

MONITOR:DISCUSSION

Discussion

1200016 Kolkata's brick sewer renewal: history, challenges and benefits

By Nilangshu Bhusan Basu, Ayanangshu Dey and Duke Ghosh, May 2013

Contribution by Roger Hoad

In 1980–1981 Calcutta authorities with the support of the World Bank surveyed the extent of solids in the city's sewers and instigated pilot works to study how to clean and renovate the system. I can confirm that the huge volumes of solid matter were as bad then as has been reported by Basu *et al.* (2013).

However, at that time domestic water supply to parts of the city was only operable for two brief periods each day and the main pumps were old and unreliable and consequently used on the same setting all day. This resulted in the system always operating under surcharge with no hope of achieving a reasonable hydraulic gradient to move any solid matter. A pilot study at Manicktala showed that once a sewer had been cleaned, and if pumps were used to match the flow, hydraulic flush could be achieved.

The magnitude of the problem was by any measure a daunting prospect, so it is good to learn that real progress has now been made in cleaning and rehabilitating the system after so many years, and the authors should be congratulated on the clarity of their paper. I would appreciate an explanation of what measures and changes in working practices have been introduced to prevent large volumes of detritus entering the system in the future.

Authors' reply

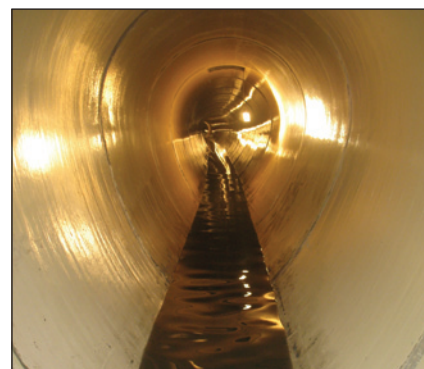
In the past, the amount of debris being accumulated inside the sewers was greater because the system contained limited mechanisms, such as screening traps, for

restricting debris from getting into the sewers. The problem was aggravated by lack of inspection, repair and maintenance of roadside gully traps, and even occasional theft of traps and manhole covers. This was also accompanied by a rather careless approach of citizens and lack of effort by Kolkata Municipal Corporation to make people aware of the problem, which often resulted in flooding.

With the corporation gradually becoming aware of the issues, the extent of entry of debris and deleterious substances into sewers was reduced. Various studies undertaken by the corporation from time to time had also shown that a separate sewer-cleansing and desilting department would have to be maintained to service the sewers and roadside inlets.

During the course of the rehabilitation project, in May 2008, a meeting was held where the requirement for regular cleaning and maintaining of gully traps was firmed up and a plan was prepared to renovate them. Though not all of the suggested measures have since been implemented, reasonable progress has been made. Better management of solid waste in this core city area by the corporation has also helped in this approach.

This is the first time a thorough desilting work of this magnitude has been undertaken since the construction of the sewers. The corporation does not have any documented information or study data on the rate of siltation in the combined sewers, either yearly or decade-wise. With better vigilance for gully traps, regular maintenance and desilting, it is expected



What is to stop Kolkata's new sewers from being filled with debris again?

that the amount of debris making its way into the sewers will be much less than what it would have been in the 1980s.

The corporation is yet to impose any fine on street littering and organise the much-needed awareness programme for keeping the streets clean and observance of better solid-waste-management practice by its citizens and commuters. However, the corporation has now introduced removal of floating debris reaching gully pits during heavy showers by deploying street cleaners all over the city during monsoons and undertaking house-to-house garbage collection all year round, resulting in cleaner roads generally.

Reference

Basu NB, Dey A and Ghosh D (2013) Kolkata's brick sewer renewal: history, challenges and benefits. *Proceedings of the Institution of Civil Engineers – Civil Engineering* **166**(2): 74–81, <http://dx.doi.org/10.1680/cien.12.00016>.

1200041 Civil engineering's image in the UK – a 10-year update

By Les Hamill and Liz Hodgkinson, May 2013

Contribution by Frank Westcott

Hamill and Hodgkinson (2013) identify a major contributor to civil engineering's fluctuating image as construction's boom and bust cycle. They propose measures

to improve the image of the profession, to counteract school leavers' negative perceptions. However, their Figure 3 suggests that they should look closer to home.

The graph of Plymouth University's entrants to its civil engineering courses shows that between 1989 and 1991, and again between 2007 and 2010, they doubled their intake – just as construction

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went into downturn. If representative of UK universities in general, this counter-cyclical recruitment undoubtedly ratchets up the impact of boom and bust, and would appear irresponsible from the perspective of the unemployed graduate. The best of the graduates from these high-recruitment years will probably never enter the profession.

If boom and bust is unavoidable in construction, no attempt to improve our image will succeed in the long term. My long-held view is that the only way to improve the perception of civil engineering is to stop 'resourcing for the boom', and accept that boom conditions will lead to skill shortages – but probably also an increase in status as competition for skills takes effect.

Authors' reply

The contributor proposes limiting recruitment to universities to increase the scarcity of graduates, so driving up salaries to improve image (letters in the *New Civil Engineer* often make the same suggestion). This ignores some important realities.

Universities are profit-seeking businesses, as described in our article. They do not exist to regulate numbers entering the professions. Financial needs and university politics often dictate the number studying on any particular course. Many cannot afford to turn away customers.

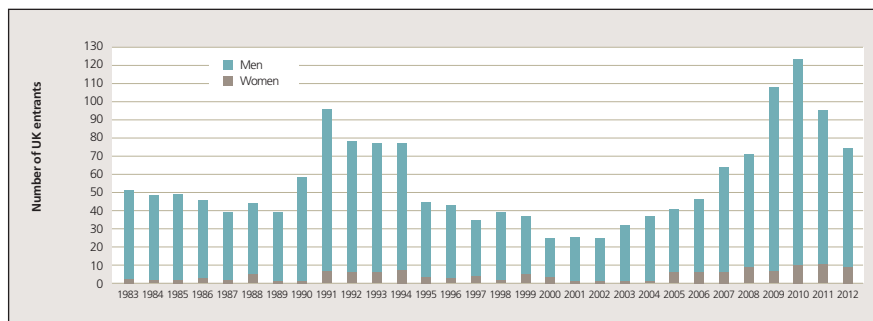
Many university courses produce an oversupply of graduates, such as law, which as a profession enjoys a high status and good salaries.

The best civil engineering graduates in high-recruitment years do mostly join the profession. Why would industry employ the worst? There are good employment opportunities for UK civil engineering graduates beyond the UK labour market.

For decades there have been concerns that many secondary school teachers of maths and science do not have a degree in the subject (e.g. Paton, 2011, 2012). Why should not some graduates in boom years find gainful employment elsewhere, such as teaching?

Contribution by Les Edwards

What would have been interesting would have been a survey of a random selection of the general UK public



Plymouth has twice doubled its intake of civil engineering undergraduates just before construction went into downturn – this counter-cyclical recruitment undoubtedly ratchets up the impact of boom and bust

regarding how many knew what a civil engineer was compared with, say, a boiler repair man. I doubt if even a majority of the school career advisers know such things. While this remains the case, the profession needs to undertake a lot more work to educate the population.

The only reason I originally became a civil engineer was that it provided one of the few opportunities to work overseas. The school guide to job opportunities only described the armed forces, Foreign Office and oil company geophysicists as having this capability. In fact, I only heard of civil engineering because the father of someone in one of my classes at school was one.

Too late I discovered that despite the highly technical and wide-ranging scope of knowledge required to obtain a degree in the UK, it is only in countries outside the UK that civil engineers have proper public status and good salaries and conditions comparable to other leading professions.

Conditions for civil engineers working for UK organisations generally just could not (and perhaps still cannot) compete with other professionals.

Would I follow the same route again? For personal reasons the answer is not possibly yes but my biggest regret is not emigrating to Australia or New Zealand. Did I recommend civil engineering to any of my three sons? Definitely not, in fact I told them not ever to think about it.

References

- Hamill L and Hodgkinson L (2013) Civil engineering's image in the UK – a 10-year update. *Proceedings of the Institution of Civil Engineers – Civil Engineering* **166**(2): 89–95, <http://dx.doi.org/10.1680/cien.12.00041>.
- Paton G (2011) Thousands of school teachers 'lack subject expertise'. *The Telegraph*, 20 April. See <http://www.telegraph.co.uk/education/educationnews/8326547/Thousands-of-school-teachers-lack-subject-expertise.html> (accessed 21/06/2013).
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Australia – a more rewarding place for civil engineers to work?