

Fading fins: Understanding perceptions of communities on *Sahyadria denisonii* around streams in Kerala and Karnataka.

Zoo Outreach Organisation has been dedicated towards conserving freshwater landscapes under its 'Lively Waters' Program for more than 5 years now. The freshwater systems be it the lakes, rivers, or ponds are highly polluted and degraded across India and thus affecting the biodiversity that lives in it. Studies show that at least 41% of the freshwater fishes found in Western Ghats are threatened by either being Vulnerable, Endangered, or Critically Endangered on the IUCN Red List for Threatened Species (Dahanukar *et al.* 2013). The Lively Water's program has thus been actively conserving & restoring freshwater habitats across southern India and educating people about conserving the same.

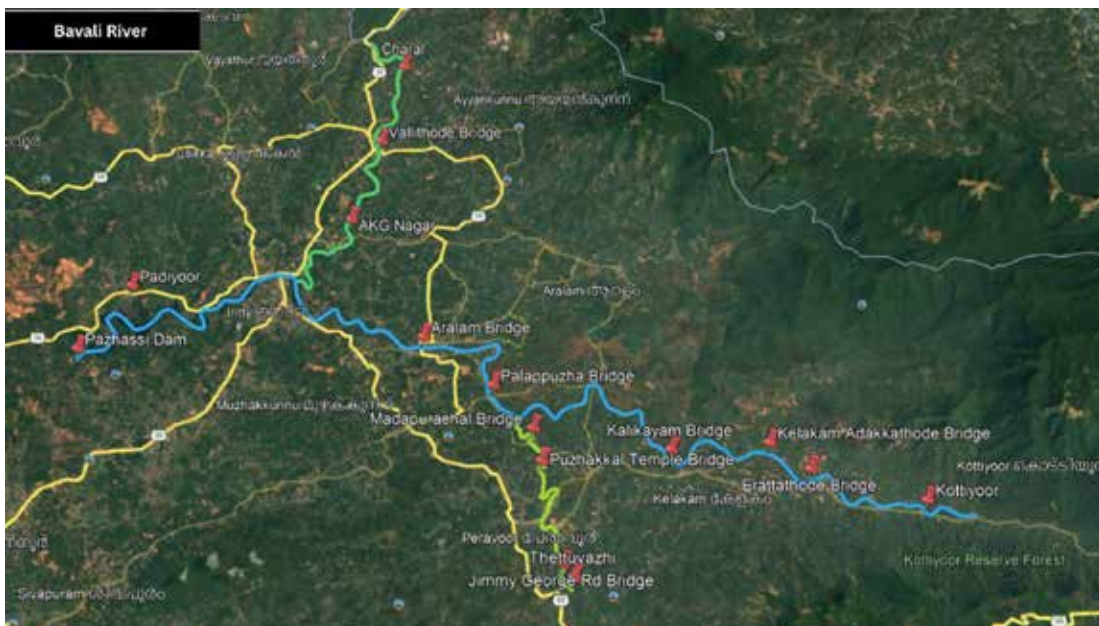
One of the projects under this initiative is 'Save Denise and Friends', supported by Shoal, focusing on conserving the unique and threatened freshwater fishes across Western Ghats Biodiversity Hotspot. The project aims to build strong communication networks between stakeholders and thus establishing community conservation reserves for freshwater species like Miss Kerala *Sahyadria denisonii* and others putting fish conservation firmly on the map.

The project objectives include field surveys, perception studies, community engagement & awareness, understanding pet trade, and DNA sampling. *S. denisonii* is a globally famous ornamental fish found only across nine rivers in Kerala and southern Karnataka is threatened due to unsustainable harvesting, pollution, habitat degradation & fragmentation, and

destructive fishing practices. In the past one year the project has located the rivers and the locations where this fish is found and has been continuing perception studies to understand the knowledge and thoughts of the locals living near the rivers about *S. denisonii*. The team has visited 27 locations till now interviewing 152 people across Kerala and southern Karnataka.

During the interactions we try to understand the knowledge of the people about the fish, its presence, use for trade, and cultural importance. Factors like people's perception on





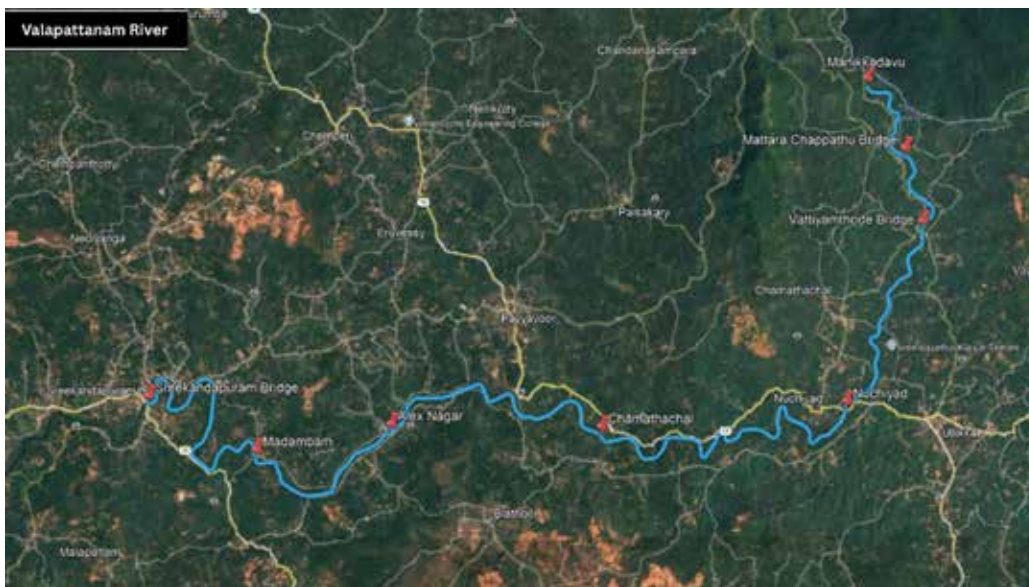
In general, most of the interviewees were disconnected with the river; 124 people did not know how they are connected to the river or depend on it, while 13 people said that they do not depend on the river at all. Five people depend on the river water for agriculture, seven for washing clothes, and four for bathing. When asked about the threats they felt the river and the fishes face the perceptions were quite diverse. Of all the respondents, 45 people had observed change in the river since their childhood. 13 felt increasing dams had affected the rivers negatively, seven felt increasing pollution was damaging the rivers, 14 felt the landslides in Madikeri, Karnataka affected the river stretches, eight people said the rivers were drying, and three said that increasing sand and silt over the years have changed the river composition. Sixty-one people feel that there has been no change in the rivers while 46 of the respondents didn't know much to respond.

When asked about the threats to the fishes, 51 of the respondents perceived a sharp decline in the fish population due to flood (13), overfishing (16), landslide (4), dynamite fishing (6), and dams (12); while 57 said that the populations

did not reduce and the rest didn't know much. Only four of all the respondents said that they actively oppose others from doing malpractices like waste dumping and poisoning.

When asked about fishing, 123 people said that fishing was common across the river, of which two used to catch Miss Kerala in the past but due to lack of demand discontinued, and some said tribals do fishing in summer with naturally obtained poison. One of the respondents said that 4–5 years ago they used to catch Miss Kerala and sell it to the aquarium traders for Rs 60–100 per pair, but now the demand and the cost per pair has reduced. Sixteen people said fishing was no longer common as forest department does not allow them to fish, restrictions in net size makes it difficult, and fish population has reduced making it a past occupation. Thirteen of the respondents were not aware about fishing practices. In Aloor all the people said that they did not fish anymore.

The location seem to have tourists and people from other states or districts coming to fish, as 63 people said that tourists from Tamil Nadu and Karnataka come to these river stretches to



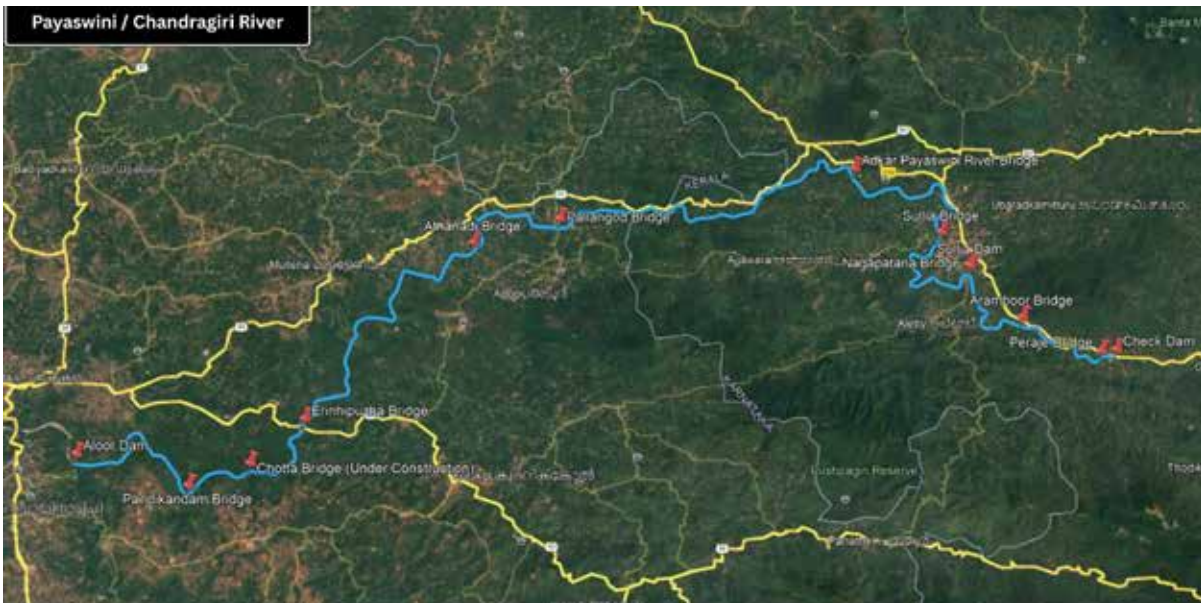
catch fish and export it, while 48 people said that there are no outsiders coming to fish as the locals have banned these outsiders due to unsustainable fishing practices. Rest of the people were not sure of outsiders coming to fish. Specifically related to Miss Kerala, 26 people said there was species specific fishing. Three people from Sullya, Karnataka said earlier people from Kerala would visit their and trained them how to catch the fish. Of these 26 people four said that the outsiders came 2–3 years back, five said 4–5 years back, two said 10 years back, two said they come often, while 13 couldn't remember the time of last visit by outsiders to catch *denisonii*.

Fishing though not common, is quite destructive in the area. While 29 people didn't know much about the different fishing methods at the river, 123 people said nets, hooks & bars were used, four said crackers, five said poison, and 14 said electrofishing & dynamite were used for hunting fishes. People in Iritty used Thandadi (transitional) nets for fishing; 62 of these people knew electric/dynamite/poison was used for fishing but perceived that it has reduced in past few years. Twenty-two respondents said that no destructive fishing

methods are being used across these river stretches.

As part of the project the team also collaborates with local organisations, individuals, or administrative people to make sure the action is on ground and collaborative. When asked, 147 of the respondents didn't know about the existence of any panchayat level program to monitor fishing. Two of the respondents said that the panchayat does nothing while three said that the panchayat releases fish hatchlings into the river. In Evadoor, Kerala people said a River Protection Group is present who are involved in eco-tourism to conserve the river. Of all the respondents on 35 wanted to be actively involved in conserving the river. They felt collaborations between communities, temples, and administrations is needed for conservation.

People felt that banning of harmful fishing practices and waste dumping into the rivers were the most crucial solutions. People said projects like Palappovan Amma Conservation is going on in Aloor for conservation of river and fishes. Rest of the people didn't know how they can conserve the fishes or river as it was too big a task while some felt it's too late and since



the fishes are no more conservation didn't make sense.

Thus, there is a clear lack of connect and attachment that people have with the rivers and the life living in it. There is only a very small part of the population that understand that the rivers are changing, and the biodiversity is harmed. There is also a lack of communication between the communities and the administration. But there are a few conservation efforts happening in the area and interested individuals who understand their role in conserving the rivers. This gives us a hope. The project is going to continue with its initiative in the landscape and conduct outreach programs to make the people realize the importance of the river in their backyards and the life living in it.

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