The fungus was isolated from pileus as tissue culture. Mycelial growth was initiated after 3 days of isolation with sparse spreading mycelium at room temperature, at around 28 ± 2°C. After purification the culture was transferred into 90 mm petri dishes on peptone–dextrose agar and incubated at room temperature around 28 ± 2°C. After 6 days, the surface of the medium in the petri dish was covered with fluffy mycelial growth. However, at the temperature range of 22 ± 2°C, the mycelium covered the entire surface within 8 days. The observation on sporocarp formation is based on natural growth of *P. djamor* on dead trees. As regards fruiting body initiation in culture, the petri dish was incubated at room temperature in March at a temperature range of 26 ± 4°C. The sporocarp was initiated, but no further growth was observed in culture.

The specimen was identified as the variant of pink-coloured *P. djamor* (Rumph.) Boedijn. This pink-coloured *P. djamor* variant has not been reported as yet growing on drying dead semal and mango trees in specific association with insect borer, having typical and distinct characteristics, either from Bihar or India[1].

The specimen has been retained in the Kew herbarium under the accession number K(M) 74029. The specimen culture and spawn are also being maintained in the Mushroom Centre, Department of Microbiology, Faculty of Basic Sciences and Humanities, Rajendra Agricultural University, Pusa (Samastipur) India under the accession number RAUMC-01.

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The Rann of Kachchh earthquake, 26 January 2001

IMD: M_s 7.8; Ml 6.9; 23.6N, 69.8E; 15 km; 8 hrs 46 min IST

USGS: 23.39N, 70.316E; 17 km; 8 hrs 46 min 41.29 sec IST
Seismic moment: $M_o = 2.3 \times 10^{20}$ Nm (M_w 7.5)
Fault plane 1 strike: 292°, rake 136°, dip 36°
Fault plane 2 strike: 60°, rake 62°, dip 66°

ERI, Tokyo: 23.4N, 70.3E; 10 km
Seismic moment: $M_o = 3.0 \times 10^{20}$ Nm (M_w 7.6)
Fault plane 1 strike: 276°, rake 105°, dip 33°
Fault plane 2 strike: 78°, rake 58°, dip 81°; duration 20 sec.

The $M_w = 7.6$ earthquake that rocked the Rann of Kachchh and adjoining areas at 8 h 46 min on the morning of 26 January 2001, appeared until then as an undistinguished piece of the diffused seismicity in this west-central part of the continental plate (Figure 1), east of the Herat–Chaman plate boundary in western Pakistan. It is the second major earthquake to have occurred in this region in recorded history after the M 7.7 ± 0.2 earthquake* of June 1819, which created an 80 km long fault scarp, a natural dam (Allah Bund), uplifted at its crest by 6.5 m. This was the first major intra-continental earthquake for which crustal deformation was quantified[1,2], and this corresponds to a range of models of a steep 80 km long NNW-SSE reverse fault dipping at 55 ± 5 with slip of 11 ± 2 m (ref. 3).

The epicentre of the recent earthquake lies about 70 km SSE of the 1819 event. The preliminary locations of the main shock and its aftershocks suggest that the southern edge of the Rann of Kachchh has failed in a sequence of events, just as its northern edge did in 1819. Of interest now is whether further propagation of this fault system to the east or west could occur, and if so when (Figure 2).

Some of these questions could be possibly resolved if the swarm of aftershocks expected to occur in the aftermath of this earthquake over the coming weeks and months are carefully studied by immediately establishing a small aperture array of seismic stations surrounding the epicentral area. Meanwhile, in the immediate future, the civil authorities will be well advised to make a quick inventory of vulnerable structures and dwellings and warn people of the damage potential of possible aftershocks, which could be as strong as M 5 or even M 6. In the longer term, it will be prudent to exploit the learning potential provided by this tragic event and its aftershocks to quantify the deformation regime and seismic characteristics of the region, which would provide a rational basis for economic design of building codes and a better assessment of seismic hazard towards a systematic design of disaster mitigation strategies.

The rare occurrence of major earthquakes within continental plates, however, makes this tragic event one of a lifetime opportunity to distil some extremely significant, and otherwise hard to quantify, rheological characteristics of the lower crust/upper mantle undercarriage of this continental region. Major earthquakes such as this involving a sudden slip by fracturing of a large region of

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*Recalibrated magnitude by USGS/NEIC is M 7.5.

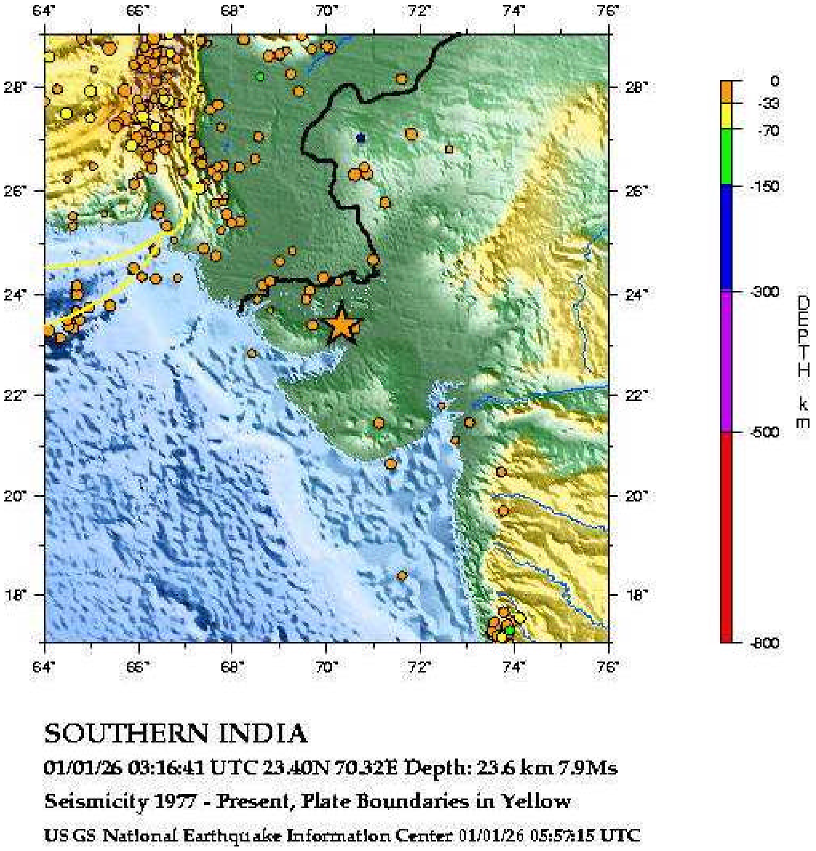

Figure 1. Seismicity in west-central India from 1977 to 26 January 2001. The north–south swarm of earthquakes between longitude 66° and 67° marks the Herat Chaman plate boundary along which the Indian continent slips past northward. The star shows the location and relative magnitude of the main shock that occurred on 26 January 2001.

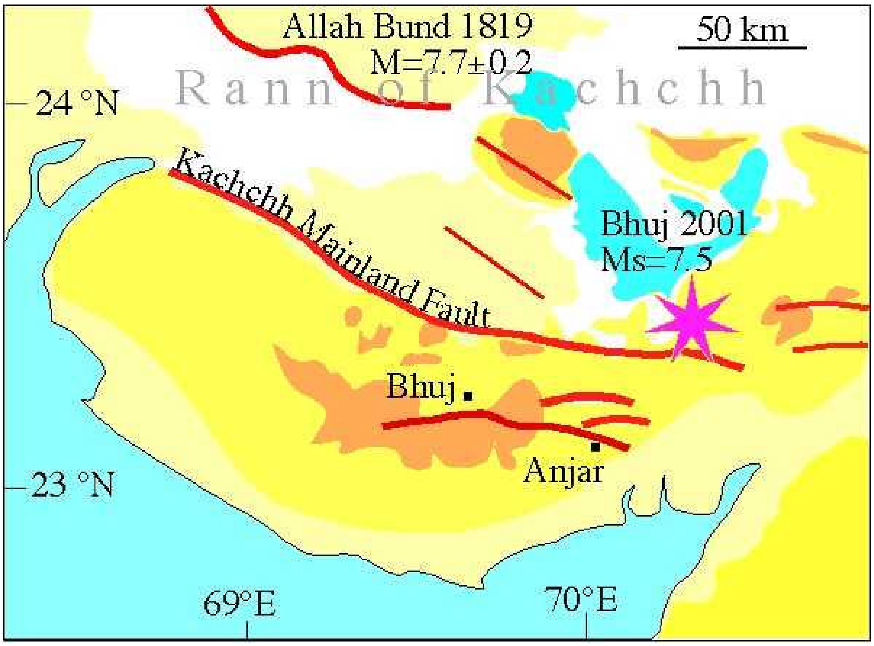

Figure 2. The 80 km long Allah Bund fault scarp created by the 1819 Kachchh earthquake, geologically mapped Kachchh mainland fault and location and size of the main shock and its strong aftershocks.

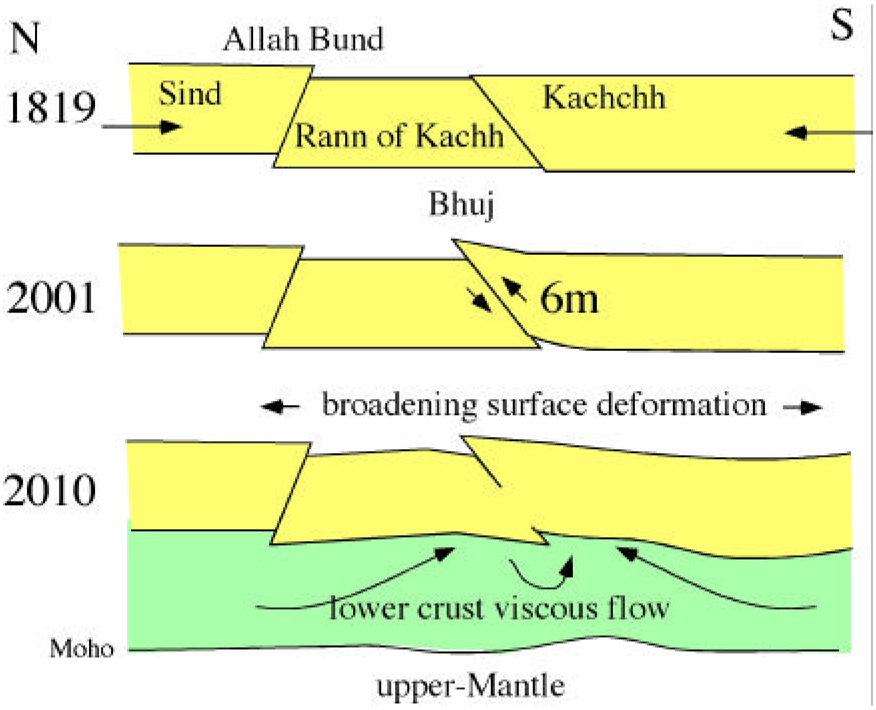

Figure 3. Rupturing of the Kachchh region in 1819 and 2001 and the anticipated visco-elastic afterworking over the next decade.

the brittle crust, bring into play visco-elastic deformation underneath, that will continue to occur for several decades in the underlying more yielding rocks, depending upon the rheological process at work and the effective viscosity. Since the slip over a large part of this rupture plane has been estimated to be 4–6 m and the rupture zone to be two or more crustal thicknesses long, the affected area at the surface may extend up to 200 km from the epicentre (Figure 3). A study of the time-evolving deformation field at the surface can thus be inverted to constrain the visco-elastic characteristics of the lower crust. If precise determination of the coordinates of about 20–25 sites in and around the epicentral tract is initiated within the next week or two and their velocities monitored periodically with decreasing frequency, then the next few years should lead to a greatly refined knowledge of the geodynamics of continental regions. As major earthquakes within a continental plate are rare, the recent event assumes a special significance in serving as a significant analogue of such processes generally within plate interiors.

Some urgency is necessary in the initial measurements because viscous effects decay logarithmically with time after the earthquake. Thus as much deformation is anticipated in the first week as in the following ten, and as much occurs in the following two years as in the succeeding two decades. The first step in launching this endeavour would be to select 20–25 stable sites in the region suitable for GPS monitoring and complete the first measurements as soon as possible.

Taking note of this possibility, Gangan Prathap (C-MMACS, Bangalore) took an imaginative initiative to energize a few groups in the country to come together and implement this experiment with despatch. With this and another parallel effort also initiated to exploit the illumination provided by the dreaded aftershocks to image the subsurface structures involved in the accumulation and deadly release of this massive strain energy, IF implemented, the scientific community would have made a most significant contribution to knowledge of the earth's subtle and inscrutable processes and thereby paid a most touching homage to those who have suffered and perished from its grievous impact.

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