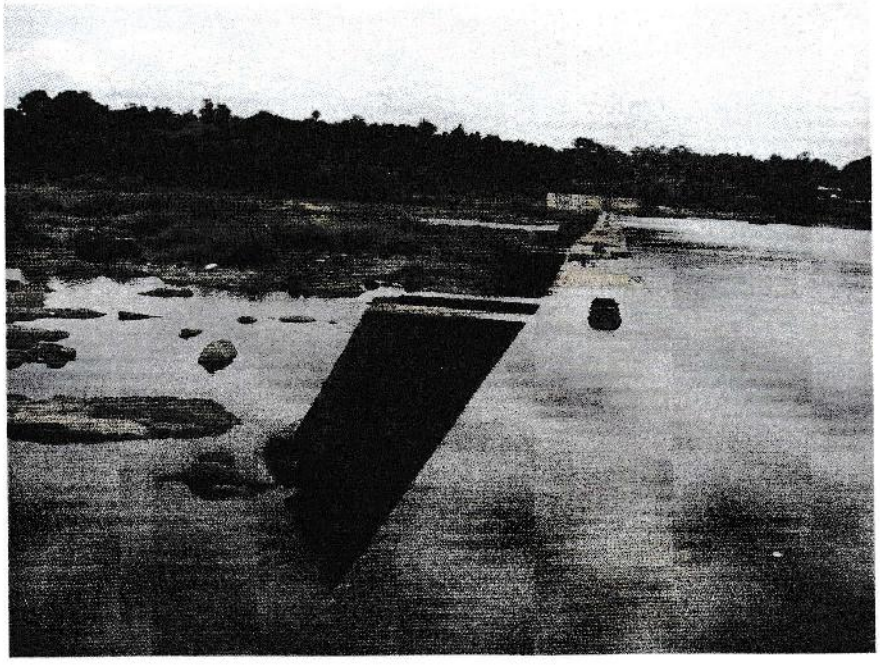


Fig.3 Midland -Lakkidi

Fig.4 Midland

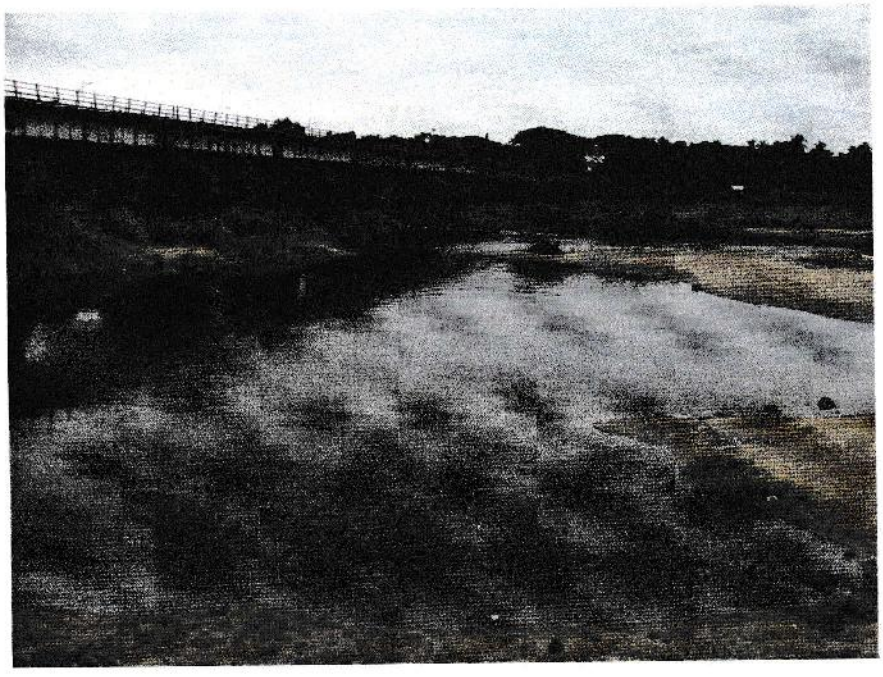


Fig.5Lowland-Cheruthuruthy

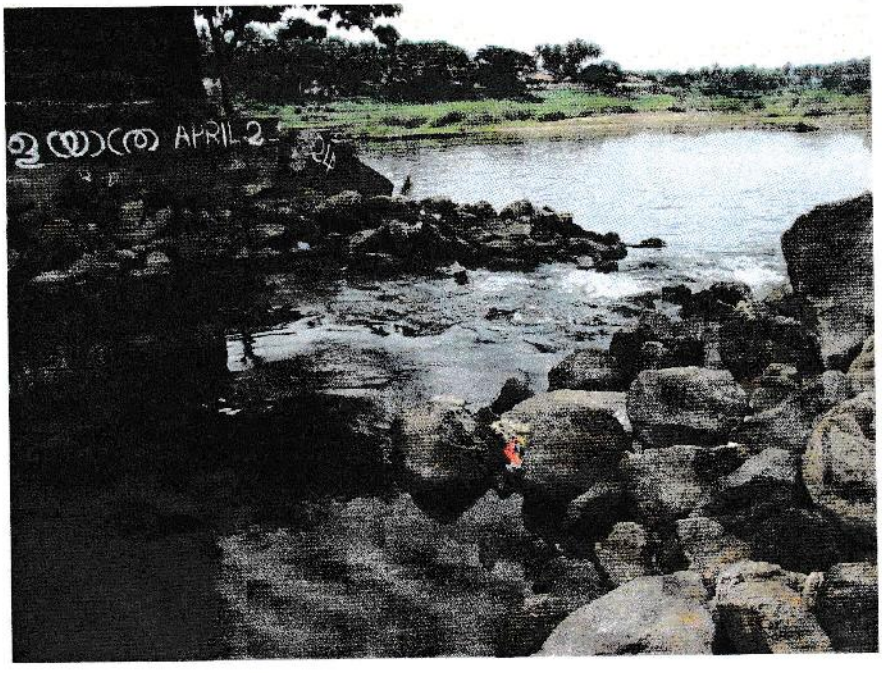


Fig.6 Lowland

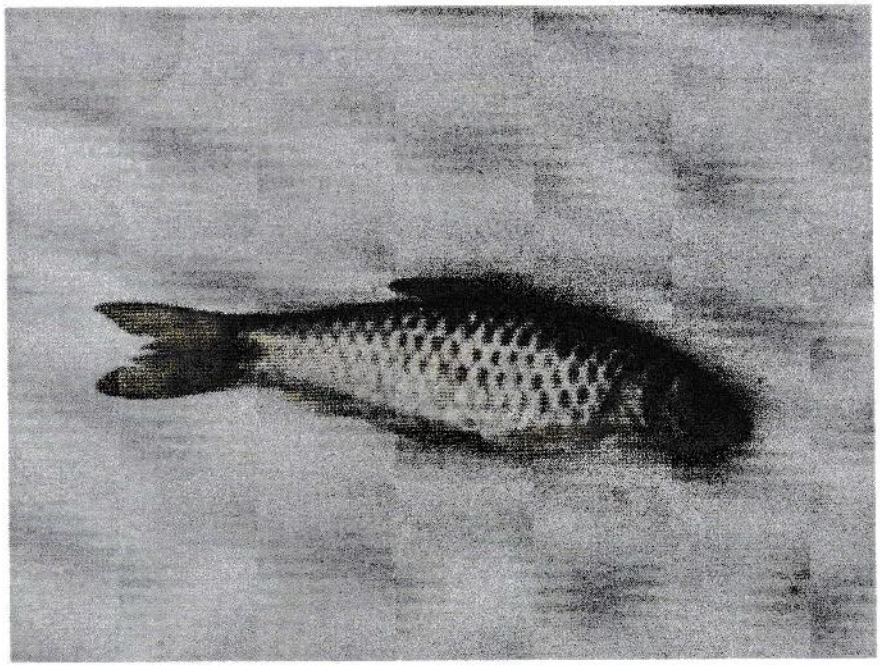


Fig.7 Puntius sarana

Fig.8 Hyporhampus limbatus

Fig.9 Xenentodon cancila

Fig.10Anguilla bicolor

Table 1

List of Fish Species collected from Bharathapuzha, Kerala

Sl.no	Name of species	No of organisms collected	Remarks
1	*Anguilla bengalensis*	8	Rare
2	*Anguilla bicolor*	12	Rare
3	*Awous gutum*	29	Common
4	*Catla catla*	121	Abundant
5	*Danio aequipinnatus*	28	Common
6	*Etroplus maculatus*	156	Abundant
7	*Etroplus suratensis*	98	Abundant
8	*Garra mullya*	0 6	Rare
9	*Hyporhamphus limbatus*	41	Common
10	*Mystus vittatus*	11	Rare
11	*Oreochromis mossambica*	154	Abundant
12	*Puntius filamentosus*	114	Abundant
13	*Puntius sarana subnasutus*	19	Abundant
14	*Rasbora daniconius*	87	Abundant
15	*Xenentodon cancila*	16	Common
16	*Channa marulius*	15	Rare Obtained from Market
17	*Clarias dussumieri*	21	From Market

Observations:

Indiscriminate sand mining from the riverbed is the dominant environmental issue throughout the river basin. The entire riverbed is cut up and run over by the large number of trucks that descend on it daily to collect river sand. The riparian vegetation along the river basin channel is severely disturbed or totally destroyed. Sand mining has also destroyed the ecology and biodiversity of the river. The riverbed remains exposed in many areas and this has paved way to the growth of wild grass in the riverbed. The availability of large and economically important fishes such as *Wallago attu* and *Heteropneustes* has declined considerably these days. Unscientific fishing methods such as dynamiting and poisoning are also practiced by a section of people in the river basin, which might have affected the existence and survival of fish in this system. Extensive sand mining has its effect on the fish fauna.

References

Bijukumar, A. and Sushama, S. 2001.The fish Fauna of Bharathapuzha River, Kerala. *J.Bombay.Nat.His.Soc.*.98(3):464-468.

CWRDM, 1991. Water resources development of Bharathapuzha basin. A status report. *Centre for Water Resources Development and Management. Kozhikode, Kerala.*

ANNEXURE:DATA SHEETS
FISH MONITORING PROGRAMME (KSBB)

DATA SHEET1

PHYSICAL CHARACTERIZATION/
WATER QUALITY — FIELD DATA SHEET

Name of the river	Bharathapuzha Palakkad District
Name of Survey Site	Peringotukurrissy
	Upper
Name of Team Leader	Dr.Sushama.S
Date	26.5.2010
Time	3pm
A. WEATHER CONDITIONS	1 Temperature(Atmosphere):-29 Has there been rain in the last 7 days:2
B. STREAM CHARACTERIZATION	Stream nature: 1 Stream type: V Stream origin: 1
C. WATERSHED FEATURES	Predominant Surrounding Land Use Type: 3 Local Watershed Nonpoint Source Pollution: 0 Local Watershed Erosion: 2
D. RIPARIAN VEGETATION	7
E. INSTREAM FEATURES	Reach length (m):150mts Stream width (m):150 mts Sampling reach area (m2):300 Stream depth (m):1.5mts Velocity:.....3m/10sec. Canopy cover (%):Nil Stream Morphological Types Riffle ..... (%); Run 25%. ; pools 75% Channelized:1 Dam Present:1
F. AQUATIC VEGETATION	Free floating hydrophytes:Nil Floating but rooted hydrophytes:present Rooted and submerged hydrophytes:-Nil Suspended hydrophytes:-Nil Wetland or marsh plants:-Nil Attached algae:Nil

		Others (Specify):
G.	WATER QUALITY	
		Temperature (0C):29 Conductivity: Dissolved Oxygen:Kit not provided pH:pH paper not provided
		Nitrite: Nitrate: Phosphate<.6ppm: Sulphate:<200 Water odours:4 Water colour:0 Turbidity:-3
H.	BOTTOM MATERIALS	
a.	Inorganic Materials (%)	Bedrock:- 10% Boulder:- 40% Cobble:- 20% Gravel:- 30% Sand Silt Clay
b	Organic Materials	Detritus:-60% Marl :-40%

DATA SHEET1

PHYSICAL CHARACTERIZATION/ WATER QUALITY FIELD DATA SHEET

	Name of the river	Bharathapuzha	Palakkad District
	Name of Survey Site	Lakkidi	
		Midland	
	Name of Team Leader	Dr.Sushama.S	
	Date	26.5.2010	
	Time	1pm	
A	WEATHER		1
	CONDITIONS	Temperature(Atmosphere):-	3 1
		Has there been rain	2

			in the last 7 days:	
B.	STREAM			
CHARACTERIZATION		Stream nature:		1
		Stream type:	V	
		Stream origin:		1
C.	WATERSHED	Predominant Surrounding Land Use Type:		3
	FEATURES	Local Watershed Nonpoint Source Pollution:		0
		Local Watershed Erosion:		2
D.	RIPARIAN VEGETATION			7
E.	INSTREAM FEATURES	Reach length (m):	220mts	
		Stream width (m):	220mts	
		Sampling reach area (m2):	484m2	
		Stream depth (m):	1.5mts	
		Velocity:	3m/sec.	
		Canopy cover (%)		0
		Stream Morphological Types Riffle ..10..... (%); Run..20..... (%); pools 70 (%)		
		Channelized:		1
		Dam Present:		1
F.	AQUATIC VEGETATION	Free floating hydrophytes:		
		Floating but rooted hydrophytes:	present	
		Rooted and submerged hydrophytes		
		Suspended hydrophytes		
		Wetland or marsh plants		
		Attached algae:	nil	
		Others (Specify):		
G.	WATER QUALITY			
		Temperature (0C):		30
		Conductivity:		
		Dissolved Oxygen:		
		pH:		
		Turbidity:		
		Nitrite:		
		Nitrate:		
		Phosphate:	<.5ppm	

	Sulphate:	<200	
	Water odours:		4
	Water colour:		0
	Turbidity		2

G. WATER QUALITY

Temperature (0C):		30
Conductivity:		
Dissolved Oxygen:		
pH:		
Turbidity:		
Nitrite:		
Nitrate:		
Phosphate:	<.5ppm	
Sulphate:	<200	
Water odours:		4
Water colour:		0
Turbidity		2

H. BOTTOM MATERIALS

a.	Inorganic Materials (%)	Bedrock	
		Boulder	50%
		Cobble	25%
		Gravel	25%
		Sand	
		Silt	
		Clay	
b .Organic	Organic Materials	Detritus	90%
		Marl	10%

DATA SHEET1

PHYSICAL CHARACTERIZATION/	WATER QUALITY FIELD DATA SHEET	
Name of the river	Bharathapuzha	Palakkad District

	Name of Survey Site		Cheruthuruthy Lowland
	Name of Team Leader		Dr.Sushama.S
	Date		26.5.2010
	Time		6am
A.	WEATHER CONDITIONS		1
		Temperature(atmosphere) 27	
		Has there been rain in the last 7days	2
B. STREAM	STREAM CHARACTERIZATION		
	Stream nature:	2	
	Stream type:	V	
	Stream origin:	1	
C WATERSHED FEATURES	WATER SHED FEATURES		
	Predominant Surrounding Land Use Type:7		
	Local Watershed Nonpoint Source Pollution:1		
	Local Watershed Erosion:2		
D RIPARIAN VEGETATION	RIPARIAN VEGETATION		
Nil	Nil		
E.	INSTREAM FEATURES	Reach length (m):220m	
		Stream width (m):300m	
		Sampling reach area (m2):660m2	
		Stream depth (m):1.5 mts	
		Velocity: 3m/15 sec	
		Canopy cover (%) Nil	
		Stream Morphological Types Riffle:25(%); Run:50%; pools25(%)	
		Channelized:1	
		Dam Present:1	
F	AQUATIC VEGETATION	Free floating hydrophytes:	nil
		Floating but rooted hydrophytes:	nil

		Rooted and submerged hydrophytes	nil
		Suspended hydrophytes	nil
		Wetland or marsh plants	nil
		Attached algae:	nil
		Others (Specify):River bed is covered with thick growth of grasses	
G.	WATER QUALITY		
		Temperature (0C):29	
		Conductivity:	
		Dissolved Oxygen:Kit not given	
		pH:pH paper not given	
		Turbidity:	
		Nitrite:	
		Nitrate:	
		Phosphate:>.5	
		Sulphate:>200	
		Water odours:1	
		Water colour:0	
		Turbidity 1	
H.	BOTTOM MATERIALS		
a	Inorganic Materials (%)	Bedrock25%	
		Boulder	
		Cobble	
		Gravel	
		Sand 75%	
		Silt	
		Clay	
b .Organic	Oganic Materials	Muck –Mud 90%	
		Marl 10%	1

A .Primary Data Collection-Direct Samplig

Station I, High Land, Peringotukurrissy

Sl No	Fish species	Cast Net1	Cast Net 2	Cast Net 3	Cast Net4	Cast Net5	Cast Net 6	Cast Net 7	Cast Net8	Cast Net 9	Cast Net 10	Gill Net	Othe r Net	To tal
1	*Anguilla bicolor*		1		1									2
2	*Awous gutum*	4		2		2		1	2					11
3	*Danio aequipinnatus*	1		2			2	1	2	2	2			12
4	*Etroplus maculatus*	3	5	5	2	4	4	5	4	3	3			38
5	*Hyporhamphus limbatus*	1		1					2					4
6	*Puntius sarana subnasutus*	1		2			2		3					8
7	*Rasbora daniconius*			2							4			6
	Total	10	6	14	3	6	8	7	13	5	9			81

A .Primary Data Collection-Direct Samplig

Station II, Midland, Lakkidi

Sl No	Fish species													
1	*Anguilla bengalensis*	1	2			1	1							5
2	*Awous gutum*	5			1	1	3		3					13
3	*Catla catla*	8	5	6	3	5	4		8	6				45
4	*Danio aequipinnatus*	3			2	3	3		5					16
5	*Etroplus maculatus*	6	10	6			5	5	7	5	8			52
6	*Etroplus suratensis*	7	7	8			5		5	8	5			45
7	*Garra mullya*		3					3						6
8	*Hyporhamphus limbatus*		2		2	2	2	2		2				12
9	*Oreochromis mossambica*	5	9	10		6	3	6	3	2	7			51
10	*Puntius filamentosus*	5				6	2	8			3			24
11	*Puntius sarana subnasutus*			2		6		3						11
12	*Rasbora*				4	2	1							7

	daniconius										
13	*Xenentodon cancila*				3			5			8
	Total	40	38	32	15	32	29	32	31	23	23	29 5

A .Primary Data Collection-Direct Samplig
Station III Low Land, Low Land, Cheruthuruthy

Sl No	Fish species											
1	*Awous gutum*	2		1			1				1	5
2	*Catla catla*	5		3			4	5			3	20
3	*Etroplus maculatus*	4		2	3		3	5	2	4	3	26
4	*Etroplus suratensis*	3	3		4						3	13
5	*Mystus vittatus*	2	2		2	1			3		1	11
6	*Oreochromis mossambica*	3	5	2	5		3	4	3	3	5	33
7	*Puntius filamentosus*				2	2			3			7
8	*Rasbora daniconius*	2					1	3			8	14
	Total	21	10	8	16	3	12	17	11	7	24	12 9

DATA SHEET 2

A .FISH SAMPLING FIELD DATA SHEET (PRIMARY DATA)

<table>
<tr><td colspan="2">Name of the River: Bharathapuzha
Name of the tributary(if any): -</td></tr>
<tr><td>Name of survey site:
Peringotukurrissy
Highland</td><td>District and Panchayath:Palakkad
Thiruvilwamala</td></tr>
<tr><td>GPS Reading</td><td>Name of Team Leader:Dr.Sushama.S</td></tr>
<tr><td>Date:26.5.2010</td><td>Time:3pm</td></tr>
<tr><td>Types of nets used:
1. Cast net
2. Gill net</td><td>Sampling duration for each net (minutes):
1. 15 minutes
2. 60 minutes</td></tr>
<tr><td colspan="2">Anomalies recorded in fish(if any): Nil</td></tr>
</table>

DATA SHEET 2

A .FISH SAMPLING FIELD DATA SHEET (PRIMARY DATA)

<table>
<tr><td colspan="2">Name of the River: Bharathapuzha
Name of the tributary(if any): -</td></tr>
<tr><td>Name of survey site: Lakkidi Midland</td><td>District and Panchayath:Palakkad Thiruvilwamala</td></tr>
<tr><td>GPS Reading</td><td>Name of Team Leader:Dr.Sushama.S</td></tr>
<tr><td>Date:26.5.2010</td><td>Time:1 pm</td></tr>
<tr><td>Types of nets used:

3. Cast net
4. Gill net</td><td>Sampling duration for each net (minutes):

3. 15 minutes
4. 60 minutes</td></tr>
<tr><td colspan="2">Anomalies recorded in fish(if any): Nil</td></tr>
</table>

DATA SHEET 2

A .FISH SAMPLING FIELD DATA SHEET (PRIMARY DATA)

<table>
<tr><td colspan="2">Name of the River: Bharathapuzha
Name of the tributary(if any): -</td></tr>
<tr><td>Name of survey site:
Cheruthuruthy Lowland</td><td>District and Panchayath:Thrissur
Cheruthuruthy</td></tr>
<tr><td>GPS Reading</td><td>Name of Team Leader:Dr.Sushama.S</td></tr>
<tr><td>Date:26.5.2010</td><td>Time:6 am</td></tr>
<tr><td>Types of nets used:
5. Cast net
6. Gill net</td><td>Sampling duration for each net (minutes):
5. 15 minutes
6. 60 minutes</td></tr>
<tr><td colspan="2">Anomalies recorded in fish(if any): Nil</td></tr>
</table>

Primary Data Collection – Market Survey High Land/Mid Land/Low Land Common at all sites								
Sl.No	Fish Species / Group	Market Analysis (No. of fishes)						
		Sample 1	Sample 2	Sample 3	Sample 4	Sample5	Sample6	Total
1	*Anguilla bengalensis*	-	1	-	2	-	-	3
2	*Anguilla bicolor*	2	-	3	-	3	2	10
3	*Channa marulius*	3	-	7	5	-	-	15
4	*Clarias dussumieri*	5	6	-	6	-	4	21
5	*Hyporhamphus limbatus*	3	5	6	-	7	4	25
6	*Etroplus suratensis*	12	10	-	9	9	-	40
7	*Etroplus maculatus*	8	8	10	5	-	9	40
8	*Catla catla*	12	7	8	16	5	8	56
9	*Rasbora daniconius*	10	16	6	13	8	7	60
10	*Oreochromis mossambica*	10	16	12	13	7	12	70
11	*Puntius filamentosus*	16	10	11	12	16	18	83

Secondary Data Collection-Historical Data

Sl.No	Question	Answer
1	The reasons for dependence of local communities on river.	Irrigation,Drinking,Bathing,Fishing
2	The number of fishermen depended on fishing in the sampling area	2-4
3	Is there any change in the services (water including ground water, sand, fish) offered by the river over the years? If yes, reasons for the same. (use separate sheet, if needed)	Due to large scale sand mining the river substratum has changed. This resulted in channalization restricting river flow to a thin section. The major area is covered by thick growth of grasses. The river flows only in monsoon season and in other seasons there is no river instead a vast area of barren land with patches of thick overgrowth of grasses.
4	List (local names) of fish available in the river system (use separate sheet, if needed)	Tilapia Karimeen Manthil Moy Aral Paral Cheran Puzhan Kannan Goti
5	The species (mainly fish) that have declined in availability (abundance)	Wallago attu Hetropneustus fossilus Channa Anguilla
6	The species (mainly fish) that are once common in the area and disappeared recently	
7	Is there any new addition of flora and fauna in the region (eg. Exotic fish, fish eating birds, etc)	Oreochromis nylotica
8	Is there any major change in habitat structure? If yes, list them	Substratum has changed from sand to coarse gravels Disruption of River flow by growth of grasses Appearance of large pits due to sand mining Channelization of River

Thutha River is a tributary of Bharathapuzha, the second largest river in Kerala. Kunthipuzha, Thuppanadu puzha and Ambakadavu River are the tributaries of Thutha River. Thutha River joins the Bharathapuzha at Pallippuram (Paradur) of Malappuram. Three stations were selected for the study. Water samples were collected and tested for Different parameters.

STUDY SITE

Station 1 lowland KALKADAVU . IRIMBILIYAM PANCHAYATH

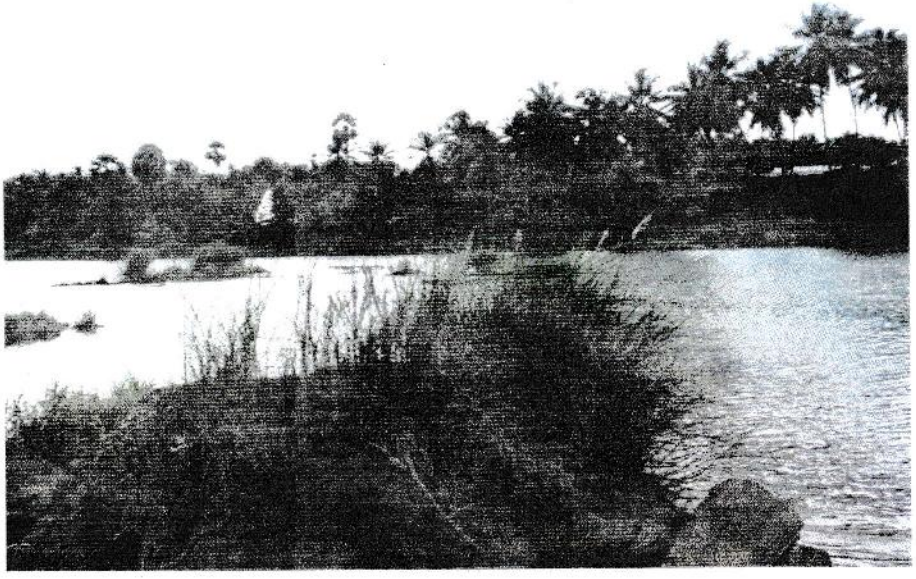
The river takes a slight curve here. River bottom is rocky here .On either side of the river there are coconut plantations, Banana plantations and homesteads. The Thiruvegappura temple is on the right side of the river.

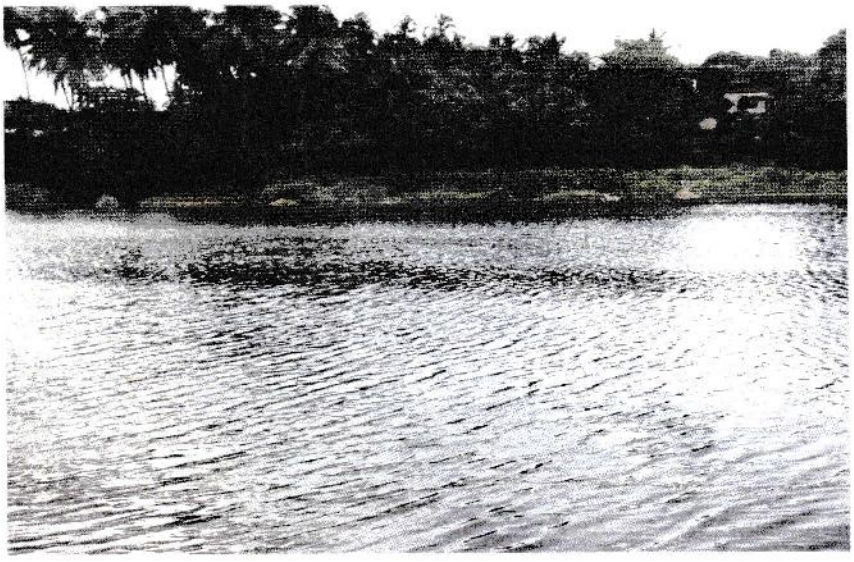
Station 2 Mid land PULAMANTHOLE KADAVU PULAMANTHOLE PANCHAYATH

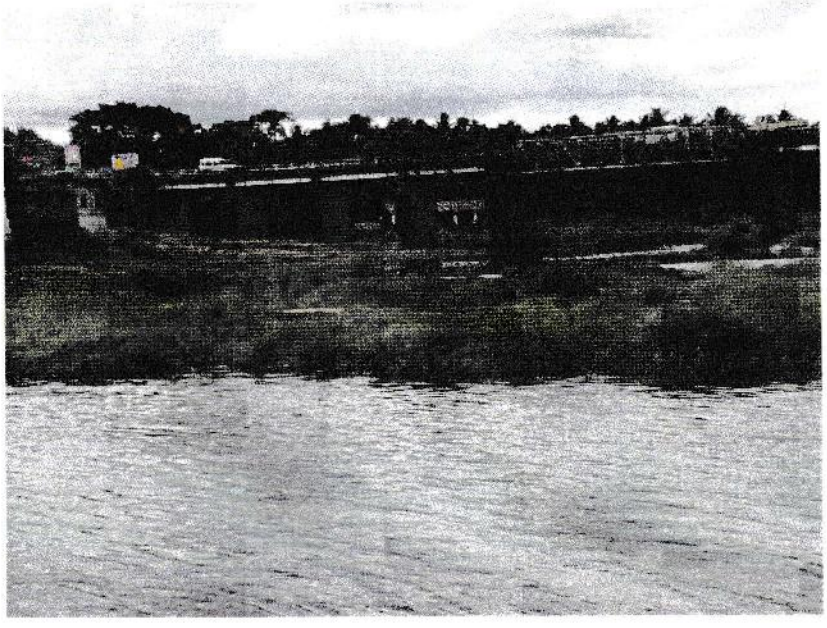
This station is near to pulamanthole town. The river bank is very high. sewage from the town is deposited under the Pulamanthole Bridge near the bank of the river. River margin vegetation is scanty.

Station 3 High land THOOTHA THOOTHA PANCHAYATH

This station is provided with some rocky pools in summer .But during the rainy season river is deep here. The river is deeper here than the other stations. The river margin vegetation is thicker than other stations. On the left side there is the thootha temple.







FISH MONITORING PROGRAMME (KSBB)

DATA SHEET 1

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

LOW LAND

Name of the River:	Thootha River .
Name of survey site	Kalkadavu .
GPS Reading (Lat. and Long	Not observed .
District and Panchayath	Malappuram ./ Irimbiliyam
Name of Team Leader	Zeenath .M
Date:	3/29/2010
Time	8:00 AM
A. WEATHER CONDITIONS	1
B. STREAM CHARACTERIZATION	1
	STREAM TYPE , 4 Stream order 4
C. WATERSHED FEATURES	6
D. RIPARIAN VEGETATION	2,3
E. INSTREAM FEATURES	
Reach length	120m
Stream w*dth*	*not recorded*
stream depth	:10 to 80 m
Velocity	: Fast flowing
Canopy cover	: Nil
Stream morphological type :	
Riffle	:25%
Pool	: 25%
Run	: 50%
Channelised	:Yes
Dam present	:NO
F. AQUATIC VEGETATION	No visible vegetation
G. WATER QUALITY	
Temperature	:25
Conductivity	: Not recorded
DO	:Not measured
Ph	: not recorded
Turbidity	:Clear
Nitrite	:not recorded
Nitrate	:not recorded
Phosphate	: No colour change
Sulphate	:Below Permissible Limit
Chloride	: 50 ppm
Alkalinity	: 50 ppm
Hardness	:40 ppm

	Iron	: No colour ie below 0.3 ppm
	Phosphate	:Nocolor change ie below 0.5ppm
	Water odour	:nil (0)
	Water colour	:Colourless
	Turbidity	:Clear
H. BOTTOM MATERIALS		
a.Inorganic Materials (%)	Sand	
b.Organic Materials	Detritus	

FISH MONITORING PROGRAMME (KSBB)
DATA SHEET 1
PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET
MID LAND

Name of the River:	Thootha River .
Name of survey site	Pulamanthole
GPS Reading (Lat. and Long	Not observed .
District and Panchayath	Malappuram /Pulamanthole
Name of Team Leader	Zeenath .M
Date:	3/29/2010
Time	10:00 AM
A. WEATHER CONDITIONS	1
B. STREAM CHARACTERIZATION	1
	STREAM TYPE ,4 Stream order 4
C. WATERSHED FEATURES	Small town
D. RIPARIAN VEGETATION	2,3

NON POINT SOURCE POLLUTIN: Urban run off

E. INSTREAM FEATURES	Reach length : 150m
	Stream w*dth* *not recorded*
	Stream depth : River very shallow
	Velocity : Fast flowing
	Canopy cover : Nil
	Stream morphological type :
	Riffle :25%
	0
	Run :75%
	Channelised :Yes
	Dam present :Asmall check dam like structure below the bridge
F. AQUATIC VEGETATION	Large grasses

G. WATER QUALITY

Temperature : 28
Conductivity : Not recorded
DO :Not measured
Ph : not recorded
Turbidity :Clear
Nitrite :not recorded
Nitrate :not recorded
Phosphate : No colour change
Sulphate :Below Permissible Limit
Chloride :70 ppm
Alkalinity :40 ppm
Hardness :30 ppm
Iron : No colour ie below 0.3 ppm
Phosphate :Nocolor change ie below 0.5ppm
Water odour ::nil (0)
Water colour :Colourless
Turbidity :Clear

H. BOTTOM MATERIALS

a.Inorganic Materials (%) Sand and small stones

b.Organic Materials Detritus

FISH MONITORING PROGRAMME (KSBB)
DATA SHEET 1
PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET
HIGH LAND

Name of the River:	Thootha River .
Name of survey site	Thuta kadavu
GPS Reading (Lat. and Long	Not observed .
District and Panchayath	Palakkad / Aliparamba
Name of Team Leader	Zeenath .M
Date:	3/29/2010
Time	2pm
A. WEATHER CONDITIONS	1
B. STREAM CHARACTERIZATION	1 STREAM TYPE ,4 Stream order 4
C. WATERSHED FEATURES	small town ,Human habitation ,temple
D. RIPARIAN VEGETATION	2,3
NON POINT SOURCE POLLUTIN: Urban run off	N Not observed
E. INSTREAM FEATURES	Reach length : 100m Stream width : 20 TO 30M

	Stream area	:130 m2
	Stream depth	: Very deep
	Velocity	: not much
	Canopy cover	: Nil
	Stream morphological type :	
	Pool	: 50%
	Run	:50%
	Channelised	:Yes
	Dam present	:Nil
F. AQUATIC VEGETATION	Large grasses	
G. WATER QUALITY	Temperature	: 28
	Conductivity	: Not recorded
	DO	:Not measured
	Ph	: not recorded
	Turbidity	:Clear
	Nitrite	:not recorded
	Nitrate	:not recorded
	Phosphate	: No colour change
	Sulphate	:Below Permissible Limit
	Chloride	:50 ppm
	Alkalinity	:60 ppm
	Hardness	:30 ppm
	Iron	: No colour ie below 0.3 ppm
	Phosphate	:Nocolor change ie below 0.5ppm
	Water odour	:nil (0)
	Water colour	:Colourless
	Turbidity	:Clear

H. BOTTOM MATERIALS

a.Inorganic Materials (%)	Large Rocks
b.Organic Materials	Detritus

FISH MONITORING PROGRAMME (KSBB)

DATA SHEET 2

FISH MONITORING PROGRAMME (KSBB)

A. FISH SAMPLING FIELD DATA SHEET (PRIMARY DATA)

DATA SHEET 2

(Use separate sheets for high/mid/low lands)

Name of the River:	Thootha
Name of the tributary (if any):	ambakadavu, Kanchirapuzha ,Thuppanadu puzha
Name of survey site:	Kalkadavu,Thiruvegapuram
Highland/Midland/Lowland	Low land
District and	Malappuram

A. FISH SAMPLING FIELD DATA SHEET (PRIMARY DATA)

(Use separate sheets for high/mid/low lands)

Name of the River:	Thootha Kunthi, Kanchira puzha , Thuppanad puzha
Name of the tributary (if any):	Thootha Ambakadavu,kanchirapuzha ,Thuppanad puzha
Name of survey site:	Pulamanthole
Highland/Midlan	mid land

Panchayath:	/Irimbiliyam	d/Lowland	
GPS Reading (Lat. and Long.			
(Optional)	nil	District and Panchayath:	Malappuram/ Pulamanthole
Name of Team leader:	Zeenath .m	GPS Reading (Lat. and Long.	
Date: Time:	29/3/2010, 8am	(Optional) Name of Team leader:	
Types of nets used:		Date: Time:	SAME
1. Cast net	Cast net and gill net	Types of nets used:	
2. Gill net		1. Cast net	Castand gill net
3. Trap		2. Gill net	
4. Mosquito cloth		3. Trap	
5. Other methods (specify)		4. Mosquito cloth	
Sampling duration for each net (minutes):		5. Other methods (specify)	
1	one hour for gill net	Sampling duration for each net (minutes):	
2		1	Same
3	approximately one hour for cast net	2	
4		3	
5		4	
Anomalies recorded in fish (if any): Deformities; Eroded fins; Fungus; Lesions; Mulitple anomalies; Emaciated; Others	NO	5	
		Anomalies recorded in fish (if any): Deformities; Eroded fins; Fungus; Lesions; Mulitple anomalies; Emaciated; Others	NO

DATA SHEET 2

A. FISH SAMPLING FIELD DATA SHEET (PRIMARY DATA)

(Use separate sheets for high/mid/low lands)

Name of the River:	"
Name of the tributary (if any):	"
Name of survey site:	Thutha kadavu
Highland/Midland/Lowland	High land
District and Panchayath:	palakkad/ Aliparambu
GPS Reading (Lat. and Long. (Optional)	
Name of Team leader:	"
Date: Time:	' 2pm
Types of nets used:	
1. Cast net	same

2. Gill net "
3. Trap
4. Mosquito cloth
5. Other methods (specify)

Sampling duration for each net (minutes):

1
2 ""Same
3
4
5

Anomalies recorded in fish (if any): Deformities; Eroded fins; Fungus; Lesions; Mulitple anomalies; Emaciated; Others NO

A. Primary Data Collection – Direct Sampling

Station 1 low land

A. Primary Data Collection – Direct Sampling

STATION 1 LOW LAND

Si No	Fish Species	C Net 1	C N 2	C N 3	C N 4	C N 5	C N 6	C N 7	C N 8	C N 9	C N1 0	Gill Net	Other nets	Total
1	Danio equipinnatus	6	1	1	0	9	1	0	1	2	0	NO	Not used	21
2	Puntius amphibious	2	7	2	0	8	0	0	2	3	0	Fishes in the gill		24
3	Awous gutum	3	0	1	0	0	0	0	0	0	0	net		4
4	Puntius filamentosus	0	0	0	0	2	0	0	2		0			4
5	Etroplus suratensis	0	2	0	0	0	0	0	0	0				2

STATION 2 MID LAND

Si N0	Fish Species	C Net 1	C N 2	C N 3	C N 4	C N 5	C N 6	C N 7	C N 8	C N 9	C N1 0	Gill Net	Other nets	Total
1	Puntius filamentosus	1	2	0	0	0	0	2	0	0	0			5
2	Pristolepis marginata	1	3	0	0	0	0	0	1	0	0	FISHES were not	Notused	5
3	Puntius amphibious	2	5	42	0	1	0	3	1	9	2	got in		65
4	Rasbora	1	0	0	0	0	0		0	0	0	the gill		1
5	Danio aequipinnatus	8	4	0	0	0	0	0	0	0	0	net		12

6	Parambassis dayi	0	0	0	0	0	0	0	5	2	1		8
7	Amblypharyngodon melittina	0	0	0	0	0	0			2	2		4
8	Mystus vittatus	0	0	0	0	0	0	0	0	0	1		1
9	Garra mullya	0	0	0	0	0	0		0	3	1		4

STATN 3 HIGH LAND

Si N0	Fish Species	CNet 1	CN 2	CN 3	CN 4	CN 5	CN 6	CN 7	CN 8	CN 9	CN10	Gill Net	Other nets	Total
1	Puntius dennisoni	4	0	11	2	0	0	0	8	0	0		Notused	25
2	Xenentodon cancila	1	0	0	2	0	0	0	0	0	0	Nothing		3
3	Puntius filamentosus	5	3	0	0	0	0	0	3	1	1			13
4	Garra mullya	0	1	4	0	0	0	0	0	0				5
5	Awous gutum	0	1	0	0	4	2	1	0	0	0			8
6	Pristolepis marginata	0	0	0	1	0	0	0	1	0	0			2
7	Puntius ticto	0	6	0	2	2	0	0	0	4	2			16

River fishes were not sold in the nearby market during that time

Secondary Data ColleAct.ion – Historical Data (Use separate sheets for high/mid/low lands) — Same for all stations

Sl. No.	Question	Answer
1	The reasons for dependence of local communities on river.	No wells in house ,Reduction in well water in summer , By selling river fish they can earn Most like river fish , Prawns from river .
2	The number of fishermen depended on fishing in the sampling area	Very few
3	Is there any change in the services (water including ground water, sand, fish) offered by the river over the years? If yes, reasons for the same. (use separate sheet, if needed)	Fishes reduced , River turns to a channel in summer ,Ground water reduced .
4	List (local names) of fish available in the river system (use	Koytha(Awous), Karinkanni paral (P am) ,Vattaparal (P ticto), Mannathi paral (Danio), Koori (Mystus), Kodiyan paral

separate sheet, if needed)		(P filamentosus)
5 The species (mainly fish) that have declined in availability (abundance)	5	Mastacembelus. Ompok, Macrognathus ,Channa , Anabas .
6 The species (mainly fish) that are once common in the area and disappeared recently	6	Channa, Anabas (Present but very rare)
7 Is there any new addition of flora and fauna in the region (eg. Exotic fish, fish eating birds, etc)	7	N o
8 Is there any major change in habitat structure? If yes, list them	8	As a result of sand mining river bottom is converted to muddy areas, Stone mining from river also harmfully affected the species .
9 Is there any animal that dependent on the river (eg. Otter) disappeared in recent times	9	Otters present but number less
10 What are the common fishing practices available in the region?	10	Cast nets, Ottal . Baits
11 Is there any unscientific methods practised (eg. Dynamiting, poisoning, adakkam kolli vala, etc.)	11	Dynamiting
12 Any fish diseases outbreak observed till date?	12	NO
13 Any traditional knowledge on fish available in the area		
14 Suggestions on conservation of fish (as perceived by	13	Control removal of stones and sand from river bed, Formation of Matsya samrakhana Samithi in local panchayats ,