

# NEWS LETTER OF IES, University of NSW

Newsletter December 2012

## IES and SLIM research collaboration

The results of joint research on 'Debris Management and Disposal in the Tsunami-Affected Regions of North-East Japan: Lessons for Capacity Building in Other Countries' were presented by IES Research Fellow Professor John Black and Dr Masaki Arioka of the Society of Lifecycle Infrastructure Management (SLIM, NPO), Japan, at the 8th Symposium of the Association, held at Tohoku University, in Sendai. Dr Arioka and Professor Black highlighted that the Tohoku Pacific earthquake and tsunami of March 11 2011 struck a broad, rural area of Japan destroying economic and social infrastructure. Virtually everything was reduced to debris. Investigations by the Society of Lifecycle Infrastructure Management (SLIM) identified the excessive costs and times involved with this debris removal, and have proposed a more efficient engineering solution called '3.11. Green Hill' that will make towns more resilient to any future tsunami inundations.

'In a state of emergency, there are extraordinary challenges that require stretching brains with the application of as much innovation as possible,' Dr Arioka said.

The research findings could usefully be applied in other Pacific Island countries, particularly the treatment of debris in situ to create green hills as both recreation areas and as safe ground in case of future disasters.



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## Newsletter June 2013

### Green Hill discussions in Tonga

Furthering the joint research between IES Fellow Professor John Black and Dr Arioka from Society of Lifecycle Infrastructure Management (SLIM, NPO) on 'Debris Management and Disposal in the Tsunami-Affected Regions of North-East Japan: Lessons for Capacity Building in Other Countries' ([see PDF](#)) reported in IES [December newsletter](#). Dr Masaki Arioka held preliminary discussions in Tonga with key stakeholders recently.

Dr Arioka mentions that "the engineering design concept of the Green Hills offers an elegant, adaptive and affordable solution to deal with the treatment of most debris, in situ, and can create green hills as both recreation areas and as safe temporary elevation needed for a tsunami event. It has been used in Japan outside Sapporo ; Tonga is prone to tsunamis and the Green Hill would act as a type of levee system that can be built from everyday landfill waste, including used cars and mechanical equipment, and can be shaped to suit the topography". A one day workshop, *Management of Waste and Debris for More Resilient Communities*, has been scheduled.

### **Morenuma Park in Sapporo, Hokkido** (2.7millm<sup>3</sup> Waste Embakment)

Play Mountain



Mt. Moere

