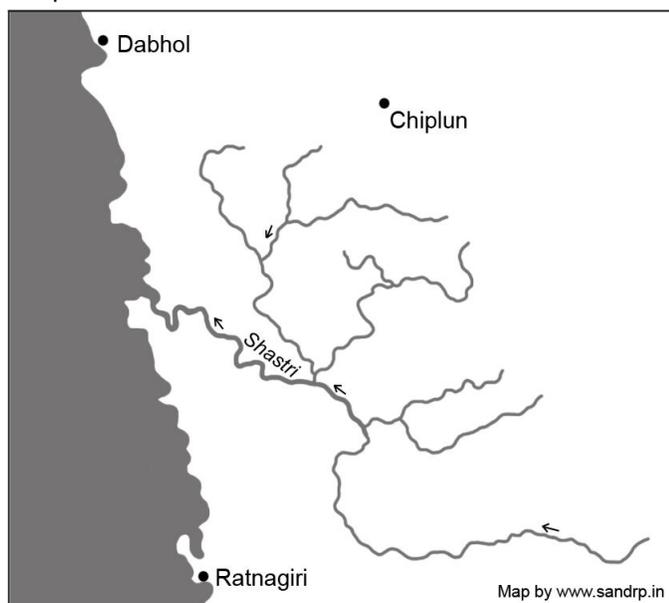


## How to ruin living rivers: Fall of River Shastri

Living, healthy rivers which perform their hydrological, social and ecological functions are becoming a rarity in our country. We are flooded with news about rivers being dammed, dried and polluted and weaker communities ending up paying the price for our short sighted development paradigm. And yet, there exist some rivers which are still rivers in the true sense: they flow, support biodiversity and hold value not only from the 'goods and services' perspective but for their cultural, social and aesthetic significance. In an ideal scenario, these rivers should be protected. Let us see what is happening.

**River Shastri** is one of the few undammed, unpolluted and pristine rivers in the Northern Western Ghats.



The river emerges from Prachitgad, a historical fort in the newly-declared Sahyadri Forest Reserve at an elevation of 839 m above sea level and flows down to the west of the Sahyadri mountain ranges, meeting the Arabian Sea in a short journey 90 kilometres, forming a basin of 2173.55 sq. kms. The basin falls entirely in the Ratnagiri district of Maharashtra, a region famed for its rich horticulture: Alphonso mangoes, cashew nuts and jackfruits. It covers three blocks: Sangameshwar, Ratnagiri and Guhagar. Tributaries of Shastri include Gadgadi, Bav, Gad, Asavi and Gandagi. In its short journey, Shastri provides goods and services to around 80 villages in the basin. It meets the sea near Jaigad, forming a magnificent creek which is a haven for fishermen and mangroves and a rearing ground for fish and aquatic animals.

SANDRP has been studying the Shastri for the past year to analyse the range of benefits a free flowing, unpolluted river can provide to the community at large.

Here is a snapshot of what we found:

**In the upstream (From Shringarpur to Sangameshwar):**

**Drinking Water** The entire town of Sangameshwar with a population of 12000 depends on the river (and wells) for domestic water supply through jackwells in the river.

**Fishing and riparian gardens** Shastri and its tributaries provide livelihood security to more than 5000 people through activities like freshwater fishing, and riparian farming along its banks. Villages on the banks of Shastri, Bav, Sonvi, Saptalingi and Gad have flourishing riparian vegetable gardens with seasonal vegetables.



Freshwater fish of Shastri in local market

In villages like Wanjole the management of vegetable gardens is handled by women, right from watering the gardens with river water to selling the produce in nearby towns of Devrukh and Sangameshwar. Water is drawn from the river directly through traditional systems like *Ukti*, channels or recently, pumps. This provides income to about 2200 families in the Shastri basin.

**Freshwater fishing** is carried out by special tribes, as well as women in all riparian villages using indigenous techniques, but the catch seldom comes in the market and is used for domestic consumption.

**Zone of Tidal Influence: River bank cultivation** along the zone of **tidal influence**, where the water is brackish, is also rich. This zone has small land holdings of a hectare or less and riparian farming occurs on an approximate area of 550 hectares. Pulses and vegetables are mainly cultivated and the cropping pattern changes with seasons and changing salinity of water. Vegetables from this area are sold in markets of Ratnagiri, famed for their unique taste, which is locally attributed to brackish water and the zone is organic 'by default'. This riparian zone provides subsistence and employment to nearly 1550 households.



Farming along the zone of tidal influence

**Cultural Significance** Shastri epitomises Indian reverence for rivers with Shiva temples at all the hydrological junctions. Where a tributary crosses the Sahyadris and falls into the coastline forming the spectacular Marleshwar falls is the temple of Marleshwar and the tributary is venerated as *Gangotri*. At Confluence of Shastri and Alaknanda is the temple of Sangameshwar, where the Shivalinga is immersed in water from the confluence, the place where seven first order streams join to form Saptalingi tributary is hidden a sacred grove and a temple of Saptalingeshwar marks the place. The crumbling temple complex, built by the Shilahar Dynasty kings in the 12<sup>th</sup> Century has a unique structure with seven channelized streams emerging from separate chambers and flowing together in a single Kunda, which then flows on as the Saptalingi rivulet.

Considering the pristine state of Shastri, one would expect that the river would support rich estuarine fisheries and dependant livelihoods. **But, as it turns out, this is no tale of a living river..**

**Destruction of Jaigad Creek** Jaigad creek is one of the important fishing creeks in Western coast, supporting nearly 42 fishing villages. Fish catch for the year 2009-10 for Jaigad Fish landing site was 3953 Tonnes (Fish Production Report, GOM, 2010). While most fishermen go out in the open sea, some specialize in estuarine fishing, around 20 kms in the mouth of the river. These fishermen specifically do not have mechanised boats and use diesel fired 'dibkos' or manual boats. Their proportion in the overall catch is

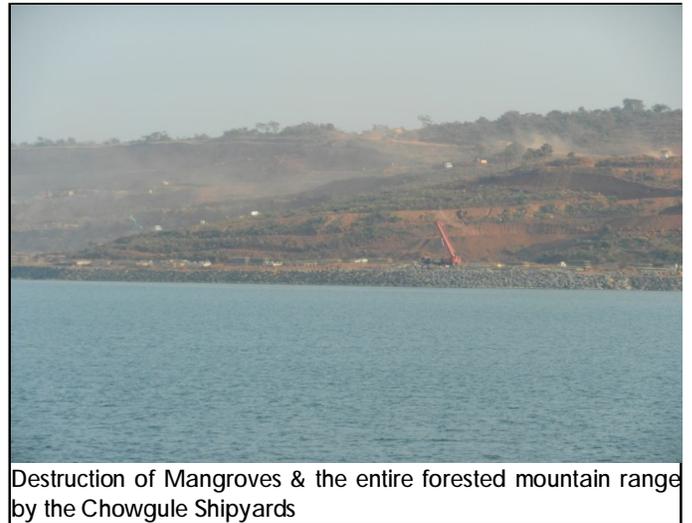
**When this author visited fishing villages in the Jaigad bay and talked with the fishermen, it slowly but surely became clear that estuarine fisheries are on the verge of collapse and small time fishermen are facing extremely difficult times. Some fisheries cooperatives have reported 65-75% fall in catch in the past three years, last year being the most difficult. But how is it possible that an unpolluted, undammed river can have an unproductive estuary?**

barely 1.2% (98.8% by mechanised boats with trawl-nets).

**Fish catch for these fishermen has been going down drastically for the past three years, with last year being the most critical, some fisheries cooperatives claiming a 65-70% decrease in estuarine varieties. This is severely affecting their subsistence, economy and livelihoods.**

I visited the village of Jaigad and neighboring Padve which is home to estuarine fishermen. While reaching Padve through a ferry, one cannot fail to notice huge patches on the left bank completely deforested and mined, with JCBs and lorries ferrying rubble, huge boats inside the estuary and construction going on in the estuary. No mangroves could be seen on this bank, while the right banks had forests and mangroves.

In the village, the fishermen told me tales that seemed to belong to any river but the unsullied Shastri. **Estuarine**



Destruction of Mangroves & the entire forested mountain range by the Chowgule Shipyards

**fish species are disappearing in river, filter feeders like shrimps and prawns have not been found for the past year at all, the species composition has changed and most importantly, catches are falling so much so that most of the fishermen are thinking of different occupations.**

**Reasons** Some of the reasons that has lead this situation are the following.

- Shastri estuary houses two upcoming Port projects and one Thermal power

plant. The Power plant has become fully operative from the last year and ports will be operating from this year.

- These include **Jindal group's 1200 MW Coal based thermal power plant.**

- **M/s JSW Jaigarh Port Ltd.**, a constituent company of Jindal Group which is expected to handle **20 million tonnes cargo every year.**



**Fishermen from Padve village: left without options**

- **M/s Chowgule Ports & Infrastructure Pvt. Ltd.**, a constituent company of Chowgule Group which is expected to handle **5 million tonnes cargo every year.**

Both the ports have received clearances from the State Environment Department, Maharashtra State Coastal Zone Management (Ports: Expert Committee on Infrastructure Development and Miscellaneous Projects) Authority and the MoEF. Concessional agreements have already been **signed for the next 50 years**, with Maharashtra Maritime Board. These ports will be operated on a Build, Own, Operate, Share and Transfer (BOOST) basis. **The important component of this massive infrastructure development is dredging of the creek upto 14 meters depth for allowing safe draft for ships.**

Currently, the estuary which is supposed to be the most productive and bio diverse part of the riverine system is being dredged and destroyed and mangroves, which offer shelter to small fish and aquatic animals are being uprooted for about 10 kms in the creek. In addition, the JSW 1200 megawatt coal based TPP has started operating to its full capacity. The clearance of the project has been shrouded in controversies and many experts have said that the EIA has paid no attention to the impact of the water releases and fly ash generated on marine and estuarine fisheries and mangroves.

**In a classic situation, villagers from Padve which are on the opposite bank of the shipyards were not included in the EIA or the public hearing and are now facing severe threats to their livelihood.**

**Dubious Parallels** In the neighbouring estuary of Vashisthi River, livelihoods of fishermen are all but extinct due to the double whammy of unbridled pollution from the Lote Parshuram industrial estate and the inter-basin water releases from the Koyana Hydro power project. When the author visited villages along the

Vashithi Estuary, former fishermen were abound with tales of how they have had to shift from fishing to sand mining, which is now controlled by Mafia.

Incidentally, the Maharashtra Pollution Control Board has not been successful in curbing the pollution from Lote Parshuram Chemical Complex of the Maharashtra Industrial Development Corporation for the last 15 years. The MIDC Complex has not brought in promised economic benefits to local communities.

**Such is the oft repeated tale of impacts of development, which paints rosy pictures in the beginning, but fails to address even the most basic local concerns in the longer run. In Shastri basin, the impact is very raw and evident right now and local stakeholders, who never faced challenges like these are entirely clueless about where to look for support.**

**Groundwater in jeopardy** In the village of Jaigad, where local drinking water security starts and ends with domestic shallow wells, a strange phenomenon is happening.

**The JSW TPP began operating in April 2010 and since December 2010, Total Dissolved Solids from local wells in the area shot up suddenly from normal (ranging below 400 mg/l) to more than 1440 mg/l, rendering the water unfit for human consumption.**

This has never happened in the region before and the main culprit behind this sharp rise is the JSW TPP. The Plant has extensive ash disposal structures and ash pits in its premises, which are settled using sea water and an extensive salt water reservoir for condenser cooling. In the porous, lateritic plateau of Konkan, this ash-mixed salt water has been infiltrating in the shallow aquifer, ending up in wells. **For the past year, 1200 people have lost their water sovereignty & are dependent on water tankers which have been 'graciously' provided by the company.** Important questions which arise are how long will this last & what will happen if TDS of other wells shoots up as well (which is said to be happening)?

**The tale of Shastri River is a story unfurling before our eyes of how a living, providing river is being killed slowly, affecting all beings that depend on it, from crustaceans that once inhabited its rich estuarine beds, to the fishermen who fished in the creek, to the women who had their water security in their backyards. It is a story which illustrates the complete absence of any form of ecosystem governance, participation or sensitivity from administration or private developers towards local issues. With callous precedents like these, how can we expect local communities from Konkan to support 7 coal-based Thermal Power Plants, a mega nuclear power plant and numerous shipyard projects coming up on the estuaries which will benefit the investors but render ecosystems & people total losers?**

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