

A bridge too far

Carving a shipping channel through the underwater shelf that links India to Sri Lanka will destroy cherished beliefs and a delicate ecosystem, say **Peter Bunyard and Kusum Vyas**

A submerged limestone shelf at the western end of the Gulf of Mannar connects the southern tip of India with Sri Lanka. For the Indian government, that bridge, called Ram Sethu and clearly visible in satellite images, is an obstacle to shipping. When sailing between the Bay of Bengal and the Arabian Sea, ships have no option but to steam the extra 400 nautical miles – a 30-hour journey – around the island of Sri Lanka.

The solution is obvious: blast a passage through the limestone bridge and dredge a canal fit for shipping. And that is precisely what the Indian government intends to do, with the dredgers already at work to create a navigable canal that cuts across the shallow waters of Palk Strait to the deeper waters of the Gulf of Mannar. In fact, the project involves digging a deepwater channel 51.6 miles (83km) long linking the strait with the gulf. The canal is likely to be 14.5m deep, allowing the passage of ships with a draught of up to 12.8m, including bulk carriers of 65,000 dry-weight tonnes – roughly equivalent to the size of ships that pass through the Panama Canal.

As conceived in its original form, the Sethusamudram Ship Channel Project (SSCP) was to have cut through Ram Sethu (or Adam's Bridge, as it is also known). Hindus believe Lord Rama created the bridge to allow him to rescue his wife, Sita, from the clutches of Ravana, king of Sri Lanka. Smashing through it would be an unpardonable sacrilege.

The government initially tried to argue that the story, found in Hindu epic scripture *Ramayana*, was a myth. Not only did dismissal of Rama's feat provoke a furious reaction, leading to violent protests, but geology actually suggests that, perhaps no more than six centuries ago, Ram Sethu was indeed above water and could conceivably have been used as a causeway. Ancient temples on both sides of the straits testify to the religious significance of the region.

The protests led to a Supreme Court ruling that upheld Hindu claims to the sanctity of Ram

Sethu. Undeterred, the Indian government requested the basic project go ahead, and the Supreme Court consider other alignments of the shipping canal, ones that would not break through the 'bridge'. At the same time, it established a commission, led by Rajendra Pachauri, chairman of the Intergovernmental Panel on Climate Change, to look into the best, least offensive, alignment. The commission appears to be favouring an alignment that will miss Ram Sethu, and cut instead through the island of Rameswaram.

The intense focus on the religious aspects of the proposed shipping canal has taken the pressure off the Indian government in terms of determining the ecological and social consequences of the project. Irrespective of which alignment is ultimately selected, the environmental impact assessments commissioned to date have been largely inadequate in registering the devastating impacts to marine life that would be caused by building, maintaining and using a shipping canal. If the project goes ahead, campaigners say it will muddy and contaminate the pristine waters of the Gulf of Mannar, spelling disaster not only for the invaluable biodiversity of the area, but also, through the destruction of fisheries and the salinisation of freshwater wells, for the human population.

The gulf provides a habitat for rare and

endangered plant and animal species, including the green turtle and the remarkable dugong, also known as the 'sea cow'. Some 3,600 species of fauna and flora have been identified in the area, whose shallow waters have the highest concentration of sea-grass species along India's 7,500km coastline, including three found nowhere else in India. Those meadows of sea grass support complex ecological communities and are among the largest remaining feeding grounds for the globally endangered dugong.

Sheltered from oceanic currents, the Gulf of Mannar also provides the calving grounds for the diverse whale population of the Bay of Bengal. The same shallow waters are also known to have at least 147 species of marine algae/seaweed. Five species of marine turtles and innumerable species of fish, sea horses, molluscs and crustaceans also feed there. The gulf is also known for its pearls and conch shells, and a strong diving tradition still exists, unbroken since the time of Ancient Egypt, Greece and Rome.

As the International Union for the Conservation of Nature (IUCN) remarked in a preliminary report on the project, dredging and shipping activities within the Palk Strait area may have devastating impacts on marine mammals, not least, given the importance of acoustic transmission for most marine mammals, through an increase in underwater noise, and through the inevitable increase in marine pollution because of oil spillages, plastic floats and clumps of grease. Marine

pollution and dredging are also likely to affect the sea-grass beds, and so the dugongs. The IUCN adds, 'increased ship traffic may lead to a correlated increase in collisions between whales and ships, leading to higher mortality rates'.

An international campaign organised by Kusum Vyas of the Living Planet Foundation, based in Houston, Texas, is calling for the permanent cancellation of the Sethusamudram Ship Channel Project, and to have the Gulf of Mannar protected from further degradation. For more information, visit www.livingplanetfoundation.org



The channel project threatens sea grasses in the Gulf of Mannar, and so too the globally endangered dugong, or 'sea cow', that feeds on them