Cities of the Future: Chapter 6

"I am not arguing that heritage always the best solution or that local materials are always more sustainable. However, there may be advantages to looking back in history to find solutions to current problems, and in retrofitting what is already there rather than replacing it"

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Finding 'satisfycing' solutions

Are there solutions to sustainability which are not perfect but which are 'good enough' to put into practice? What could we mean by 'good enough', and for whom?

At a glance

Economists divide decisions in to three broad categories. First there are decisions based on optimisation, where the decision maker lines up the options, assigns important metrics to the decision (e.g. cost, sustainability, acceptance), measures these for each option and finally chooses the option with the highest overall utility. Behavioural economics clearly shows that most people are not optimisers. The second category of decisions is undertaken by those known as 'satisficers', who search for options that may not be the best, but are 'good enough'. They are not being irrational but instead they are accepting that there is limited time for analysis and uncertainties are so profound as to make optimisation impossible. Finally, there are 'transformational' decisions: investments in the future that are neither optimal nor sufficient under current circumstances, but made with transformation in mind.

How can we enable all three types to have a place when selecting options for sustainability? What are the roles of these different decisions in the evolution of cities in different countries? If developing nations have limited resources for seeking optimal solutions, they will move towards satisficing or transformational approaches. What can developed nations learn from them? Can we find solutions to sustainability questions which are just 'good enough', making them easier to implement and ensuring broad political consensus?

How far must we look into the future?

Sustainability is not a steady state, but a moving target. This raises questions about how far planners must look into the future to design transitions. Can long-term dynamic models be developed that help us to think about sustainability over different timescales? Can short-term and long-term measures of sustainability be harmonised, or will they be in conflict? What does resilience to sudden shocks and long-term stressors mean for cities over different timescales? How do you incorporate random elements of cities – such as the behaviour of individuals or unanticipated events – into models?

The evolution of a city is dependent not just on the current dynamics driving it but also on the initial conditions created by past investments: this is known as path dependence. It is quite difficult to make the shift to doing something new from a policy perspective when there is lock-in from these past investments. From 2010, the UK Government was rapidly developing a path in which an increasing range of negotiated powers were devolved to some cities and city regions, making it an appropriate time to create a project to systematically explore drivers of change, options and imperatives for the longerterm future of UK cities. In 2013 this led to the Foresight Future of Cities Project, run by the Government Office for Science, which considered three types of scenarios for the development of cities:

Projections: where cities think they will be

Aspirations: where they want to be

Extremes: extreme scenarios to frame the challenge

If cities are recognised to be complex, adaptive and nonlinear systems technically, then certain consequences follow immediately when thinking about how to build these scenarios. People must ask how to get from where the city is at the moment to where it aspires to be, and what kind of policy changes and investments are required to facilitate that transition.

Imagining change or action over the short term, including over the next 5 years, can be easier than thinking about how a city and its needs may change over a 20 or even 50 year timescale. The planning processes to meld short-term and

Key questions

Can governance systems be designed so that they are more flexible and responsive to long-term changes and sudden shocks, or is there a risk that this will encourage short-term thinking? These issues led to three more specific sets of questions:

- Are we in danger of 'over planning' cities so they are only resilient and sustainable under selective futures? Is it possible to legislate for a less planned approach?
- Can governance systems be designed so that they are more flexible and responsive to changes and sudden shocks?
- Could room be built in for natural experimentation, and what are the implications for governors if an experiment fails?



long-term considerations, and to balance them when they are in conflict, are not currently well developed. The needs, resources and financial capacity of cities in the developed world are very different from that of cities in the developing world. One striking feature of developing countries is the speed at which they are changing, making long-term planning more difficult or at least less certain. It can be hard for local people to imagine the future because they are travelling so fast and caught up in what is currently happening. When scenario planning in Surat, India, was undertaken with the Chamber of Commerce and the city government, asking workshop participants to describe their city ten years ago ('backcasting') enabled them to see how far and how quickly they had travelled, and how the pace was accelerating. This helped the planners to develop a longer-term perspective and start thinking about where the city might go.

Cities will change in different ways

All cities have common problems: providing housing, transport and infrastructure for expanding populations. However, cities in the developing nations have less 'lock-in' to past investments, and hence they may be more nimble at responding to innovation. Innovations are less disruptive in such cities, enabling them to lead the way in making the transition to ambitious sustainability aspirations.

However, we should question whether such aspirations always need to follow concepts exported from developed countries. What does a 'modern' city look like? Should all cities aspire to gleaming skyscrapers, wide boulevards and green parks, despite differences in their historical development? Developed countries are perhaps exporting models of idealised 'global cities' - often through international aid - to cities in other parts of the world without questioning whether these models are suitable. Buildings that are seen as 'modern', such as glass skyscrapers, may not be suited to hotter countries and future changes in climate. Factories have previously been exported to developing countries, which are now taking 21st century technology and trying to follow the same path as industrialised countries to support that technology. Imported technology can represent the end point of a transition, rather than being the most appropriate means to facilitate the desired transition.

Cities are intrinsically connected to the countryside around them. This 'hinterland' provides essential resources such as water, food and energy. Cities in developing countries draw more on these surrounding areas for resources, such as firewood or wild food, than cities in developed countries: in some cases so heavily that they are threatening the resources and the ecosystems they depend upon. For example, we can observe 'waves' of deforestation and resource depletion spreading out from the city of Dar es Salaam in Tanzania.

Are there ways of creating a better symbiosis between the rural surroundings and cities and avoiding the reliance of richer cities on a global supply chain that could be disrupted by climate change or other future uncertainties? Do lessons from transitions in developed nations hold anything of value for cities in developing nations who have very different connections to their surrounding landscape?

'Best' versus 'good enough

As explored in the section on 'making the invisible city, visible', the broader issue of environmental sustainability may not be about the most advanced or perfect solution or even about best practice, but rather 'good enough' practice for people who have little or no money or help from governments. Can we find solutions to sustainability questions which are not necessarily perfect but which are just 'good enough' and so easier to implement in practice and better able to reach the most vulnerable residents? Is it possible to develop a principle of 'good enough' as robust as that of the precautionary principle to specify precisely what that means in terms of engineering, finance and planning practices?

The concept of 'good enough' appears in decisions on acceptable levels of city air pollution. Even when a regulatory standard is met, the air is still not completely free of pollutants, but 'free enough' to keep adverse effects at acceptable levels. Can we, and should we, apply this concept more broadly to sustainability? If applied to structural design, services, houses and infrastructure, 'good enough' could allow us to build less engineered, less expensive and more rapidly constructed buildings, which could benefit many more people. However, this could lead to more buildings and structures collapsing and killing people. Should we be prepared to design for an increased level of failure in certain circumstances? And can we put in place early warning systems so that when 'good enough' buildings or infrastructure fail, people can be moved out of harm's way?

A substantial problem lies in both where that minimum 'good enough' threshold is set and who decides where that is and what trade-offs are made as a result. For example, if we cannot build a seawall that will be effective against all climate scenarios, should we build one at all? The ideal answer would be that everybody is protected or at least that the most vulnerable are protected first. This leads to the following key questions: what is the minimum standard of protection, and how many and which people should this encompass?

How could the concept of 'good enough' square with international standards, particularly if such minimum requirements have already been established in richer nations and before monitoring systems have developed? There are an increasing number of international standards and legislation governing different aspects of environmental sustainability. For example, the British Standards Institution (BSI) works with thousands of businesses and organisations in more than 150 countries to implement standards ranging from energy and environmental management to occupational health and safety.

Might applying the concept of 'good enough' lower our environmental ambitions and lead to lock-in of existing technologies with lower environmental performance? Ambitious legislation on energy performance in the UK has fundamentally changed how the building industry operates. Should we be content with 'just' good enough solutions that only lead to incremental changes, or can 'good enough' also include transformational decisions? Can a redefinition of 'good enough' shift the centre of gravity within an industry to catalyze more fundamental changes?

The research challenge on the horizon

Ideally, we would have the knowledge, time and resources to find the optimal solution to any problem of sustainability and then implement it. In reality, we rarely have all three of these requirements, especially as sustainability challenges such as climate change, resource depletion, global recession and biodiversity loss are coming over the horizon rapidly. Now is the time to develop a principle of 'good enough' as robust as that of the precautionary principle to specify precisely what that means in terms of engineering, finance and planning practices. The next step is to design a system of monitoring the performance of 'good enough' systems so when they fail, they do so with forewarning.

