

Blue is the new green

The water's edge is a precious resource for developers but do regenerated docklands destroy the environment?

ALEXANDRA PRATT investigates



The Al Raha beach city aims to be the new gateway to Abu Dhabi

SCIENTISTS HAVE BEEN measuring the melting of the polar ice caps for 30 years and sea levels are continuing to rise every decade, yet the popularity of waterfront developments shows no sign of abating. Around the world, innovation, investment and infrastructure are increasingly water-oriented, but are the innovators, investors and builders keeping the construction industry afloat by ignoring climate change?

"Waterfront development as a phenomenon started 30 years ago... in North America," says Marta Moretti of Citta d'Acqua, an Italian research organisation, "and even in the Third World today the water's edge is a resource."

The world's ports, canals and riverfronts are now a huge draw and status symbol. Transformed by iconic buildings and quality residential and commercial locations, a redeveloped waterfront can create opportunity, attract investment and change the relationship of a city and its people to the water.

"Success is about permeability, getting people to stay at the waterfront," says Philip Harcourt, head of development with the new dedicated waterfront team at Colliers International. "You've only got 180 degrees of hinterland, and a development must connect with both the hinterland and the water."

Citta d'Acqua has done extensive research on what makes a waterfront successful and of its 10 principles, Moretti says that, "mixed use is one of the most important conditions... and public access must be guaranteed".

Quite often, a waterfront development is also a regeneration project that is focused on social and economic renewal. Such projects can have a heritage aspect and maintaining this link with the history of a site is vital, says Moretti, as it gives the development "a sense of place".

Heavy metals

Peter Southern FRICS, who was formerly development director on the Chatham Royal Naval Dockyard project, knows that these types of waterfront regeneration projects can be problematic.

"They throw up challenges with reclamation. When you start a waterfront project, it is often a brownfield site, so you have a lot of past uses, often heavy metals."

Yet a good waterfront development can also be

Plans for Victoria Dock, Dundee



a catalyst for innovation, engineering solutions and exciting urban design. At Chatham, says Southern, "the re-use of buildings was imaginative, in terms of layout and thought processes. It's so easy to put things up [but]... you must think about open space."

In terms of innovation, blue is the new green, says Harcourt at Colliers International. "The most exciting opportunities... are in using water to enhance sustainability."

That is happening in Perth, Australia, where new residential developments on the harbour are actually participating in creating a healthier river.

Respond directly

David Beard, FRICS and chief executive of Floating Concepts, a company that specialises in designing and developing contemporary floating structures for mixed uses, sees his eco approach using non-toxic and renewable materials as solving the inherent tension between lifestyle demands of new developments and the world's limited resources.

"They are factory manufactured, flood-proof, have very little impact and they can respond directly to the needs of the community. At the end of their life, they can be towed away without any on-site demolition."

Floating Concepts is also different in that the water itself is viewed as the site. "It is not competing for other uses, like land," explains Beard. "Water is unrecognised and undervalued."

But is this starting to change? A new development at Dongli Lake in China, master planned by RTKL, incorporates an ecological

"The exciting opportunities are in using water to enhance sustainability"

PHILIP HARCOURT, COLLIERS INTERNATIONAL

waterfront living district, while in the Middle East, hundreds of kilometres of waterfront are being created as new cities are built.

Sustainability may be a popular theme in many of the world's new waterfront developments but, says Moretti, it is only emerging slowly. "We cannot build more without giving attention to the use of energy and respect for natural resources, but it is easier to respect when the market is higher."

Waterfront locations have always commanded a premium so might this type of development be a way of rescuing the building industry in the economic downturn?

"It's fairly well established that waterfront can add 18-21% to the value of a project," says Harcourt. Southern agrees: "There is undoubtedly a premium to water. But very often it is needed, due to [the costs of] land clearance." He believes that the buoyant market for this kind of development before the current economic crisis created high land prices, which in turn "forced developers towards high density."

Cautiously optimistic

Now, finance for waterfront projects seems to have been hit like everything else, although Southern remains cautiously optimistic about the longer term prospects. "The whole property market is slow – almost at a standstill – but development will come back as there is a shortage of the right sort of accommodation in the right places."

The global financial crisis does not appear to be hindering plans in the Middle East, as places without waterfront are simply creating it. Moretti considers them interesting as an example of innovative engineering – "what can be done despite the environment?"



Along the waterfront – The Marina Clubhouse concept



Yet we ignore nature at our peril, as the flooding in Venice in December 2008 proved. Venice now regularly floods 60 times a year, six times more than a century ago. According to campaigning group Venice in Peril, the city's water level is permanently too high by 25cm and inflicting great damage on the historic brickwork.

Engineering, in the form of sea defences and mobile barriers, may mitigate the effects of sea levels on Venice for a few decades but it is an issue all waterfront cities will face in the next 100 years. UK's DEFRA estimates that during the next century sea levels will rise by as much as 590mm, a prospect Perth has catered for by designing its entire new waterfront to sit at least 3m above sea level.

New approaches

Simply building above the waterline can't be the only solution, though, especially with the British Government's stated aim of building three million new homes, some of which will be on flood plains. New approaches are needed, some of which were explored by the winners of the 'Flood Houses of the Future' competition, held by RIBA and Aviva in November 2008. Although floating and raising properties were key ideas, there are other considerations, such as the structural dangers from flood-borne debris and the continual use of property despite water ingress.

"Good design lies at the heart of creating communities that are more resilient against flooding," says Sunand Prasad, President of RIBA.

The future of the built environment is undoubtedly going to be water based – one way or another.



Just desert

Mohammed Bin Rashid Gardens, Dubai

An incredible 72km of waterfront is being carved out of the desert at Mohammed Bin Rashid Gardens, in Dubai. This new city is the brainchild of Sheikh Mohammed Bin Rashid al Maktoum, ruler of Dubai, who aims to open up the city's waterfronts to all and so redefine the quality of life in UAE.

Inspired by the ancient Arabic planispheric astrolabe, the innovative design will create an 800 million sq ft oasis in the desert near Business Bay. Gulf waters will flow into canals and lakes that will shape the city into distinct neighbourhoods, interspersed by more green spaces than New York and London combined.

It is hoped that this £60bn project will re-establish Dubai as a traditional city and reverse the Middle East's commuter lifestyle. Designed by Eric Kuhne of CivicArts, developer Dubai Properties is due to begin work shortly. On completion, the city is expected to have a population of 200,000.

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