Searching A New Home for Construction and Demolition Material

Background

Since 1997, the Hong Kong SAR Government has been establishing new policies to tackle construction and demolition material (C&DM). In 1998, about 80% of the C&DM was effectively used for reclamation or sent to public filling area, only 20% was discharged to the landfills. Nevertheless, in long term, the need for reclamation or site formation may reduce and may vanish in 2010. Today, about 5.2 million cubic metres of C&DM is produced in each year. With this situation, unless most of the C&DM can be recycled, or otherwise, HK will need to open up more landfills which might create other social and environmental problem.

The introduction of 'user pay' concept may not necessarily fully solve the C&DM in long term because it may slow down the sustainable development strategy and eventually the cost will transfer to property owners. The ultimate approach is to recycle the material as much as we can so that we can have an alternative exit for C&DM.

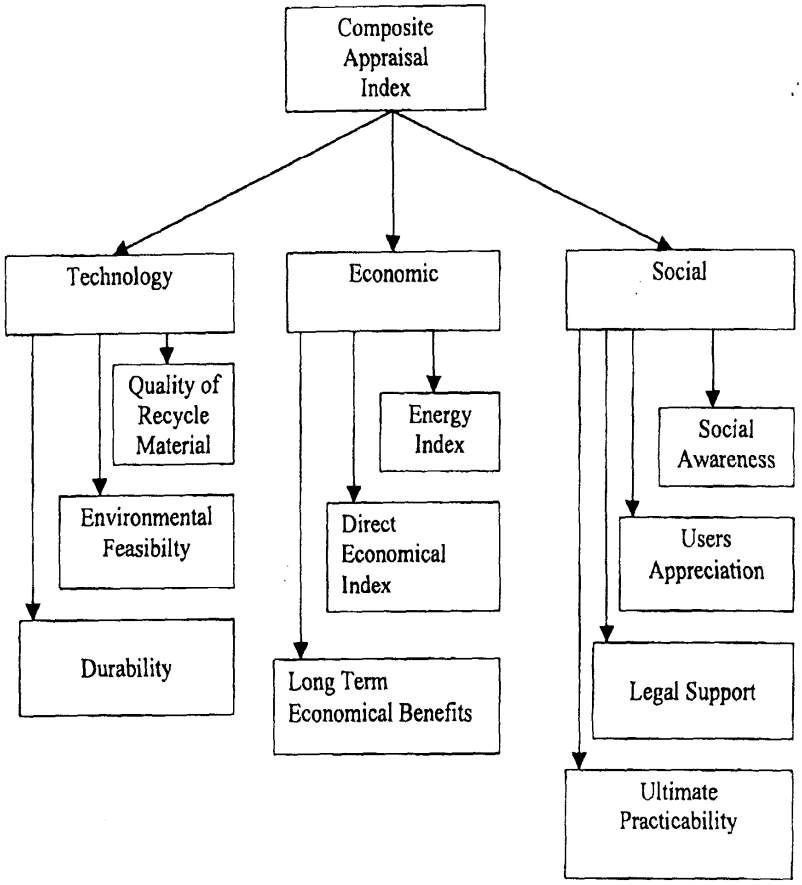
Objective

The objective of this brief is to suggest a 90% recycle of C&DM in long term. This requires new technologies, new policies, new construction standards and new construction methods and the cooperation of different parties. It is a system engineering process and has to be done in a step by step manner.

Though current British Standards (BS882:1983) controls the aggregate use in fresh concrete, international trend is looking for new recycling approach. In terms of technology, our research shows that concrete recycling is a possible step to resolve part of the C&DM.

How

We would like to introduce a 'composite appraisal index' to study the feasibility of recycling concrete in Hong Kong.



Today, we will focus our presentation in the technology aspects which includes the quality of recycle material, the environmental feasibility and the durability of the recycle material. Quality refers to the compressive strength, bending strength, modulus elasticity, weather resistance, environmental loading resistance, noise and vibration and influence of complex magnetic waves.

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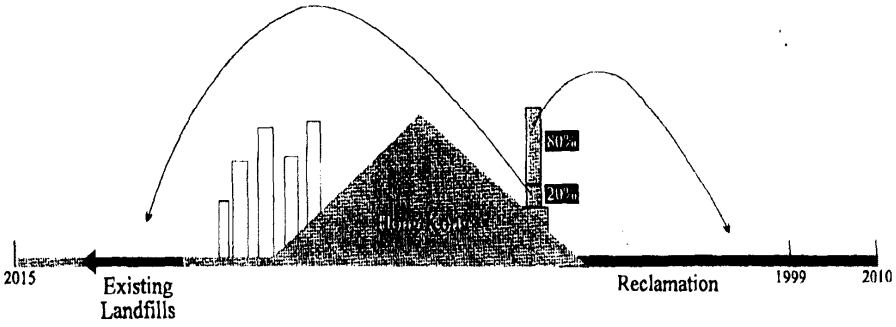
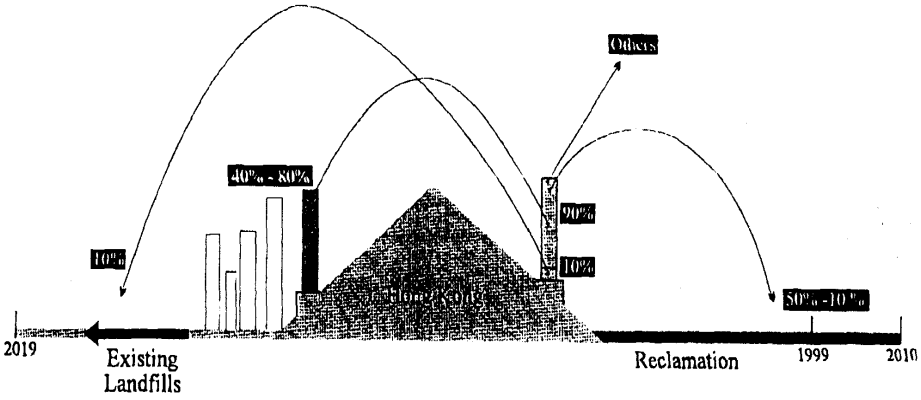


Current Practice



Recycle C&DM