Engineering Sustainability
Volume 164 Issue ES4

Editorial
Glendinning

ice | proceedings

Proceedings of the Institution of Civil Engineers
Engineering Sustainability 164 December 2011 Issue ES4
Pages 227–228 http://dx.doi.org/10.1680/ensu.2011.164.4.227

ice Institution of Civil Engineers publishing

Editorial

Stephanie Glendinning BSc, PhD
Chairperson, Editorial Advisory Panel; Reader in Environmental Geotechnics, Newcastle University, UK

This issue contains a collection of papers dealing with issues as varied as infrastructure procurement in the UK to the engineering properties of earth bags for post-disaster house construction in Sri Lanka. However, there is a particularly pertinent theme that runs through all of the papers, namely the barriers to sustainability and the mechanisms by which these can be overcome. It is interesting to compare and contrast the experiences in the UK to the developing world and to see how lessons can be learned (or not) in both cases.

The first paper, Sourani and Sohail (2011) presents a study into the barriers to achieving sustainable procurement in the UK. Interviews with sustainability professionals and other UK experts concluded that there were many blocks, broadly categorised into: funding and budgetary constraints; levels of understanding and demand; regulation and leadership; lack of integration within the industry and the need for more research. Those responsible for overcoming such barriers include government, supply chains and users. It is interesting to note that there are significant parallels in the barriers and solutions identified in this paper with those detailed by Infrastructure UK in the National Infrastructure Plan (HM Treasury, 2010) on reducing the cost of UK infrastructure by 15%. This is rather ironic as one of the major barriers to achieving sustainability established by those interviewed in this study (and indeed a widely-held belief in the construction industry as a whole) was the perception that sustainability comes at increased cost. It would be interesting to see if the Infrastructure UK recommendations for ways to reduce cost could be brought together with recommendations about ways to improve sustainability. This would really make a step-change in design and delivery of infrastructure in the UK.

The second paper, Potter *et al.* (2011) considers barriers to effective spatial planning in the provision of effective water management in the UK. It looks at mechanisms for balancing the needs of designing for climate change, flooding and water quality with the need for housing provision, economic growth and the development of quality places. The authors suggest new ways of partnership working for planners and engineers to overcome misunderstandings and lack of technical expertise on both sides. These new working methods would be designed to find ways of co-producing solutions that deliver practice that meets all our future needs. Reducing the barriers around the planning process, and more integrated working practices have also been identified as ways of reducing the cost of infrastructure. This type of partnership working is therefore likely to reduce cost as well as achieve more sustainable outcomes.

Satish *et al.* (2011) present an interesting paper which points to a shift towards western practices and desires causing less sustainable practices in Mysore, India. The authors explain how growing affluence has caused a desire to emulate western housing, causing a shift away from community-based spaces to more private and insular housing. Designs no longer work to create natural ventilation and materials specified can no longer be locally sourced. It is ironic that the traditional practices, particularly those where places are created for the community, rather than a collection of individuals, are exactly the practices that we seek to develop in the UK. Here we strive for people to change their cultural values, take a more societal view and take actions that will help others as well as themselves. This is exactly the culture that has existed for so long in India and yet our twentieth century un-sustainable practices are those that are becoming so desired as wealth increases. As we try to break down barriers, those same barriers are being constructed elsewhere.

Housing is the subject of the paper by Daigle *et al.* (2011) who examine the potential for earth-filled bags as sustainable building materials for post-disaster housing construction. The first part of the study examines peoples' attitudes in Sri Lanka to house construction and discovers that either non-structural concrete or rendered brick designs are perceived as more desirable. This has interesting parallels with the previous paper and highlights cultural perceptions that need to be overcome for a new material to be acceptable. The authors found that rendered earth bags resemble rendered brick more closely and also perform better in an engineering sense. The second part of the paper looks in detail at the engineering performance of the earth bags and concludes that they are effective building components.

The final paper (Bolaane and Ikgopoleng, 2011) addresses the barriers to users paying for water-borne sanitation in Botswana. The payments are necessary in order to continue to provide such sanitation and the health and social benefits it brings. The barriers include governance and organisational issues such as cost recovery structure and pricing and billing

structures. They also include cultural and user-centred issues including the mismatch between user needs and their willingness and ability to pay. The authors highlight once again the need for community-driven systems and the need to educate everyone as to their benefits and costs.

REFERENCES

Bolaane B and Ikgopoleng H (2011) Cost recovery in waterborne sanitation: cases in Botswana. *Proceedings of the Institution of Civil Engineers, Engineering Sustainability* **164(4)**: 275–286, http://dx.doi.org/10.1680/ensu.2011.164.4.275.

Daigle B, Hall K and MacDougall C (2011) Earthbag housing: structural behaviour and applicability in Sri Lanka. *Proceedings of the Institution of Civil Engineers, Engineering Sustainability* **164(4)**: 261–273, http://dx.doi.org/10.1680/ensu.2011.164.4.261.

HM Treasury (2010) *National Infrastructure Plan*. HM Treasury, London, UK. See http://www.hm-treasury.gov.uk/d/nationalinfrastructureplan251010.pdf (accessed 19/10/2011).

Potter K, Ward S, Shaw D, *et al*. (2011) Engineers and planners: sustainable water management alliances. *Proceedings of the Institution of Civil Engineers, Engineering Sustainability* **164(4)**: 239–247, http://dx.doi.org/10.1680/ensu.2011.164.4.239.

Satish BK, Brennan J and Pedreschi R (2011) Influence of affluence on sustainable housing in Mysore, India. *Proceedings of the Institution of Civil Engineers, Engineering Sustainability* **164(4)**: 249–260, http://dx.doi.org/10.1680/ensu.2011.164.4.249.

Sourani A and Sohail M (2011) Barriers to addressing sustainable construction in public procurement strategies. *Proceedings of the Institution of Civil Engineers, Engineering Sustainability* **164(4)**: 229–237, http://dx.doi.org/10.1680/ensu.2011.164.4.229.