Although the knowledge economy is still in its infancy, its fundamental differentiator is the shift in emphasis – from the manufacture of goods to the creation of ideas – as the primary economic product. This, with its associated revolution in communications technology, will overturn the traditional requirement for labour to follow industry. But people still need to come together for face-to-face collaboration, and will do this where it is most convenient, and most pleasant. We are already seeing a renewed emphasis on the quality of place in particular cities, and it is these cities that are likely to emerge as key sites of the knowledge economy.

These factors have profound implications for policy, and for policy makers. Policy must shift in emphasis from the specification of satisfactory products, to the definition of ambitions and management of the process, while protecting diverse interests. Nowhere is this more necessary than in planning policy and urban development process. Policy makers will need to become more proactive, and policy more iterative, rather than relying on the current reactive process. To assist this process, we will need to change the way we try to understand cities. Achieving effective process facilitation requires the development of a new set of intelligent city indicators, both to define the current status of a particular city (issues of supply) and to assess its ambitions (demand).

Effective intelligent city indicators will be simple to apply, will link supply and demand, and will be qualitative in essence. They will also examine the intelligent city in terms of its long-term sustainability, and may be used to predict future development needs. In this way we will develop a new model of the 'sustainable city' – incorporating an understanding of the management of overlapping functions, and the potential for intensification of space and time to enable local action that is integrated into city-wide, regional and even global visions.

Investigations into the sustainability of the built environment, and programmes for action to address the problems such investigations identify, too often get caught up in the detail. Solutions often concentrate on the environmental attributes of an individual building without sufficient understanding of broader strategic frameworks, of systemic attributes, or of the drivers and consequences of individual actions. This contradicts the fundamental meaning of sustainability, and can only be addressed by rooting the issues within a broader framework of theory and action. By linking urban sustainability to city intelligence, we will begin to develop a framework that can attribute real, relative value, better enabling the achievement of the aims of the sustainability agenda.

Conventional arguments state that cities are the antithesis of sustainable development, as massive consumers and producers of waste (Girardet, 1992). However, contrasting arguments would consider cities as both the natural human environment for the 21st century, and the arena in which sustainability can best be achieved. If the route to sustainable development is through social sustainability, the city is where this will happen. If sustainability relies on an economy of means, then it is in cities, which allow for effectiveness of process through the concentration of resources, overlap and built-in redundancy, that we will achieve a sustainable future.

Notes

1. The *Intelligent Buildings in South-East Asia* study scored the intelligence of buildings on a matrix, categorizing them into four intelligent building types, according to the quality of the building itself as well as its location within the city. Buildings falling into the bottom left quadrant are redundant and poorly located, while those in the bottom right are good buildings in the wrong place. In the top left are poor buildings in good locations. A truly 'intelligent' building will be one that is both well located and of good quality, and these will fit into the top right quadrant (Harrison *et al.*, 1998; DEGW, 1999).
2. The World Commission on Environment and Development was created as a result of General Assembly Resolution 38/161 adopted at the 38th Session of the United Nations in autumn 1983.
3. Although this may seem a controversial statement, primary evidence for this is the large number of planning enquiries that are held each year, from which, it seems, only lawyers benefit. These are most often adversarial engagements in which the planning authority will argue against a particular development, while its proponents will argue in favour.

References

Ackroyd, P. (2000) *London, The Biography*, Chatto and Windus, London.

DEGW (London) and Teknibank (Milan) in association with The European Intelligent Building Group (1992) *The Intelligent Building in Europe*, The British Council for Offices, Reading.

DEGW, Ove Arup and Partners, and Northcroft, in association with The Council on Tall Buildings and Urban Habitat (Grupo Brasil and Edison Musa Arquitetos Addociados) (1999) *Intelligent Buildings in Latin America*, unpublished Multi Client Study.

Florida, R. and Gates, G. (2001) *Technology and Tolerance: The Importance of Diversity to High Technology Growth*, The Brookings Institution, Washington.

Girardet, H. (1992) *The Gaia Atlas of Cities, New Directions of Sustainable Urban Living*, Gaia Books, London.

Hansen, S. (1999) Economic Initiatives and Sustainable Development: An Assessment of Possibilities and Limitations. In: *Towards Sustainable Development: on the Goals of Development and the Conditions of Sustainability* (eds. Lafferty, W.M. and Langhelle, O.), Macmillan, Basingstoke.

Harrison, A., Loe, E. and Read, J. (1998) *Intelligent Buildings in South East Asia*, E & FN Spon, London.

Harrison, A., Wheeler, P. and Whitehead, C. (2004) *Distributed Workplace: Sustainable Work Environments*, Routledge, London.

Jacobs, J. (1969) *The Economy of Cities*, Random House, New York.

Kane, M. (1999) Sustainability Concepts: From Theory to Practice. In: *Sustainability in Question: The Search for a Conceptual Framework* (eds. Kohn, J., Gowdy, J., Hinterberger, F. and Van der Straaten, J.), E Elgar, Cheltenham.

Newman, P. and Kenworthy, J. (1989) *Cities and Automobile Dependence: an international sourcebook*, Gower, Aldershot.

Office of the Deputy Prime Minister (ODPM) (2003) *Sustainable Communities: building for the future*, Office of the Deputy Prime Minister, London.

Shapiro, R., Price, L. and Mayer, J. (2000) *Digital Economy 2000*, US Department of Commerce, Washington.

Shutz, J. (1999) Organising Diversity. In: *Sustainability in Question: The Search for a Conceptual Framework* (eds. Kohn, J., Gowdy, J., Hinterberger, F. and Van der Straaten, J.), E Elgar, Cheltenham.

Urban Task Force (1999) *Towards an Urban Renaissance*, E & FN Spon, London.

Wu, C. (1998) *The Concept of Urban Social Sustainability: Co-ordinating Everyday Life and Institutional Structures in London*, unpublished PhD thesis, London School of Economics.