

FEATURE

# A Day on the Roshi Fishing for a Good Cause

*A day out fishing with the boys is still a great way to reconnect with nature and to rejuvenate tired senses.*

Text & Photos by RAVI M SINGH



Amused doctor Jha looks on as the gen-set breaks down.

I jumped at the idea of a trip to *Roshi Khola* (river), because we were going fishing! And, sure enough, my anticipation brought on a fitful night's sleep. In the morning, my angler friends admitted the same. Besides hooking fish—every angler's excitement—we would escape from the city's dust, smog, noise, and monotony. But this fishing expedition was different. It had purpose (beyond mere catching fish), and a bit of scientific technology (electro-fishing).

Electro-fishing is a process of stunning fish by using electric current powered by a portable backpack generator or battery. The current is delivered by a pair of electrodes that comes with the equipment. Exclusively used for scientific surveys, fisheries biologists use it as a most humane way of catching fish, before releasing them back into the wild. In this case, I was joining several friends in the scientific survey of the Roshi river to determine the fish abundance, density, and species composition. Electro-fishing, when done properly, results in no permanent harm to fish, though some fishermen have invented crude replicas of this equipment to illegally and unethically kill fish for non-scientific purposes, for eating and selling.

Our expedition started, as usual, almost two hours late. Fishing trips have a way of doing that. Given bad traffic on the Kathmandu-Bhaktapur road, it was almost noon when we arrived at the Roshi bridge. All eyes turned to the clear Roshi that tumbled past rocks and boulders strewn all along the watercourse as it snaked through the narrow valley.

The river Roshi is named after a tiny village (*Roshi Gaon*) located on a hillside some three kilometers from the old historical Newar town called Panauti, eight kilometers South-east of Banepa. Noted for delectable *asla* (snow trout), the spring-fed river drains from the high Phulchoki hills (above Godavari), and converges on the Tama Koshi river at a small settlement called Dumja (on the new Sindhuli-Bardibas highway) that goes south to the Terai from Dhulikhel. I still remember when people from Kathmandu travelled as far away as 40 km to Panauti situated on the banks of the Roshi to try fried trout served by the local eateries. It was well worth the trouble, for the fish from the cold Roshi were, indeed, exceptionally delicious. That, however, was more than a decade and half ago. The Roshi today

stands depleted and degraded. Overfishing, escalation in river encroachment and pollution, ever growing human settlement, development works (like the new highway)—and the worst—massive excavation of sand, gravel and boulders, has violated the once pristine river.

Our destination was the long stretch of Roshi on the Sindhuli-Bardibas Highway, some 55 kilometers from Kathmandu. Our team was a mixed bunch, five in all. Arun worked in an international bank; Vikas ran a restaurant; Kumar, although qualified as an environment graduate, dabbled in real estate; I gave up business to freelance writing; and the last, Professor Bibhuti Ranjan Jha, was a guest and our mentor. Everybody addressed him as “Jha sir.” A senior environment scientist at Kathmandu University, Dhulikhel, he had volunteered as our ‘guru’. The equipment and all the paraphernalia for the survey was provided by courtesy of Jha sir.

Except for Professor Jha, we four anglers represented an NGO involved in the conservation of aquatic resources of our country. And curiously the NGO was created by coincidence. A bunch of avid anglers met on the Internet, rendezvoused, shared common grievances about the plight ▶

## NEPAL'S AQUATIC BIODIVERSITY

Nepal is extremely rich in aquatic resources with more than 743,563 hectares of wetlands consisting of rivers, lakes, reservoirs, ponds, paddy fields and marshland. These support an estimated 183 species of fish belonging to 93 genera. Besides fish, Nepal's aquatic biosphere supports an estimated 43 species of amphibians and some reptiles, several species of mammals, and around 193 species of birds which have adapted to an aquatic environment or are dependent on aquatic life forms for survival. Some of these, like the Gharial (*Gavialis gangeticus*) have been rescued from the brink of extinction—thanks to conservation efforts. The fate of, however, others like the Gangetic Dolphin (*Platanista gangetica*) and a number of other species of fish is uncertain. The legendary Golden Mahseer (tor putitora), which has drawn international acclaim among the angling fraternity, the snow trout (*Schizothorax*), the Rajbham (*Anguilla bengalensis*) and the formidable for its size, the Gouch

(*Bagarius bagarius*), a catfish species, are some of the indicator species, which are under serious threat of extinction.

What is certain is that, the aquatic ecosystems are under tremendous pressure from anthropogenic exploitation resulting in destruction of spawning grounds of fish and breeding grounds of birds, amphibians, reptiles and mammals dependent on aquatic habitats. Infrastructure development, like roads, weirs and dams, and massive deforestation has also contributed to the degradation, taking its toll on the already fragile ecosystem. Furthermore, destructive fishing practices are rapidly exhausting the remaining stocks of fish in our rivers and lakes. Much has been done to conserve the Gharial crocodiles and the Dolphins. A myriad of other species remain, however, sidelined—neglected.

Our NGO called *Sahar* (Save Himalayan Aquatic Resources) was recently established by a group of like-minded anglers-turned-conservationists,

concerned about the degradation of freshwater ecosystems in Nepal. *Sahar* seeks to achieve conservation and equitable and sustainable use of water resources through community based approaches that include: conducting scientific research in the rivers and lakes of Nepal, raising awareness on aquatic biodiversity conservation through effective lobbying with conservation agencies and government organizations, encouraging local communities dependant on riverine resources to embrace sustainable harvesting practices, alleviating the incidence of poverty among river dependant local community by seeking out alternative livelihood options, implementing restocking programs to augment natural fish stocks in the rivers by operating fish hatcheries, assisting in the development and implementation of productive policies on aquatic biodiversity conservation, and promoting sustainable angling opportunities based on the principle of ‘catch-n-release’ as a major tourism attraction.



Releasing the catch



weighing the catch

of our rivers and the aquatic resources, got down to some serious brainstorming, then set up the organization.

As we drove down the highway surveying the river that flanked the road, we passed by a stone-crushing site. Surprisingly, no work was in progress at the factory. Some months back on my angling jaunt to Sunkoshi, what had been a glass clear river to that point suddenly turned unbelievably turbid, and continued that way--getting worse as another of those installations spewed silted water into it--till it finally merged with the big Sun Koshi at Dumja. The sight of the pollution at the confluence was disturbing. The Roshi, always gin clear at the time (my visit in October), was a dark chocolate in stark contrast to the turquoise Sun Koshi, as it poured into the big river.

We selected a place called Chitre as our survey site. The balmy day with sun not too strong promised fantastic weather. So, without further ado, the team pitched into work. No small feat, though. Care had to be taken, as the underwater surface was uneven with slippery gravel and stones.

Off went the foursome into the Roshi, waist deep, struggling against the strong current. Kumar, weighed

down by a bulky generator on his back, clumsily waded through the water holding the ominous looking stick with the electrode, which he kept poking into the water while the other hand fiddled with a switch that delivered electric current. Arun and Vikash in their unwieldy waders flanked Kumar, holding long staffs with dip nets, which they kept jabbing left and right in a frenzy to trap the stunned fish. Professor Jha brought up the rear with a plastic bucket that held the fish netted by Arun and Vikash. All were wearing chest long mandatory rubber waders to avoid getting mildly electrocuted.

At first sight, it looked like total bedlam. "Hey, try that eddy... No, no not that one, the one on your right," an over-excited Arun screamed at Kumar. "Shove the stick deeper. Try to reach underneath the big boulders." Everyone had to yell over the sound of the rushing water. Now it was Vikash's turn to shout: "There, there... Arun, the fish are to your left."

Professor Jha apart, the young men (in their early thirties) acted with a raucous bubbling energy, worth watching. Excitement mounted with the

passing of every minute. Words flew. The yelling took newer heights. As expected, the entire scene of frenetic activity coupled with the noise successfully drew a small local crowd of local villagers, who watched in awed silence. I was spared the physically demanding work of plowing through the water; so, I elected to be the team-photographer instead. But neither I nor the watchful crowd was any less excited at the fishy going-on in mid-stream.

Then suddenly, when only five minutes remained to complete the first leg of the operation (15 to 20 minutes to be done at two different stretches), the generator coughed, sputtered, belched out black smoke, and died, to a mutual "Oh, No-o-o!" Despite several attempts, the gen-set refused to re-start. All four reluctantly waded out of the river. Suddenly, Vikash stumbled, lost his footing, and crashed into the water to guffaws from the crowd on the river bank. Even the waders did not ▶



Inspecting water temperature.

Arun and Vikash in their unwieldy waders flanked Kumar, holding long staffs with dip nets, which they kept jabbing left and right in a frenzy to trap the stunned fish.

help. Neither did the cool March day, for without a change of clothes, the slightest breeze made him shiver involuntarily.

As it turned out, the gen-set's spark plug had fouled. Back on the shore, a quick scrubbing of the plug did the work and the gen-set kick-started, to a spontaneous "H-u-r-r-a-y!" Since that particular stretch was already disturbed, we worked up the river from a different spot, and then breezed through other run a kilometer downstream.

It was time for a break, and much needed lunch. As we munched on hefty tuna sandwiches (courtesy of Arun), Kumar checked on the day's catch stowed in two different buckets. The last combing operation had yielded more fish, finger size and smaller, than the first. Then, it was time for the final work that needed painstaking attention to detail. Every fish had to be taxonomically categorized by its native identification, scientific name, weight and length. The total count of each species assessed its abundance in the river. We were required to carry subsequent experiments at Roshi at four times during the year: early in the spring (this one), in June (summer or pre-monsoon), October (autumn or post-monsoon), and January (winter), both upstream and downstream.

The mundane work of fish sampling took time. The other members of the team took care of that, while I took a little time off to satisfy some of the local fellows' curiosities. One in particular, a local fisherman named Krishna, seemed the most interested to know what we were doing, which I explained. Then I asked, "So, how

is your own fishing going on." "Very little, sir; it's not like what it used to be. Ten years ago, my cast-net brought enough fish to make a livelihood. Today, I fish in my spare time only, doing odd jobs to earn a living", he lamented. "What with the coming of the two stone-crushing industries and massive excavation of sand and rocks from the river, the fish have diminished disastrously. To make matters worse, electro-fishing is on the rise—and by far the worst, pesticides are being used to kill fish," an indignant Krishna said, shaking his head.

And to his curiosity, I explained that we represented an NGO. Careful not to confuse him with scientific jargon, I used simple words. "Look Krishna, as you just said, the Roshi holds less and less fish every year. We have, in pursuit of greater wealth and development, brought disaster to our rivers. Our children and their children's children, too, hold equal rights to enjoy the fish from the rivers like we have. If we do not think about some way to save our fish and the rivers, no fish will remain in the future for them to enjoy, right?" Krishna nodded in approval. "It is for this reason, we have started an organization to address this problem and raise awareness about the conservation of our rivers and fish. And this is possible only if conscientious fishermen like you join hands in the campaign", I concluded. Krishna looked impressed.

Of the eight different species captured, totaling 214, *Bhote gaddo*, a loach (*Schistura rupacula*), was most abundant (106 total count), followed by Katle, the copper mahseer (*Neolissocheilus hexagonolopis*), 53, and *Buche Aasla*, Blunt-nosed snow trout (*Shizothorax richardsonii*), 12, to name a few of the common

ones. Disappointingly, none of the catch included the popular golden mahseer. Given that the Roshi, as a subsidiary of the Sun Koshi, offered adequate rocks, pebbles and a gravel bed to form a perfect spawning ground for golden mahseer, our expectations were high. A survey done by us in the Tadi Khola last autumn, however, held a fair number of mahseer fingerlings.

On the banks of the Roshi, our research over, it was time to release the fish. Arun volunteered, and grinned from ear to ear at the camera. The locals watched in awe; somewhat bewildered at the entire catch being released (although we had explained).

Darkness approached while we packed up for the day. We shook hands with Krishna and the local bunch who kept us company, got back into Arun's battered 30-year old jeep, and with its screeches and groans, headed back home.

A little later as we crossed the Roshi bridge I looked back at the river to see it as a streak of silver winding a path across the darkening valley. Gentle hills stood out on two sides in somber silhouette, a blissful shimmering pale etheral glow in the diffused light of the setting sun until it finally dipped below the horizon in a burst of deep orange, vermilion and indigo. It looked like a flawless work of abstract art. I felt good and happy. We had a good day of fishing... and for a truly good cause. ■

The author is a freelance writer and outdoorsman. He can be contacted at [atravimansingh@hotmail.com](mailto:atravimansingh@hotmail.com). Inquiries about the NGO Sahar, its activities or issues of aquatic biodiversity conservation in Nepal can be addressed to [info@saharnepal.org](mailto:info@saharnepal.org).