concerns (www.moef.nic.in). In the same statement the indefinite moratorium on the commercialization of *Bt* brinjal was also announced.

Yadugiri[5] provides a useful review of the *Bt* brinjal debate and calls for further tests which could help provide a clearer picture of the safety of this transgenic form. From the invertebrate point of view, these include measurement of resistance in the brinjal fruit and shoot borer (BFSB) as well as monitoring the effects on non-target pest populations. There remains a need for data on the development of resistance in the BFSB from all the brinjal-growing states (www.moef.nic.in). Furthermore, effective studies on non-target lepidopterans (such as moths and butterflies) and non-lepidopterans (such as bees) have not been performed to date[9]. From the flowering plant point of view, Yadugiri[5] suggests tests which include identification of wild relatives and assessing the fitness of transgenic wild relative hybrids. Historically, there have been many problems with the identification and synonymy of wild species related to brinjal[4] and a taxonomic review is urgently needed. To date, there has been no thorough study of interfertility between untransformed brinjal and its closest wild relatives in South Asia, let alone detailed studies of hybridization between *Bt* brinjal and its close relatives, native or introduced. Moreover, several hybridization studies which are routinely referred to were performed more than 20 years ago, and used outdated methodologies.

At the Tenth Conference of the Parties to the Convention on Biological Diversity (COP10) in Japan in October 2010, a new ten-year strategic plan with 20 targets was constructed. Target 9 relates to preventing the introduction of invasive species, and target 13 is geared to conserving the genetic diversity of crops and their wild relatives[10]. In accordance with the COP10 guidance and while the moratorium continues, it seems prudent to encourage careful and thorough environmental monitoring. Only after accumulation and balanced interpretation of such 'unbiased scientific data' can a 'healthy debate' take place.

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Eligibility for research: selection or discrimination?

The University Grants Commission (UGC) has recently made qualifying entrance tests (NET/SLET/SET/GATE) as mandatory to register for Ph D in universities[1]. However, there are no equally serious measures to enhance the quality of theses and supervisors, or to attract more researchers to improve the dwindling number of Ph Ds in all disciplines.

A student coming from an average college finds it difficult to pass the NET/SLET (as is reflected from the success ratio). The syllabus for the entrance test has a wider coverage than that of a postgraduate course, and needs to be learnt by self-study. As an example, the 'earth and atmospheric sciences' syllabus covers geology, geophysics, oceanography and meteorology. Most of it may not have an immediate connection to the specific research topic of interest to the candidate. A good researcher simply needs to generate original and quality data, and to deliver new and useful inferences through a well thought out and creative research agenda under competent supervision. The focus on relevant related fields may happen at an advanced stage, and not at the beginning. Passing the entrance exam does not test this ability of a candidate. Are we then impeding a large number of patient, hard-working, dedicated, creative, improvising, motivating and enquiring (PHDCRIME) candidates?

Most of the research fields in India have great demand for original research output and robust and indigenous databases with/without following Western ideas, methodology and instrumentation. A large number of aspirants working in research institutes, universities, colleges and industry who wish to do a Ph D in their own area find it difficult to register due to the UGC norms. With their basic skill and work experience, they can produce good Ph Ds at par with fresh NET-qualified candidates. The situation is alarming for universities as recently, the Council of Scientific and Industrial Research and the Indira Gandhi National Open University have introduced their own Ph D programmes (probably to avoid the hurdles of UGC). Major governmental agencies like the Geological Survey of India, Botanical Survey of India and India Meteorological Department may follow a similar path. These agencies, founded during the British era, owe a treasure of unpublished information that needs to be utilized by researchers. Thus, universities may lose good researchers, authentic data and interacting research organizations.

In the current scenario, in which fundamental science is flourishing compared to the previous phase of technology, with growing fields like nanoscience, biotechnology and climate-change studies – research manpower is in great demand. It is therefore urgent to recruit more researchers, instead of discriminating them at the initial level.

Quality can come out of quantity through evaluation. The UGC may adopt innovative approaches such as: (i) grading and rewarding thesis and supervisors, (ii) approving research problems after scrutiny by a national expert committee, (iii) keeping track of progress in the thesis work, (iv) making the thesis available (for a fixed duration) on the UGC website for open discussion, (v) publishing at least three authentic Indian and one international publication before submission, and (vi) helping the candidate to publish the thesis as a book (if it is worth so).

Universities and research organizations need a feedback mechanism instead of simple memoranda of understanding. They should encourage more supervisors from the R&D departments of organizations and industry. More number of research journals, sponsored by research organizations, need to be introduced on university platforms.

Inadequate number of students joining for Ph D in India (compared to countries like China and Brazil) has been highlighted by Hasan *et al.*[2]. It is therefore opined that the entrance test can adversely affect the development of research in India and if there is a right to education, there should be a right to research.

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Ancient canal and stone quarries near Halebidu, Hassan District, Karnataka

The Hoysala period (10–13 century AD), culturally an active period in the Malnad region of Karnataka, is known for exceptional engineering projects like construction of large temple complexes, canal irrigation systems and water tanks. We focus here on an ancient network of canals and a quarry located near Halebidu, Belur Taluk, Hassan District (Figure 1 *a*), dating to the Hoysala period. The Hoysala capital was initially located at Belur and later moved to Halebidu[1]. We report here the features of these ancient symbols of craftsmanship and ingenuity around Halebidu so as to advocate for their preservation, as they are part of our common heritage. It would be a pity if they become silent victims of the ever-growing demands on land from the so called 'developers'.

The canal, locally called the Yagachi Nalla, is part of an interconnected waterway and it is meant to bring water from River Yagachi to the freshwater lake at Halebidu, the later capital of the Hoysala dynasty (Figure 1 *a*). The 18-m-wide Yagachi Nalla is about 15 km long and seems to extend through villages of Rannagatta, Lakshmipura, C. Hosahalli, Kallusettihalli, Mughuhalli, Bairgowda Koppalu, Ramachandrapura and Mallikharjunapura (Figure 1 *b*). This canal was first mentioned by Captain Mackenzie[2], who observes that, '*the engineers of the Belala kings did not confine their attention to building alone but irrigation works were also taken in hand. Tradition has it that the water of the Yagachi, which flows through a valley of distant 10 miles and divided by a range of hills from the Halabid Valley, were brought by a channel to supply the capital with water and fill the neighbouring tanks: a deep cutting on the Hassan–Bailur road at the 16th mile, marks the spot where the channel crossed the saddle of the hills.*'

The Yaghachi 'aqueduct' also acts as the connecting channel between the water tanks at Karian Katta, Hajjanhalli, Devihalli, Pandithan halli, Hribihalli, Rajakere and Halebidu, finally reaching Belvadi and joining the Bhadravathi river. At Ranaghatta, a small, fortified, medieval village (an inscription refers to the reign of King Vinayaditya who built Rannagatta), the Yaghachi Nalla, 18 m in width flows in a northwest direction starting from here, and is located on the right bank of River Yagachi at Ranakatta vatu (the name itself indicates 'check dam' in Kannada). The remains of a brick-built dam with some stone masonry spillway are still visible. This spillway was probably meant to divert water to Halebidu. In many places remnants of the channel are now obscured by cultivation and natural vegetation. It is remarkable that at Kallusettihalli (13°07′51.2″N; 75°55′28.6″E), the channel has been made by cutting deep into the hard rock. The excavated soil is found heaped on both sides of the canal (maximum height of these mounds is 10 m from the canal floor) throughout its length, masquerading as part of the natural topography (Figure 1 *c*). This is an early example of anthropogenically modified landscape.

A water tank built during the Hoysala period was located at Kumaranahalli, situated 4 km southeast of Halebidu. This is a rainfed tank located in front of the Narasimha Temple. This tank was further connected with the big tank at Halebidu through Kayatha halla. Another tank is located in Viradevanahalli, situated 7 km west of Halebidu. An inscription in this village refers to the construction of four reservoirs, namely Rudrasamudra, Gangasamudra, Achyutasamudra and Virasamudra, a project piloted by Virayyadanda Nayaka, minister of Viraballala, the Hoysala King.

We have also identified a few other surviving remains of stone quarries of the Hoysala period (Figures 1 *a* and 2 *a*). These quarries are dominated by chlorite schist stones which were used for the construction of temples and forts in Halebidu (Figure 2 *b* and *c*). Remarkable examples of exquisite Hoysala craftsmanship can be seen at Parshvanatha Temple (13°12′33.4″N; 75°59′41.8″E), known locally as Jain Basti (Figure 3), near an ancient quarry at Pushpagiri (13°11′31.4″N; 75°59′27.3″E). The stones for these temples came mainly from four spatially clustered quarries, where the metamorphic rocks of chlorite schists were quarried using iron tools, including