PROLOGUE

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NadiSutra

Following a river, listening.

A river can be, if we'd listen, the sutradhar of all that transpires in her basin.

Much has been written and said over the past few decades about the Ganga in peril. Attention has been focused almost exclusively on the Alaknanda-Bhagirathi-Haridwar-Allahabad-Kanpur-Banaras tributary stretches, and perhaps with reason, because the mid-reaches of the river along these cities are near-dead. However, Ganga's oldest and largest tributary system, the Karnali-Mahakali-Sarda-Ghaghra-Sarju complex, may be peripheral in public consciousness, but is also deeply imperilled.

We know that the Mahakali-Karnali-Sarda-Ghaghra-Sarju tributary (Ghaghra-Sarju, hereafter), remains one of the most biodiverse tributaries of the Ganga. The Mahakali-Sarda stretch falls within the Eastern Himalaya Freshwater Biodiversity Hotspot boundary, and is presently, despite severe withdrawal of water for irrigation along the way, relatively intact, in terms of habitat and life therein. Having no major cities or industrial complexes along its banks, the Ghaghra-Sarju has been spared the fate of the Allahabad-Kanpur-Banaras reaches of the Ganga. As yet.

There are plans afoot that will not just transform the mountain reaches of this river, but will divert it as soon as it reaches the plain almost entirely into canals. The Mahakali, the Karnali, and a host of smaller mountain rivers will no longer flow East into the Bay of Bengal, where they have for millions of years, but be diverted West to join the Yamuna in Haryana, and then be diverted to the deserts of Rajasthan, and bent down to the Sabarmati in Gujarat. Left-overs, if any, of a river that flows into the Bay of Bengal, will then flow into the Arabian Sea. I have a news-report in hand that says that the blue-print for the interlinking of the Sarda and the Karnali-Ghaghra to the Yamuna and then taking them West, is ready.

In the mountain stretches of just the Mahakali, there are plans and work underway to build 58 hydropower projects. Just one of them, the giant Pancheshwar storage dam for 6,000 MW will dwarf any other dam in our country. The transformation is difficult to imagine, but one thing is clear. Such radical re-plumbing of the river will have untold environmental impacts.

It has become a matter of great urgency, therefore, to do what we can to let this tributary system run free. To scale up many efforts to highlight unique biodiversity values, so that the Ghaghra-Sarju, the largest of Ganga's tributaries, is seen for her biological and social values, and is prioritized for conservation efforts. A creative way, among others, to do this can be to highlight the critical value of maintaining connectivity and flow-rhythms in the river. We propose to do this by following in particular one fish, and one freshwater crustacean. The Anguilla eel (Anguilla bengalensis), and the freshwater shrimp (Macrobrachium gangeticus).

Both these aquatic creatures are migratory, travel great distances to breed, and are most illustrative of the need for connectivity and flow rhythms. While both can take some level of disturbance in connectivity, even clambering onto land and over small barrages and obstructions, they need high flows and low flows in the appointed season, to be able to migrate to the sea and breed.

There are old records of the Anguilla eel in the Mahakali, where the river meets the plain, but no recent reports of them from fishermen here. From what is known about their migration, the female A. bengalensis in the Ganga system would actually be taking a swim for around 2,000 kilometres to reach the Bay of Bengal where she would mate in the estuary, and then a further 2,000 odd kilometres to the Mantewi deep near Sumatra. The larval eels hitch-hike ocean currents to get back to the very same estuary, and young female elvers swim up into freshwater streams and rivers, to spend their lives deep in the continent as their mothers did. Unless human intervention prevents them from getting there.

The three existing freshwater shrimps in the mid-sections of the Ganga, Macrobrachium gangeticus among them, are also known in the Ghaghra-Sarju. Being found in the past as far west as Allahabad and even Agra in the Ganga-Yamuna tributary complex, the mid-stretches between Allahabad-Kanpur-Banaras being what they are today, they are no longer found there. M. gangeticus and M. malcolmsonii are presently found at least till Faizabad on the Ghaghra-Sarju. After breeding in the estuarine waters of the Sundarban, this freshwater shrimp will crawl for at least 1,000 kilometres against the current to upstream locations. They need both the low-flows during their up-migration, and the high-flows to go down to the sea in time. The great mass of such migrations obviously support, apart from people, much fish and bird-life all along the river.

There are a host of other migratory species reported from the Ghaghra-Sarju that are of interest. The Hilsa (Tenualosa ilisha) and the Goonch (Bagarius bagarius, and B. yarelli), and lower in the Ganga main-stem, the amphidromous Ganga Shark (Glyphis gangeticus) and Ganga Stingray (Pastinachus sephen), the latter having been recorded

in the Ganga 2,200 kilometres from the sea. We propose to speak to fishermen all along the way, to collect information about historical and present ranges of these fish, and we will do so most intensively for the Anguilla eel and the Ganga freshwater Shrimp.

The story of the migration of aquatic life is an interesting and important one, not least because it gives us a glimpse into evolutionary history, spanning great physical distances, but also great spans of time. These ancient life-forms also make the most graphic icons for rivers and their ecosystems processes, illustrating the linkages between physical processes and life in the entire river and beyond. They also highlight the criticality of preserving 'wildness' in rivers, even as evolutionary pathways.

The plan:

To be able to do this, I and my son Zanskar, plan to undertake a river voyage down the Mahakali-Karnali-Ghaghra-Sarju-Ganga continuum in mid-November this year. Our home is in the headwaters of the Mahakali, and as citizens, we have a stake in working to save our river. Even between generations. And with other riverside communities along the course. The river itself is a metaphor for an epic voyage, from the great snows of the Himalaya, down to the sea. While I have walked all the headwaters tributaries of the Mahakali both in India and in Nepal, and have also seen the origins of the Karnali in Tibet, Zanskar is a white water kayaker. We need to see and experience first-hand the entirety of the continuum, and to be able to listen to the story of the sutradhar right down to the sea. We wish to do this, following and anchoring the story on, one fish and one shrimp. The journey will be almost 2,000 kilometres long. Depending on flow volumes and velocity, and the many other variables, we think that we could do the journey in about 45 days.

We plan to talk with and listen intently to fishing communities all along the way. We hope to record their voices and their stories and attempt to map them creatively on our return. We will also photograph and film locations and fisher-folk along the river, in an attempt to create a time-line documentation, in view of the impending radical transformations of the river-scape. This could help in communicating the story later to conservation constituencies, especially along the river.