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The development of property asset management: towards a pro-investment form

MARK DEAKIN
Napier University, Edinburgh, UK.

Summary

- The paper examines the development of property asset management. It outlines the background to the development in terms of the ongoing modernisation that property management has been subject to and redefinition of the terms of reference which has recently taken place in the movement towards property asset management.
- The paper then draws particular attention to the corporate and financial developments underlying the movement towards a pro-investment form of property asset management.
- After subjecting the current presentations of this development to a critical examination, the paper goes on to advance a contemporary model of property asset management which is pro-investment in the sense that it represents a structure of management common to all property assets.

Keywords: modernisation, property management, property asset management, pro-investment form

Introduction

This paper examines the development of property asset management. It sets out to outline the background to the development in terms of the ongoing modernisation that property management has been subject to and redefinition of the terms of reference which has recently taken place in the movement towards property asset management. In meeting this objective, the paper draws attention to Scarrett's (1983,95) account of this transition from modern property to property asset management and makes some comparisons between his representation of the subject and that which others have recently put forward (notably, Britton, Connellan and Crofts 1989; Avis, Gibson and Watt, 1989; Avis, Crosby, French and Gibson, 1993). In doing so it suggests there are a number of gaps in Scarrett's (1983;95) representation and goes on to advance a contemporary model of property asset management that is pro-investment in form.

While it is appreciated that modern property management has traditionally attracted a great deal of interest from surveyors like Denman (1957,78), Thorncroft (1965), Stapleton (1981) and Arnison, Bibby and Mulquiney (1990), this paper will focus attention on Scarrett's (1983, 95) representation of the movement towards property asset management. The reason for this is simple: it is because in examining the modernisation of property management he models not only the legal and social dimensions to the subject, but also draws particular attention to the corporate, financial and commercial units of analysis. As such, it is one of the few texts which not only draw attention to the corporate, financial and commercial dimensions of the subject, but also manages to highlight the significance they take in the movement towards a particular form of property asset management. What might best be referred to as a pro-investment form of property asset management. Again, while the paper acknowledges that the subject in question is one which is not confined to the UK, but is also gathering momentum in Europe and North America (see Jaffe, 1979 and Downs, 1991 in particu-

lar), the issues commented on are those drawn from the movement towards property asset management in England, Wales and Scotland (1).

Modern property management

In reference to property management, Scarrett (1983, p.2) states that: "property management requires the contributions of several specialisms but the professional surveyor not only occupies a dominant role but also in many cases leads the team. He may be employed in public service or in private practice: he may be in the full time salaried employment of an institution or he may act as an agent". As the quote points out, a number of specialisms contribute technical expertise and organisational skills to the management of property. As it also suggests, traditionally surveyors with their expertise and skills in policy formation, record keeping, accounting, administration, audit and supervision of statutory provisions between landlord and tenant, have been able to make a significant contribution to the development of property management.

As Scarrett (1983) points out, as 'team leaders', responsible for the provision, co-ordination and when required commissioning of 'other' expertise and skills, surveyors have made a significant contribution to the development of property by managing the technical expertise, organisational skills and knowledge which is required to promote the potential estates have to generate income for their owners. By surveyors, Scarrett (1983) is referring to general practice surveyors, quantity and building surveyors. In referring to other expertise and skills, he means builders, engineers and architects. Together this professional division of labour, the technical expertise, organisational skills and knowledge it is seen to draw upon, is put forward by Scarrett (1983) as the 'team' responsible for leading the development of property management.

Referring to the development of property management, Scarrett (1983, p.3) suggests that it is something which has undergone a process of modernisation. In connection with this matter, he suggests: "[modern] property management seeks to control property interests having regard to the short and long term objectives of the estate owner and particularly to the purpose for which the interest is held: to negotiate lettings and to initiate and negotiate rent reviews and lease renewals, to oversee physical maintenance and enforcement of lease covenants, to be mindful of the necessity of upgrading and merging interests where possible, to recognise opportunities for the development of potential and to fulfil the owner's legal and social duties to the community."

What is perhaps most noticeable about Scarrett's (1983) definition of modern property management, is the fact he defines the subject in terms of the responsibilities surveyors have to draw upon the expertise and skills they command and do so in a manner that develops property management in a particular way. In a way, that is, which draws upon their expertise and skills in policy formation, record keeping, accounting, administration and supervision of agreements between landlord and tenant, in developing the potential owners of estates have to generate income.

Corporate	Policy	Formation	Acquisition Disposal Refurb/Develop	Technical expertise
Financial	Records	Development of potential	Collection of income/Payment of outgoing	Organisational skills
Commercial	Administration	Accounting	Profit and Loss Accounts	Knowledge of land and buildings
Legal and Social	Landlord/ owner's agent	Supervision of the estate's duties to the community	Freehold/Leasehold negotiations under the Landlord and Tenant Acts	Understanding of statutory provisions regarding use, possession and alienation
	Roles	**Responsibilities**	**Functions**	**Resources**

Figure 1: Property management

Figure 1 illustrates Scarrett's (1983) model of property management in detail. Taking the form of a matrix organisation skills and knowledge surveyors need in order for them to develop an effective response towards the modernisation of property management which is currently taking place. Here Scarrett (1995) draws attention to the growing significance of operational property and the demands this places upon the management process. In doing so, he acknowledges the contribution that the Audit Commission and Chartered Institute of Public Finance Accountancy (CIPFA) have made to the growing awareness of the need for operational property to give value for money and be subject to economic, efficient and effective management (VFM and the 3 Es respectively). He also refers to the contribution, Avis, Gibson and Watt (1991) have made in this respect. Later on the Department of Trade and Industry's involvement in property, VFM and the 3 Es in the development of British trade and industry (notably through British Telecom and other privatised sections of the economy) is also noted.

Reflecting on this issue, he points out that: "Very little regard has been paid in the past to the role of the tenant or occupier who uses the building for operational purposes and incurs a cost in purchasing or an ongoing cost by way of rent in anticipation of making a profit from the activity carried on - production or service provision- within the building. Where users own their premises, the value to them is their function as an integral part of their business operations." (1995, p.11). While drawing attention to this development, Scarrett (1995) views such a situation as unfortunate for the reason it focuses too much attention on operational assets and ignores the fact that property forms an investment, which in turn requires what he refers to as 'sound management'. In drawing attention to the distinction which has surfaced between operational, investment, sound and less than sound property management, Scarrett (1995) suggests that the reason why operational property has experienced less than sound management is because it has not previously been thought of as representing a form of investment, which under normal circumstances is seen to benefit from such a structure of management.

Scarrett (1995) chooses the term sound property management to reflect the commercial form it takes in his anti-operational and pro-investment representation of the subject. As such the term 'sound' gives the impression that the form of property management in question is 'tried and tested', with a well established set of conventions; unlike, that is, 'VFM or the 3 Es', which in treating the 'property management task' in both operational and investment terms, tends to split the subject in two, overstate the corporate and mis-represent both the financial and commercial role of the surveyor in the development of the subject. This is because in Scarrett's view, it is the task of management to treat all property, irrespective of whether the purpose of holding it is operational (held as corporate assets for business purposes) or investment (for financial returns) as a commercial undertaking and not to make any distinction between operational and investment assets.

Redefining the subject

To rectify this unfortunate state of affairs, Scarrett (1995, p. 12) proposes that the focus of attention should centre on: "the owner's investment because the process so described is property management whether they are an investor seeking a financial return or an operational user [in the corporate sector], aiming for efficiency in all parts of their business".

Having made this point, he goes on to redefine the subject. In this instance the focus of attention is not so much on the need for property management to develop the potential of an estate. This time the emphasis appears to be on the need to find a definition that is able to bridge the gap which has recently opened up between operational property asset and portfolio (investment) management (see Avis, Gibson and Watt, 1989 and Dubben and Sayce, 1991, respectively). It is a distinction Scarrett (1995) appears to be unhappy with because the former focuses attention on the management of property as an operational asset to a corporation, while the latter is seen to concern the management of property as a portfolio of investment assets providing a financial return. In Scarrett's (1995) view, such a distinction is unfortunate because it is seen to neglect the fact that all assets represent a form of investment which require sound management and any development in the subject ignoring this will not be able to benefit from the financial returns such a commercial form of property management provides. This is because:

- first of all, it splits the subject in two: into operational property asset and portfolio (investment) management.
- while, as a tactic, the shift of attention towards the former is all very well and good in the sense it develops a knowledge of the subject not previously available, it has to be recognised as being divisive.
- it also has to be recognised that in being tactical, this 'splitting in two' does not reflect any real strategic

distinction between assets. In other words, it has to be recognised that irrespective of what tactical distinctions are drawn, the underlying realities of the situation remain the same. The underlying realities in this instance being that all assets take on the form of an investment and it is this 'fact' that represents the strategic significance of the property management task.

Finally that the aforementioned points are not academic, but real in the sense any decision to ignore the fact that all assets represent a form of investment runs the risk of building a form of management which is less than sound. That is inefficient at the corporate level and unable to benefit from the financial returns such a commercial form of property asset management offers.

In attempting to reconcile this misunderstanding and build a bridge between the divisions that have opened up over operation property asset and portfolio (investment) management, Scarrett (1995) advances his definition of 'property asset management'. Before doing so, he tells us it is advanced in the interests of building on the common ground, rather than differences that exist in the emerging forms of property management. On the fact, that what both definitions have in common is the tendency both of them illustrate to treat the subject matter (i.e. property) as assets, not liabilities and to subject its material (vis-à-vis, property assets) to a process of pro-active management. Building on this common ground, Scarrett (1995) proposes modern property management should be re-defined in terms of 'property asset management'.

Property Asset Management

Figure 2 illustrates Scarrett's (1995) property asset management. As can be seen, it highlights the different corporate sectors of the property market, the financial issue of income production, requirements for transactional data and information on the exchange of tenure rights and fixed, income-producing investments forming portfolio-based assets held in the private sector. It also illustrates the management of property assets has to be efficient and strategic in the planning of expenditure and calculation of income production from the fixed investment assets forming the portfolio-based performance. What it also serves to demonstrate is that the technical expertise, organisational skills and knowledge surveyors now require at the corporate, financial and commercial level of the subject has also developed in response to the recent demands which have been placed upon the subject. For as can be seen, the technical expertise is of the retail, office and industrial sectors of the property market and the organisational skills required for these three categories to serve as investments. Something that also requires a knowledge of the income-producing transactions on fixed investment assets forming portfolio-based and essentially private assets, needed for efficient, strategic and in this instance, a form of management which allows the evaluation of transactional data and information for performance measurement purposes.

Having given consideration to both the form and content of the re-definition, it is perhaps worthwhile stepping back from the model of property asset management and asking why the development of the new terms of reference should be seen as a progressive development? In that sense one which not only closes the gap that has opened up between operational property assets and portfolio (investment) management, but which also manages to deepen our understanding and knowledge of the subject in question. The reasons why it can be seen as a progressive development are perhaps best summarised as follows:

- it stops the tendency that is developing for property management to become polarised along the operational and investment asset lines.
- draws attention to the corporate, financial and commercial developments taking place and which require additional technical expertise, organisational skills, knowledge and understanding.
- in taking on many of the developments in question, the model of property asset management resists the temptation to break with the past and focus attention on the corporate, financial and commercial to the exclusion of the legal and social dimensions of the subject.
- in succeeding to retain the legal and social dimensions, it acknowledges that it is these dimensions which underpin the other 'higher' level issues.

Corporate	Retail, office and industrial	Fixed	Efficient
Financial	Income producing	Investment	Strategic
Commercial	Transactional data and information	Portfolio-based	Evaluative/performative
Legal and Social	Concerned with tenure rights	Private	Contractual
	Property	**Assets**	**Management**

Figure 2: Property asset management

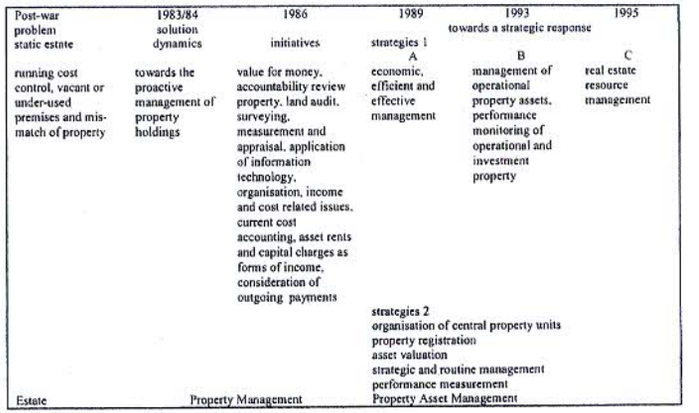

Figure 3: Developments underlying the transition

Some comparisons

If we tackle this question, it becomes clear the form and content of the other models available differ considerably from the 'pro-investment form' set out above. Figure 3 illustrates an attempt which has been made to characterise the differences in how the researchers listed above approach the subject.

As can be seen, Figure 3 identifies the developments underlying the transition from estate to property and on to property asset management over the post-war era. As can also be seen, it characterises the problem property management has faced over the period in question as that of the 'static estate'. The static estate and the problems of running cost control, vacant, or under-used premises and mis-match of the demands placed on the management of property relative to its supply. It also illustrates that since 1983/84, property management has sought to become proactive in the management of holdings and develop a number of initiatives which provide a solution to the problems of the static estate. The solution in question appears in the next heading under the title of 'towards a strategic response'. Hence what the diagram draws attention to is the initiatives forming the content of strategies A, B, and C, listed towards the right-hand side of the illustration.

The initiatives are those responses which have attempted to treat property as a dynamic resource, requiring pro-active management. They include; for example, the adoption of VFM as standards of accountability, property reviews, land audits, surveys, measurements and appraisals, the application of informa-

Altogether the transition from property management to property asset management (under the development of the latter) has to be seen as an exercise that balances the old with the new and which in doing so, also manages to reflect many of the contemporary developments in the subject currently taking place. In that sense, it has to be seen as a progressive development which adds to our understanding and knowledge. In light of this, it is perhaps more important to ask what type or kind of knowledge it adds? For if we ask this question, it follows that we have to compare the data, information and content Scarrett (1995) advances in relation to what is put forward by the likes of Britton, Connellan and Crofts (1989), Avis, Gibson and Watts (1989) and Avis, Crosby, French and Gibson (1993).

tion technology, formation of organisational structures and other such measures geared towards the improvement of property management. Strategies A, B and C relate to the strategic responses taken to try and incorporate such standards into the management of property assets. Here the emphasis is not so much to do with the type of initiative and all its particular requirements (manpower, technical expertise, organisational skills, expenditure, etc) but on when it fits into the overall structure of property management. Where, if you like, VFM, accountability, audit, surveys, measurement and appraisals fit into a strategy towards economic, efficient and effective management. As such, the question is not about what technical merits the initiative offers, but the cost of it and what value such a strategy will add to the management of property defined in economic, efficient and effective terms.

In this instance, Strategy A is that part of the response put forward by Britton, Connellan and Crofts (1989) in their examination of property management in the public sector, Strategy B is Gibson, Gibson and Watt's (1989) examination of operational property asset management and Avis, Crosby, French and Gibson's (1993) study of property management in terms of performance monitoring. Hence, and as can be seen, the strategic response is one that cuts across the division between the public and private sector and examines the management of property in terms of operational and investment assets. Strategy C represents Avis and Gibson's (1995) more recent exploration of what they term real estate resource management. The heading Strategies 2 draws attention to the content of strategies A, B and C. In that sense, the strategies which have developed towards the organisation of central property units, registration and valuation of assets, and measurement of performance put forward to solve the problem of running cost control.

Underlying all of this is the proposal that property management surfaced in the mid 1980s as a means of solving such problems and that since 1989 the point of comparison has shifted towards property asset management. Comparing this representation to the traditional form of property management, it is evident these developments sit in the upper two levels of his model, in the corporate and financial levels and perhaps more significantly, go some way to challenging Scarrett's (1983,95) particular understanding of the subject. The main difference lies in the fact it does not focus on the relationship between the agent of property management and the estate owner, but on the form and content of the problem the managers of property face in taking responsibility for the development of the estate. It also illustrates the dynamics of the solution to the problem and movement towards the development of initiatives making up the strategic response in question, lie in management's organisation of central property units, property registers, asset valuation etc.

If it can be accepted that the traditional model of property management does not recognise such matters, we have to ask why this occurs? As already pointed out, to a large extent it has to 'come about' as a consequence of the model not being problem-based, but set in the relationship between agent and estate owners: a relationship which tradition tends to represent as fixed, trouble-free and to some degree harmonious. As the developments underlying the transition tend to reveal, this is certainly not the case. Given the pro-investment form also ignores such a problem-based representation of property asset management and it is not possible to introduce the question of the static estate or matter of running cost control into the matrices set out so far, the following will reformulate the model of property asset management so that it is better equipped to meet the demands of the contemporary era. It will do this by drawing upon the findings of the other studies outlined above, to redefine the pro-investment nature of property asset management.

A contemporary model

The purpose of redefining the model is fivefold:

- to illustrate the less than comprehensive nature of the existing pro-investment form of property asset management
- to identify some of the forces underlying the development in question
- to challenge some of the assumptions that models of property asset management make about operational and portfolio property (investment) management
- to demonstrate that if we build upon the representations of the subject which are set out in Figure 3, it also follows that property asset management is not only developing a deeper terms of reference at the corporate and financial levels, but a terms of reference which provides a whole new set of responsibilities, functions and resource bases
- to identify that contrary to existing representations of property asset management, an adequate understanding of the subject rests in appreciating the surveyor is now responsible for the corporate development of service potential through property reviews, audits of assets (irrespective of whether they are operational and investment) and this is something which takes the form of registration, database design, IT application, valuation, and performance measurement - a form of management requiring additional technical expertise, organisational skills and attributes at the financial and commercial levels.

To demonstrate the extent of the redefinition currently taking place, the following should like to revise the mode of presentation taken so far. That is, start with the vertical axis (corporate, financial, commercial, legal and social and in this instance economic) and the property, asset and management columns which form the horizontal. The reason for this is simple: it is to highlight the essential differences between Scarrett's (1983,95) representation and those of the comparisons drawn attention to here. This will then be drawn upon to redefine the pressure this development has placed upon surveyors to change the responsibilities they take, functions they perform and resources drawn upon to promote the virtues of a pro-investment property asset management.

Figure 4 shows the contemporary model of property asset management. As can be seen, it modifies the vertical axis and changes the content of the horizontal. What is perhaps most noticeable is the fact it introduces another dimension to the subject and what might be best described as the economic foundation of property asset management. In contrast to the legal and social grounding currently existing for property asset management, this model introduces an economic basis upon which to build the corporate, financial and commercial dimensions. In doing so it imports elements of Britton, Connellan and Croft's (1989) and Avis, Crosby, French and Gibson 1993) but with one notable qualification. The qualification that the economics in question is based upon the development of a property market which illustrates allocative efficiency at all levels (corporate, financial and commercial) and allows management to be effective in achieving this across assets.

What it emphasises is that the assets which form the subject of management are retail, office and industrial. It illustrates that the property is both income-producing and cost-generating. It also illustrates the assets are fixed operational/occupational, investment and surplus, moreover that they are portfolio-based and found in both the public and private sector.

As such, this definition goes a long way towards redefining the terms of reference for property asset management, due to the fact that the property in question is seen to produce income and generate costs, be fixed in terms of operational/occupational and investment, even surplus assets and in a portfolio-based situation: be the situation in the private or public sector. The reason for the slash symbol between the operational and occupational categories of asset will become clear later on in the discussions. The model also illustrates the underlying management concern is on VFM. In addition to this it also demonstrates that while the corporate interest in property is with fixed assets, the financial concerns of management do not rest at the strategic level but also cover the more routine day to day matters concerning value adding and cost saving measures.

Following on from this we have Figure 5, which illustrates the changing responsibilities, roles and resources surveyors need to take account of in order to develop property asset management in line with the demands that are being placed upon the subject. What is perhaps most noticeable in the deepening corporate

Corporate	Retail, office and industrial	Fixed	Value for money
Financial	Income-producing and cost-generating	Operational/occupational, investment and surplus	Strategic and routine
Commercial	Transactional data and information	Portfolio-based	Evaluative in the sense of monitoring and reviewing performance
Legal and Social	Concerned with tenure rights	Private and public	Contractual
Economic	Allocative	Efficient	Effective
	Property	**Asset**	**Management**

Figure 4: A contemporary model of property management I

Corporate	Policy	Formation Development of service potential	Centralisation of property units for acquisition, disposal and refurb	Technical expertise
Financial	Records	Reviews, Audits, Survey, measurement and appraisal	Registration of holdings Development of databases Application of IT Asset Valuation Measurement of performance	Organisational skills Analytical attributes Theoretical and practical knowledge Ability of apply techniques Appreciation of methodological issues
Commercial	Administration	Accounting	Profit and loss accounts	Knowledge of property markets and construction sector
Legal and Social	Landlord/owner's agent	Supervision of the estate's duties to the community	Freehold/leasehold relations under the Landlord and Tenant Acts	Understanding of statutory provisions regarding use, possession and alienation
Economic	Distributional	Competitive	Improvements	Land and buildings
	Roles	**Responsibilities**	**Function**	**Resources**

Figure 5: A contemporary model of property asset management 2

and financial dimensions to the development. At the corporate level we see surveyors are no longer just responsible for policy formation, but the development of service potential. At the financial level it is evident that this translates into the development of responsibilities for the appraisal of property, which in itself requires surveyors to function in the registration of holdings, development of databases, application of IT and valuation of assets. The knock-on effect of this being seen in the form of the surveyor's requirement for a greater degree of technical expertise in terms of organisational skills, analytical attributes, theoretical and practical knowledge, application of techniques and appreciation of methodological issues.

As with the previous Figure, it also introduces the economic dimension to the subject. Here the surveyor is seen to have a distributional role in the allocation of interests between the estate owner and occupier (the landlord and tenant). In this instance through corporate policy in terms of formation and development of service potential. If this is to be allocatively efficient, it also illustrates the distribution has to be based upon competition over the use of property as operational, investment and surplus assets at the financial level. For as the matrix illustrates, it is competition which provides the basis for an improvement in the management of property assets in the sense it makes management effective through the development of central property units, registers and asset valuation.

In taking this form these developments have to be seen as requiring a whole new knowledge base: one that builds upon the legal and social dimensions of the relationship between estate owner, agent and occupier, to represent a more accurate picture of the changing economic, corporate and financial dimensions of property asset management.

Comparing this contemporary model against the pro-investment form of property asset management, the differences are noticeable. As already mentioned, the most noticeable difference lies in the introduction of an economic dimension to property asset management and addition to the terms of reference at both the corporate and financial levels. What these modifications, developments and change signify is, of course, another matter, because as yet little has been said about why they have been introduced. The reasons for introducing them are set out below:

- the existing model has no economic foundation. While it draws specific attention to the legal and social grounding of the subject, it nevertheless has no economic foundation.
- this is important because while it is proposed that the property market should be efficient in the manner which it serves the corporate sector, the assertion is not based upon a theory of allocative efficiency in market economies, or perhaps even more significantly from his point of view, how investment in assets brings about a set of improvements (in terms of exchange and technical factor combinations) which lead to a more effective management of property.
- in the absence of such a theory, the existing model is forced to single out the property market as a particular sector of the economy and draw attention to the perception of it as different in character to other sectors, less than perfectly competitive and inherently inefficient. This is the stick such model use to beat property management with by suggestingthat the pro-operational bias recent developments in the subject reflect, fail to recognise that all assets irrespective of what form of asset they take are investments. The carrot used to move away from such developments is the suggestion that greater efficiencies at the corporate level lie in recognising the financial status of property as an investment asset. But given the statement made in this regard has no economic basis and is not developed at either the corporate or financial level, it is questionable whether, other than acting as a critical tool (i.e. by which to expose the real strategic error of previous developments and use this in-turn as a stick to beat them with), it represents anything more than an assertion. Questionable, whether, that is, it has any more grounding, weight or value, than the force of argument by which it is put forward. Given it has no economic basis, is under-developed at both the corporate and financial levels, it has perhaps to be seen as an argument that is difficult to justify in any meaningful sense and one which does not legitimate the pro-investment model of property asset management.
- while 'bridging' in the sense of being against the operational-investment split, it is perhaps ironic that in the absence of the necessary economic, corporate, financial data and information, any model calling itself 'pro-investment' should not be able to bridge the divide by showing how all assets represent investments, or illustrate how in taking such a form, both the use and exchange of assets will be more economic in the sense decisions about their allocation will be efficient and lead to a more effective management. This has to be seen as a tactical error of some magnitude. For in suggesting that the answer to the problems of traditional property management lies in the development of assets as investments, the pro-investment model currently in existence tends to propose a somewhat partial, one-sided perspective of the property assets which should be subject to such a form of pro-investment management. In short income-producing properties forming investment assets.

The search for an economic foundation

Recognising the significance of these three points, the question arises as to a pro-investment model should be rooted in the legal and social structure of property and be unable to ground itself in the economics of asset management? Why, that is, it is unable to base property on a economic foundation capable of allowing markets to bring about an efficient allocation of resources to meet the occupational requirements of corporate operations, or financial returns business needs to invest capital on a sound commercial footing? The reason for this has to be seen as lying in the tendency the pro-investment model illustrates to root property in the structure of tenure. In that sense in the legal and social structure of property ownership divided between landlord and tenant. Under this legal and social, as opposed to economic, corporate and financial, structure, convention tends to view the operational cum investment division in the following terms:

- with either freehold ownership of property by the corporate sector in accordance with the operational requirements of such an occupation
- with the corporate sector as tenant
- with a landlord leasing property to the corporate sector as an investment in exchange for a financial return on investment.

With these 3 categories of ownership, the first two are seen to be operational from the corporate sector's point of view and preclude an investment interest because they are either owner-occupied or leased. This leaving only the third category with a possible invest-

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ment interest. Viewed in this way, the question of how operational assets held for the occupational requirements of the corporate sector, rather than financial return on capital can be managed as investments surfaces? What becomes clear is that if this is to be achieved, the operational dimensions of the corporate sector will have to equate with the financial returns of investment under some modified structure of tenure. What the pro-investment model tends to miss is that such a restructuring has been taking place. What it misses is that not only has such a restructuring been taking place, but it has been done to not only serve the legal and social structure of tenure, but what might be provisionally referred to as the economics of property asset management.

What has been witnessed over the past 15 years is a deep and thorough restructuring of the corporate sector. One in which downsizing, mergers and re-engineering has led to a decentralisation of ownership i.e. a process of privatisation, along the lines of the 'principle-agent axis'(see, Vickers and Yarrow, 1988; Metcalf and Richards,1990; Ridgen, 1995). The axis that takes the structure of tenure away for the legal and social grounding it has previously rested on and introduces a quasi-landlord and tenant type relation on the basis of economic efficiency in the allocation of resources. Under this arrangement, the division is not between operational requirements or investment need. Instead the attention switches to the question of how the economics of the principle-agent axis can lead to 'x-efficiencies' (exchange and technical) in the allocation of resources by the corporate sector for operational requirements and assets can also provide the financial returns required for capital assets to represent a form of investment (Beesley, 1992a,b). How , that is, property assets held for operational purposes can provide financial returns as a form of investment which effectively put the management of them on a firm commercial footing?

Organisations in the UK that have undergone the type of deep and thorough reorganisation referred to above include: British Telecom, Gas and Electric, Marks and Spencer, Boots, Kingfisher, B&Q, The Post Office, British Airways, the Civil Service, National Health Service and Local Authorities throughout England, Wales and Scotland. The list of corporations undergoing such a process of development and change is extensive (2).

While the examination of property asset management may appear over-critical, it is not meant to be. As has already been pointed out, the pro-investment model and representation of the subject is seen to be a progressive development, moving our understanding and knowledge forward. What the examination is perhaps critical of, however, is that in advancing a non-divisive model of property asset management, it in turn makes an error of equal magnitude and which the pro-investment model draws attention to in others writing on the subject. An error, which in this instance, leads to a representation of the subject that is not so much divisive as having the unfortunate effect of representing a partial, one-sided and exclusive model of the subject. Exclusive, that is, to particular forms of property and assets in terms of the so-called management task, which on reflection it is difficult to provide any adequate reason for. Indeed it appears to represent a 'turn of events' which is not only arbitrary and in that sense unjustifiable, but in light of the form and content i.e. underlying structure, of the other examinations set out in Figure 5, also difficult to legitimate. If the intention of the model is to build a bridge between the operational/occupational and investment traditions in the subject, the road it has taken has to be seen as providing a number of contra-flows, as to a large extent the model's representation of property asset management tends to divert attention away from the former and in doing so, put a great deal of distance between it and the pro-investment formulation.

In response to this, the preceding examinations have sought to expose some of the errors in the development of the pro-investment model and contradictions that tend to limit the possibility it has of progressing our knowledge and understanding of the subject along such lines. It has also attempted to advance matters by providing what might be referred to as a contemporary model of property asset management. One that extends the engineering metaphor but for the purpose of building the economic foundation required to make sense of the developments taking place at the corporate, financial and commercial level and which, perhaps, most importantly of all, it advances a model of property asset management sympathetic to the pro-investment form outlined above. Sympathetic, that is, in the sense it provides the basis on which to build upon the corporate, financial and commercial developments in question and complement the pro-investment model currently in exisence put forward and while not generally recognised, by others (notably Britton, Connellan and Crofts, 1989, 91; Avis, Crosby, French and Gibson, 1993) examining the subject. The essential point of difference between the contemporary model presented here, the existing pro-investment form and representations of the subject already referred to, lying in the fact this model provides the economic foundation by which to make sense of the developments taking place at the corporate, financial and commercial levels. As such it should be seen as an attempt to provide the means to re-engineer such studies in the movement towards a less discriminating, more comprehensive model of property asset management. In taking this form ithe contemporary model set out here does not try to build a bridge, instead it sets out to construct what might be referred to as a 'doorway' between the traditions i.e. operational property asset and portfolio (investment) management. One that engineers a more meaningful exchange between the two - a form of communication and transfer of knowledge which might be best described as 'two way traffic'! In this capacity the model can be seen as an attempt to build upon the developments taking place in the corporate, financial and commercial levels and construct a 'doorway' which opens up the means to expose their 'interconnectedness', or 'closeness' and does not end up - inadvertently or not - putting as much distance between the two as is conceivably possible.

Towards a pro-investment form

The reasons for not wishing to put a great deal of distance between operational property asset and portfolio (investment) management are threefold. The first reason is practical in the sense that if we look at the statistics Scarrett (1995) puts forward to represent the pro-investment form of property asset management against those of Currie and Scott (1989) and Callander and Kay (1997), it is evident his partial, one-sided and exclusive model has a high price to pay. For while Currie and Scott (1989) identify the total asset value of commercial property in the UK to be in the region of £250 billion, with no distinction being made between income-producing and other forms of investment, the existing model only manages to identify £2.1 billion in the former category and appears unable to comment on the remaining £247.9 billion, or 97% in owner-occupation, rather than investment or surplus to requirements undergoing some form of development. If we look at more recent statistics, the position does fortunately become a little more clearer, with in this instance only £120 billion or 45% being income-producing investments, the remaining 55%, or £130 billion falling into the other asset categories (see Callander and Kay, 1997).

What is significant about the said statistics, however they are read, is that any focus on income-producing assets is not only partial, or one-sided, but in terms of the pro-investment form's own definition of what 'the focus of attention should centre on' somewhat contradictory. For as this model suggests, if attention should centre upon the owner's investment, whether they are an investor seeking a financial return or an operational user in the corporate sector, occupying the property for business purposes, the management task has to be seen as one that not only cuts across the operational-investment divide, but the non-specialist/specialist classification of occupational, investment and surplus categories of both income producing and cost generating assets. This is because it is only by approaching the valuation of property in such terms that it becomes possible to abridge the operational-investment divide and close the gap between occupational, investment and surplus assets in a way which promotes the pro-investment dimension to property asset management at both the corporate and financial levels. This being due to the fact such a 'closing down' of any gaps which have opened up, needs to recognise that property assets as classes and categories of holdings, are interconnected not because of the desire by management to view every property in the same way i.e. as forms of investment, but due to the position the property assets in question take as income-producing or cost-generating, requiring management expertise to function in such a capacity.

This leads to the second point. That is: irrespective of the attention the pro-investment form devotes to the bridging of the operational-investment divide and concern over the registration of assets, this model fails to recognise that it is the valuation of property as assets which provides the key to the form of management in question. The fact any pro-investment form of management needs to draw upon both the income and cost approaches to property valuation in whatever combination of asset classes and categories is a point which is completely ignored in existing models.

This also goes some way to highlight the third issue of concern. In this instance the line of reason that allows the model to distinguish between definitions of property asset management i.e. operational and investment, advance ideas about registration, ignore the valuation question and go on to focus on performance measurement. What is noticeable about this model is that it does not include the valuation of property. Irrespective of whether the reasons for representing such a partial, one-sided, and exclusive model are due to the fact it

has no economic foundation to build an adequate understanding of the developments taking place at the corporate or financial levels, focuses too much on registration, or fails to see the key to it all lies in the valuation of property as assets, rather than difficulties over the measurement of performance, the pro-investment form of property asset management that is set out has to be seen as one which is flawed.

This is not to suggest the development of a model including such qualities is not without its own problems, for this would be untrue. In attempting to be non-discriminating and comprehensive, it has to build upon the economic foundation of the legal and social innovations (i.e. process of privatisation) referred to, so as to 'incorporate' the strategic nature of the financial developments taking place in the registration, valuation and measurement of performance for standard and non-standard property, income producing, cost generating, operational/occupational-cum-investment and surplus assets (in the private and public sector) under the so-called pro-investment management task.

In theory the economics and potential of allocative efficiency is to a large degree in place, due to the conceptual developments available courtesy of Marshall, Fisher, Keynes and Turvey (see Baum and Crosby, 1995; Britton, Connellan and Crofts, 1989,91, respectively). At first sight this might appear a little bit contradictory, because in practice and as the contemporary model sets out in Figure 5 demonstrates, the property assets in question are income-producing and cost-generating, operational/occupational, investment and surplus. While it is appreciated the existence of other forms of property assets may appear contradictory and undermine any claim to be pro-investment, it should not be seen to do so. This is because the model does not ground itself in the forced abstractions of any simple identity thinking, excluding the existence of any other - in this instance occupational and surplus property assets, for fear of representing a negative index of what it in fact proposes, but instead emphasises the 'pro' of the pro-investment dimension underlying the movement towards effective management.

It does not do this, but instead takes the pro-investment line, because as this examination of the existing models goes some way to show, the abstractions of simple identity thinking i.e. where all property assets take on the form of investments and the object of the exercise to manage them in such a way, is to a large extent groundless. That is without an economic foundation upon which to engineer or construct such a structure of property asset management. The absence of any such foundation ought perhaps to be seen as providing a form of property asset management which is best described as 'unsound', in the sense it not only lacks an appropriate corporate or financial component and as a consequence, may be seen to be out of line with others writing on the subject, but in seeking to include all property assets suffers the embarrassment of being forced to make the structure safe by abstracting itself from - in this case removing, leaving behind, or not representing - a great deal of what the pro-investment form of property asset management seeks to represent. What for all intents and purposes the model does, is make the sheer weight of the subject more manageable by adopting an income-producing definition of investment that excludes anything which might appear as a negative example of the property asset management it puts forward. By excluding, what in other words, might appear as a contradiction of sufficient weight to undermine its particular (mis)representation of the subject.

This is an important point, for while the model outlined here provide an example of how forced abstractions of this kind are made use of in his partial, one-sided and exclusive representation of, for what is to all intents and purposes a pro-investment form of private sector property asset management, Martindale (1995) also illustrates the type of model building at play in the public sector. The point he drives home being that the 'negative', non-income producing structure of valuation in the management of property assets held by local authorities, demonstrates - contrary to Britton, Connellan and Crofts (1989, 91) and Connellan's (1992) attempts to show otherwise - any pro-investment form represents little more than a 'virtual' reality.

As has already been pointed out, rather than advance a model of property asset management that is in fear of becoming a negative index of what it proposes and which has the outcome of representing a structure so unstable it undermines itself, the contemporary model outlined here chooses instead to emphasise the 'pro' of the pro-investment form of property asset management. This is because to take any other line of enquiry would draw a distinction between abstract theoretical categories and practical realities, in other words between the world of categorical absolutes and the relativity, uncertainties and risk of practices when looked at against the institutional backdrop of empirical realities. Rather than advancing a hierarchical, essentially vertical form of logic, where abstract categories rule over practical realities, or visa-versa, the contemporary model represented here adopts a horizontal rational of model building. A line of reasoning that adopts the qualitative metaphor of 'opening up' and doorways to emphasise the 'interconnectedness' and 'closeness' of the exchanges which are taking place at the corporate and financial levels of property asset management. Qualities that become tangible if we build the structure of property asset management on an appropriate economic foundation, or one which acknowledges that in economic terms all property assets, whether occupied by corporations for business purposes, or held solely for financial return, have the potential to form investments and provide the means to not only register, but value them in such a way. The possibility of which, it has also be to acknowledged, only exists if we accept that both the income and cost approaches to the valuation of property are applicable to all assets under a pro-investment form of property asset management. For it is only under such a structure of valuation that all property assets can be represented as a form of investment, be they income-producing, cost-generating, specialist or non-specialist, and the forced abstractions of simple identity thinking - along with all its errors - can be avoided. This is because it is only if we accept that it is the valuation of property as assets which provides the key to unlock the doorway in question, the real possibility for a pro-investment form of property asset management, able to carry the full weight - in this instance £250 billion - of the subject, begins to emerge.

As the aforementioned makes clear, the key to it all, the unlocking of the doorway, exposing of the interconnectedness and closeness, lies in recognising the answer to the question about 'what is property asset management', doesn't lie in matters of legislation, nor rest on the socio-economic developments taking place at either the corporate, financial or commercial levels: for example the formation of central property units, or registration of assets, but turns on the valuation of property and emergence of a pro-investment structure for property asset management at both the strategic and routine levels of analysis. It is a form of property asset management whose pro-investment structure also requires performance measurement.

What type of pro-investment form?

Having set out how it might be possible to re-engineer existing models and move towards a pro-investment form of property asset management. It is perhaps appropriate to ask what type of pro-investment form such a reconstructed model of property asset management will represent? Reflecting on the examinations so far, the following becomes evident:

- its content can not be restricted to the legal and social structure of tenure, but has to include the economics of the property market underlying the value for money and x-efficiencies of the principle-agent relation in the corporate, financial and commercial dimensions of property asset management
- neither can this search for efficiency be restricted to the exchange of property, because for it to be allocative, it must include the techniques of analysis capital markets need for the corporate (operational) and financial (investment) dimensions to provide a rate of return from income-producing and cost-generating analysis
- what the corporate and financial dimensions of property asset management need to do is: see the property market as a combination of asset categories and holdings and in effect extend the logic of capital markets to both income-producing and cost-generating assets, so they can be managed as investments, irrespective of whether they are held for such purposes or currently occupied for operational reasons
- this requires that all property assets are subjected to the logic of capital market pricing and the pro-investment discipline this forces the managers of property assets to adopt under such circumstances
- if this is to be achieved, then it is necessary to recognise the object of the capital market pricing in this instance is not exchange per se, but search for technical vis-à-vis allocative efficiencies and see the process of marketisation it introduces as the means to strategically incorporate this line of reason into the financial instruments (information systems, data-bases, registers, and valuations) and commercial standards required for a pro-investment form of property asset management (dealing with both income producing and cost-generating assets) to emerge. Again irrespective of whether they are held for such purposes, or occupied for operational purposes.

What pro-investment form of capital market pricing is emerging is illustrated in the contemporary model of property asset management set out in Figure 6. As can be seen, it illustrates the principle-agent axis of property asset management along both the vertical and horizontal of the P - A line. At the centre of this axis lies the economics of the property market, in terms of the value for money question and search for x-efficiencies of resource allocation along both exchange and tech-

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nical lines. It is from here the capital markets become the main allocative mechanism regulating how the corporate strategy and financial instruments in question regulate the operational/occupational and investment requirements of property asset management. It illustrates that under the said strategy and instruments, it is the information systems, data-bases, registers, valuation and both audits and reviews that progress the search for exchange/technical efficiency via the marketisation and analysis they subject asset categories and classifications to. The forms of market analysis show in the illustration as cash flows, annuities, considerations of risk and uncertainty, discounting etc. The significance of this being that it is this form of market analysis which provides the commercial standards of performance measurement in terms of yields, growth, depreciation and rates of return for those assets held for operational purposes, or managed as investments.

This gives some insight into what is meant be the pro-investment form of property asset management. It illustrates that while emphasis is placed upon the corporate level, the focus of attention is on the financial as it is here the exchange/technical efficiencies of the capital markets underlying the analysis of information systems, data-bases, registers and valuations turn operational/occupational assets into investments. It is this explanation of how such a process of marketisation (Deakin, 1999a) turns operational/occupational assets into investments which perhaps above all else effectively distances the subject from property management and that allows the pro-investment form to become the pre-dominant feature of property asset management.

Where the contemporary model outlined here differs from others is in the type of abstractions it pro-

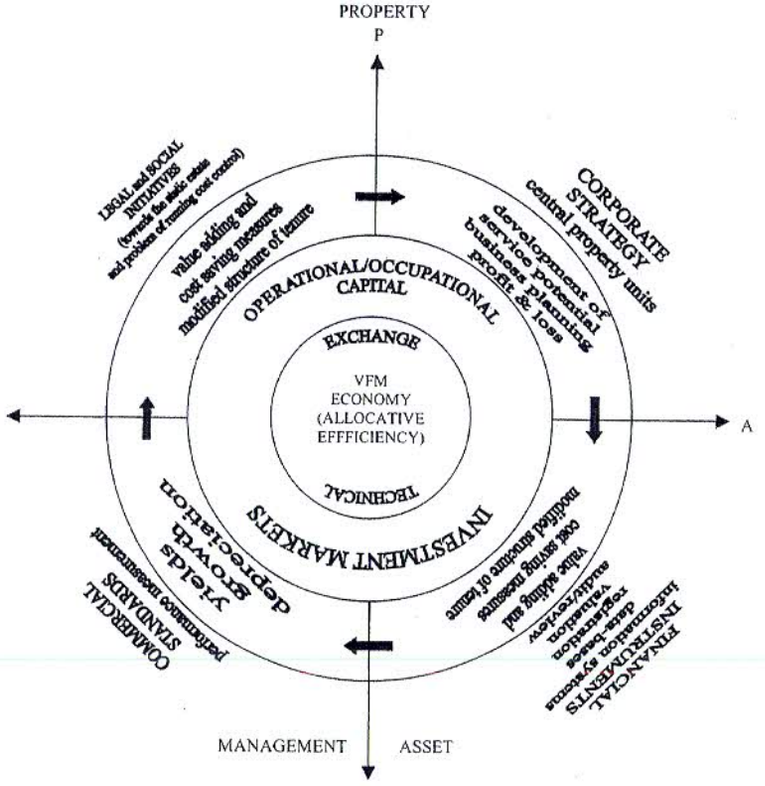

Figure 6: The pro-investment form of property asset management

poses ought to be drawn upon for such purposes. The exact point of difference lying in the fact it advocates the use of abstract representations of exchange already available in the social and legal structure of tenure underlying the property market: those to do with the economics of capital pricing, corporate strategy and financial instruments, of, for example; cash-flows, discounting, uncertainty, risk, growth and depreciation. Those strategies and instruments - and this is an important point from the allocative efficiency point of view - whose exchange, techniques of analysis, information systems and data-bases are common to all forms of property, be they registered as standard, non-standard, specialist, non-specialist, income-producing or cost-generating assets, requiring either the income or cost approach to valuation. Unlike the other representations, it advocates the use of 'tried and tested' abstractions that not only form the common currency of exchange in the property market, but whose techniques of analysis qualify assets as investments requiring them to be managed in such a way. As such they also represent a collection of abstractions which it is also worthwhile noting, provide the substantive content of the performance measurement standards that are also required to support such a pro-investment form of property asset management.

Such a representation of the pro-investment form also has the advantage of avoiding the negative indices associated with simple identity thinking - the situation where property asset management adds up to little more than the management of income producing assets within the property market. It does this by positing investment not as a thing i.e. an income producing asset, but as a relationship: a relationship that is based in the economics of exchange and the search for techniques of analysis which allow the managers of property to derive efficiencies from the capital markets underlying the corporate strategy and financial instruments the pro-investment form of property asset management rests on. Financial instruments (information systems, data-bases, registration and valuation procedures) whose economics of exchange in turn provide the techniques of analysis that make it possible to turn a negative into a positive. Turn a negative in to a positive, that is, by allowing the process of marketisation in question to bring about the efficiencies and exchange-based economies which such a pro-investment form of property asset management seeks to provide. It is perhaps the fact that, while this form of property asset management is exchange-based, but centred on the said techniques of analysis allowing the use of capital markets to produce the economies and efficiencies the corporate sector requires i.e. by providing the financial instruments needed to turn operational assets held for occupational purposes (no less than 55% of total market value) into investments and provide the commercial standards of performance measurement for such purposes, which singles it out as a field of study.

While it is not common for advocates of the income appraoch to address the subject in such a way, it is the nature of this pro-investment form that both Weatherhead(1997) and Connellan (1998,99) draw attention to in their examination of both the corporate strategy and financial instruments underlying the development of property asset management. What both miss is the relationship such techniques of analysis have to the capital markets underlying the pro-investment form of property asset management and giving rise to the cash flows, annuities, risk and uncertainty, discounting, yields, growth, depreciation and rate of return it rests on. For while Connellan (1998,99) provides the financial instruments to make cost the basis for operational assets (specialist properties) held for occupational purposes and turn them into investments via adaptation of the income approach (Baum and Mackmin,1989), the valuation that results is not based upon the initial yield formula (Baum, 1991; Baum and Crosby,1995) of investment and therefore, either, risk or growth explicit in its analysis of depreciation (Deakin, 1998a). As a consequence, its relationship to the income approach is limited by the lack of recourse it makes to the structure of yields in the capital markets and exchange-based economies, vis-à-vis efficiencies such a technique of analysis offers the corporate sector as both operators and investors in property assets (Deakin, 1998b, 99b).

Conclusions

This paper has looked at the development of property asset management that has taken place over the past few years and which a number of academics have recently commented upon. In particular it has sought to outline the background to the development in terms of the ongoing modernisation property management has been subject to and redefinition of the terms of reference which has recently taken place in the movement towards property asset management.

In carrying out such an examination it has drawn attention to Scarrett's (1983, 95) representation of the transition from modern property to property asset management. Having drawn some comparisons between

his and other representations of the subject, the paper has highlighted some shortcomings in the existing model of property asset management and account of the movement towards a pro-investment form. In response, it has gone on to advance a contemporary model of property asset management and examine the pro-investment form it takes. One that draws attention to the socio-economic formation of the developments occurring at the corporate, financial and commercial units of analysis and which emphasises the fact it is not so much the setting up of central property units, or registers that is critical as the structure of valuation - if the movement towards a pro-investment form of property asset management is to take place. If, that is, it is to take place and provide the substantive content which is needed for appropriate standards of performance measurement.

Notes

(1) The paper does not attempt to draw any comparison between the developments taking place in the USA and UK. While such a comparison has recently been drawn by Wetherhead (1997), the developments taking place in the USA have to be seen as different to those in the UK. If we put Jaffe (1979) and Downs (1991) contributions aside, it is evident that recent research into the development by Veale (1988) and Joroff, Lovargand, Lambert and Franklin (1993) focus on the corporate dimensions of the 'real estate business' and the impact property asset management has on profitability (also see Brown and Arnold, 1993). While in the UK some research by Avis, Gibson and Watts (1989) and Avis and Gibson (1995) has been carried out into the corporate issues, it is the financial dimension that forms the main matter of concern (see Deakin, 1997a, b). In the UK it is the corporate, plus financial questions of accounting, asset registration and property valuation in the profit and non-profit making sectors, which attracts the greatest amount of attention (see Deakin, 1998a,b,c,d;99a,b,c)

(2) The list of corporations undergoing such a process of development and change is extensive and can perhaps best be illustrated by reference to the case studies provided by Avis, Gibson and Watt (1989), Avis, Crosby, French and Gibson (1993), Weatherhead (1997) and Deakin (1998a, 99a, 2000).

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MODELLING SUSTAINABLE COMMUNITY DEVELOPMENT IN EDINBURGH'S SOUTH EAST WEDGE

M. DEAKIN, School of the Built Environment, Napier University, Edinburgh, Scotland, UK

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ABSTRACT. From this brief examination of the framework for the South East Wedge of Edinburgh, it is evident that as an experiment in the new post-1990 style of development planning, much of the economic growth, expansion, conservation and protection, still leaves the balancing of the relationship between the natural and built environment to the market. If heavy reliance on the plan as an instrument of strategic guidance and direction means that a great deal of the urban form, design, layout and settlement proposed in the name of sustainable development is left to the management of the land and property market and fails to reflect the ecological, economic and social conditions of the environment, it has to be recognised the consensus surrounding the framework's claim to create sustainable communities with neighbourhood units, will begin to come under pressure.

1. INTRODUCTION

Chesterton's (1996) final report on the Edinburgh South East Wedge, represents the 'interim framework' for the development of a 1,400 hectare site on the edge of the City [1]. Commissioned by a consortium of public-private sector interests, including the former Regional and District Councils, enterprise agencies and respective landowners, the document provides the said 'partnership' with the strategic guidance and direction required to develop an area of land wedged between the City's South East boundary, green belt and surrounding settlements of East and Mid Lothian.

This paper aims to set out the new style of economic development and environmental planning the interim framework for the Edinburgh South East Wedge represents by looking at the conceptual model the proposal draws upon and by examining the principles of sustainable community development the plan advances to balance the competing demands of economic growth, expansion, conservation and environmental protection in this part of the City. It suggests that the model of sustainable community development adopted for Edinburgh's South East Wedge is flawed in the sense it relies too much on the development of sustainable communities materialising through the economics of a land management strategy which adds up to little more than a set of aesthetic considerations about the urban design, layout and pattern of such settlements and as a consequence, does not give sufficient attention to the environmental planning needed for the proposal to balance the competing demands in question.

2. THE EDINBURGH SOUTH EAST WEDGE

The idea of the Edinburgh South East Wedge as a form of sustainable development first surfaced in the 1993 Draft of the Lothian Structure Plan. As the 1995 Written Statement makes clear: "... the Plan aims to foster a more sustainable settlement pattern. To achieve this it must reconcile the need to accommodate new development with the protection and enhancement of the environment." (p.14). As the written statement goes on to point out, the problem lies in the 'fact' new development in the Edinburgh city-region can no longer be accommodated within the existing urban district. As it points out, while 'infill' development will be at the core of the planning strategy, it shall not be possible to accommodate all new land requirements in this way and settlements will have to be located within green field sites. (p.15). Having made this point, the statement is also quick to point out, this does not mean the removal of green belt policy or a slackening of restrictions on new settlement development first introduced in 1956 to stop the coalescence of Edinburgh City with other towns in Mid and East Lothian like Dalkeith, Musselburgh and Haddington. On the contrary, the statement suggests new settlements in the greenbelt will protect and enhance the environment because there are areas to the south-east of the City where new development will pose less problems for the transport system, and where new development will not compromise the integrity of the overall green belt or its objectives. As the statement also goes on to suggest: development in the South-East Wedge would also be efficient in terms of infrastructure by using existing or planned drainage capacity (see Figure 1).

In addition, it points out that if economic development prospects are to be enhanced in Mid Lothian and East Lothian, as well as in south-east Edinburgh, attention should focus on strategically accessible and marketable locations which may include sites currently designated as green belt (p.34).

Going on to consider the new settlements in the green belt, the written statement says; the area of green belt to the south east of the city (the South East Wedge) has been chosen as the site for such development for the following reasons:

- transport infrastructure in this sector of the City will not be so severely affected by development. It will remain relatively uncongested. Development can be directly linked to the City's existing bus network and to planned improvements to assist bus movements. For the longer term, the potential for access via the heavy rail system and a light railway transit system will be explored. Compared to this south-east area, the west of the City already experiences severe transport problems and, even

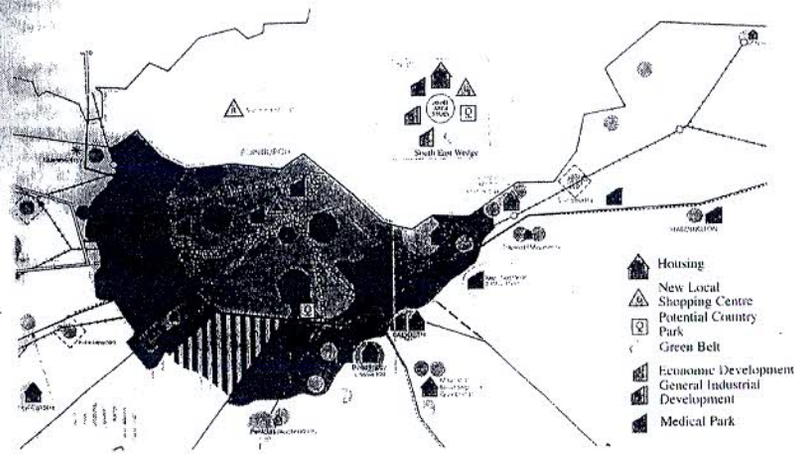

Figure 1. Edinburgh's South East Wedge

with major new investment, will remain very heavily 'trafficked';

- to the south-east of the existing built up area of the City, there are extensive areas of open land which have a lower intrinsic landscape quality relative to other parts of the green belt. In addition, parts of this open landscape are not highly visible. There is therefore scope for some development which would not lead to settlement coalescence or be prejudicial to the objectives of the green belt. There are, nevertheless, important landscape features which would need to be taken into account in implementing development proposals. Compared to this area, the green belt to the south and west of the City, has a higher landscape quality and development there would prejudice green belt objectives;
- the area to the south-east of the City could be served in the short term by the Seafield Sewage Treatment Works and in the medium term by a link to an enhanced Esk Valley trunk sewer, which is a priority investment by the Council;
- development in the South-East Wedge has the potential to assist in the regeneration of the adjoining communities of Craigmillar/Niddrie and north Mid Lothian. These areas have a high unemployment and mixed development including business use would build upon proposals for the new Edinburgh Royal Infirmary to enhance local employment opportunities, as well as improving the area's image. New housing development would also increase choice and provide the impetus for enhanced community facilities.

Having made the case for the development of new settlements in the South East Wedge, the statement goes on to point out it is essential that the proposals for the South-East Wedge are comprehensively planned, integrated with plans for neighbouring communities and that a range of community benefits are provided. It also proposes that any development would have to be supplemented with land for community, recreational use and landscaping. It goes on to say a strong landscape structure capable of absorbing development into a countryside setting will be needed, including woodlands. Major roads passing through the areas should not be considered as development boundaries, but as key approaches to the City and should be set within an appropriate landscape. These statements appear under the heading of strategy. The strategy, that is, which the statement puts forward as the means to manage the projected growth in population, household formation, labour supply, housing and industrial land within the city-region for the period 1995-2005. Put in perspective, the statement proposes that the development of new settlements in the South East Wedge should accommodate 60% of the forecasted population growth, 15% of additional households, 30% of labour supply, 40% of housing and 30% of industrial land. In view of this, the strategic significance of the Edinburgh South East Wedge as the growth management strategy for the city-region can not be understated. Without it, the structure plan would not be able to foster a more sustainable settlement pattern and all the advantages such a 'post-urban dispersal', more 'compact form' of growth management offers to both protect and enhance the environment would be lost.

As the South East Wedge proposal includes parts of Edinburgh City and the Mid Lothian Districts, it is proposed that the most effective means of achieving an 'optimum balance' of economic growth, expansion and environmental protection/enhancement is via the designation of the proposed new settlements as a 'Joint Study Area'. The objective of the study being to:

- establish the development potential of the area taking into account the Structure Plan's development proposals;
- determine a layout for the area, ensuring a compact development with relatively high urban densities, paying particular attention to the cityscape and incorporating housing and economic development sites, open space, community woodlands and recreational facilities, including the possibility of a Country Park, or the expansion/promotion of the existing Craigmillar Castle Scheme;

- define a framework of woodland planting and landscaping to integrate development into the landscape and to protect the landscape setting of the City, particularly from the City bypass and other key routes, and to enhance nature conservation opportunities;
- set out road and public transport access requirements;
- establish the potential for heavy rail access to the area;
- identify the requirement for community facilities;
- indicate the phasing of development;
- establish design and local planning principles for new development;
- define modified green belt boundaries which will protect the green expanse along the City Bypass and important natural features;
- integrate development patterns and facilities with the needs of adjoining areas;
- ensure potential jobs provided by the proposed new Edinburgh Royal Infirmary and related development are physically accessible to existing communities;
- identify opportunities for varied house types and tenures to ensure the widest access to housing;
- identify the potential for a combined heat and power scheme to supply the new development and adjacent communities.

The Joint Area Study has been carried out by Chesterton Consultants. As such it reflects the principles of 'partnership' first appearing in the 1993, 'Edinburgh Vision' document and 'shared vision' of the 1995, 'Economic Strategy' for the development of Edinburgh. It is a vision also drawn attention to in the City's 1996, 'Environmental Strategy'. In these statements the South East Wedge is referred to as a major challenge and one requiring an appropriate response. Appropriate, that is, in the sense which the response in question - of new settlements in the South East Wedge of the City - meets the challenge the economics of a pro-growth, expansion-minded development poses for an environmental planning strategy geared towards conservation, protection and enhancement. The way in which the statements propose to meet this challenge is by making the development of new settlements in the South East Wedge subject to a form of planning that is both economically and environmentally sound. That is to say, by responding in such a way as to make development planning in the city-region subject to the principles of sustainability. Or, put in slightly different terms, by building models of development planning which are able to carry i.e. sustain, the demands for both economic development and environmental planning. By building, what is in effect, a new set of principles capable of supplementing the market driven economics underlying the pro-growth and expansion-minded development logic of the plan with a strategy towards the conservation, protection/enhancement of the environment.

It is this set of principles that mark a new approach to economic development and environmental planning. An approach whose style of development planning is directed towards the modelling of strategic frameworks - in this instance for the formation of new settlement patterns - capable of balancing the demands from civil society for a more sustainable relationship between growth, expansion, conservation and protection.

3. NEW STYLE DEVELOPMENT PLANNING

As an experiment in the new style of economic development and environmental planning, the Joint Area Study carried out by Chestertons' provides such a framework. In taking this form, the framework's strategy for the 'balancing' of economic growth, expansion, conservation and protection turns around the decision to adopt the principles of sustainability as a means of improving the relationship development planning has to the environment of the city-region. In addressing this matter, the framework suggests the answer to this question of 'balance' and search for a plan-led form of development which reconciles the competing demands of economy, growth, expansion, conservation, and protec-

tion lies in the distinctive urban design, layout and pattern of settlement the interim framework sets out for Edinburgh's South East Wedge.

4. THE CONCEPTUAL MODEL

The distinctive form of urban development the interim framework proposes is set out in the conceptual model of the South East Wedge. What the model proposes is that the design, layout and settlement pattern of the distinctive urban development in question should be based on:-

- the integration of existing urban settlements with new community developments;
- the planning of a new community development in a responsible, sustainable way;
- the development of a strong landscape framework.

Defining integration as the effective fusion of existing settlements with the new community forming part of the proposal, the report suggests the South East Wedge has the potential to create a distinctive urban character for the land in question via the formation of three distinct clusters of settlement. Three distinct settlement clusters, linked by the public transportation corridor, the framework also proposes, should be developed for such purposes. Expanding on this point, the document proposes the distinct urban character of the development should take the following form:

- the regeneration of a run down urban settlement;
- the expansion of an existing settlement;
- development of a new community.

In total, the framework anticipates that the clusters of settlements and new community will provide about 5,000 additional residential units and an expanded resident population of approximately 20,000. Reflecting further on the question of urban form, the document states: ".... the urban design challenge will be to create a high quality living and working environment. The [regenerated, expanded and new community] neighbourhoods should be conceived as essentially urban in character and designed on the following principles of sustainable development." (p.5). The principles in question are those of settlements and communities exhibiting:

- a spatially compact urban form;
- a high density of population;
- a balance of uses, economic and social structures;
- energy conscious public transportation;
- designs to provide a high quality living and working environment in identifiable neighbourhood units;
- a strong degree of financial viability in the short, medium and long term horizon.

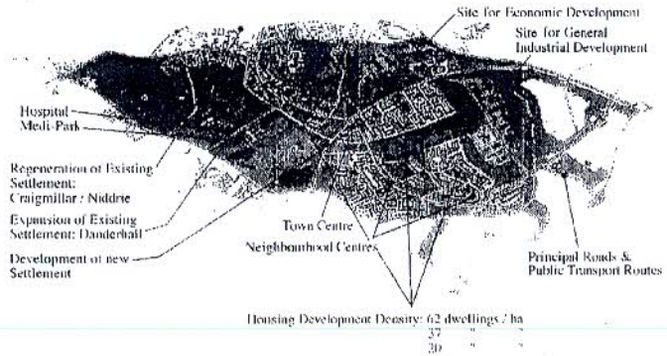

Figure 2. The Settlement Pattern

5. THE PRINCIPLES IN QUESTION

The question of a spatially compact urban form can be read in a number of ways. First, as a development and environmental strategy on a sub-regional scale, the framework can be seen to concentrate the pressure for growth and expansion in one part of the city and conserve the environment of others. Secondly, on the district scale, it can be seen to concentrate pressure for growth and expansion in a collection of settlements, clustering them together in a form that avoids coalescence, conserves and protects the environment (see Figure 2).

It is this clustering of growth and expansion into existing settlements and new communities, while conserving and protecting the environment, that requires higher population densities. The balance of uses: residential, commercial, infrastructural and communal, are required for the communities to form four identifiable neighbourhood units. The question of energy conscious settlements rests with the 'high level' public transportation network proposed for the development. This transportation network includes a number of measures such as a public transport corridor; bus priority proposal; park and ride provision and traffic calming. It also proposes that some of the neighbourhood units should be car free and residents ought to be within easy walking distance of public transport facilities. Together this combination of design factors are seen to provide for a high quality living and working environment, further augmented by the fact that the principles of sustainability underlying the development of the South East Wedge are to be strengthened by the layout and settlement of both communities and neighbourhood units in accordance with a 'strong landscape framework'. The matter of financial viability tackles the particular difficulties the site confronts in terms of geo-technic problems associated with the extensive mining activities previously carried out in the area. Given the 'abnormal' site preparation costs, high infrastructure and communal content, the development framework sets out what the strategy for the economic growth, expansion, conservation and protection of the environment will yield in the form of land receipts.

6. SUSTAINABLE DEVELOPMENT

It is evident that the distinct urban form proposed for the South East Wedge follows the commitment to sustainable development found in *The Bruntland Report* and in the EU's *Green Paper on the Urban Environment* [2-3]. The latter, having a particular commitment to the development of sustainable urban forms in terms of the compact city, with higher densities, balanced uses and energy conscious forms of public transport, reducing the need to travel and providing high quality living and working environments for communities with identifiable neighbourhood units.

This is a form of commitment also reflected in the UK Government's *Common Inheritance*, the EU's *Towards Sustainability* and reiterated in the *Rio Earth Summit* [4-6]. Commitments to compactness, high densities, mixed uses and energy conscious public transportation most recently promoted in the UK Government's *Sustainable Development Strategy, Planning Policy, Guidance Notes*, (PPGN's) Nos. 12 and 13 for England and Wales and *National Planning Policy Guidelines* (NPPG's) Nos. 1 and 3 in Scotland [7-9]. Arguments on urban form, design, layout and settlement, also well rehearsed by Elkin, McLaren and Hillman (1991), Breheny (1992a; 1992b) Owen (1992), Nijkamp and Parrels (1994) Haughton and Hunter (1994) [10-15]. Although, as Myerson and Rydin (1996) point out, while well rehearsed, it has to be recognised that the arguments for forms of sustainable development which are economically and environmentally sound are ultimately contestable [16]. Contestable in the sense that at present such a form of development planning represents little more than a discourse within the policy community of the UK which is difficult to either draw upon or operate in the plan-led development of a city-region. Difficult to draw upon, that is, as a means to establish whether the use of such terms is little more than an attempt at image building and some form of place promotion, or if adds up to something

more substantial. That is an attempt to not only embed the principles of sustainable development into the culture of the policy community, but incorporate them into both the economic and environmental concerns of civil society. It is this question mark hanging over the degree of commitment that is perhaps more acute given the concept of sustainable communities is even more novel a development proposal. It is for this reason the following will examine the degree of commitment that exists to the principle of sustainable development in terms of the interim framework for the development of sustainable communities in Edinburgh's South East Wedge.

7. DISCOURSE WITHIN THE POLICY COMMUNITY AND NETWORKS

While contestable, what is clear is that strong evidence does exist to show the policy community in Edinburgh draws heavily on *This Common Inheritance*, the *Sustainable Development Strategy* and form networks of communication which operationalise such instruments by guiding and directing the growth, expansion, conservation and protection in question through a partnership approach to urban design, layout and settlement [17]. It is perhaps, however, the matter of what form the planning guidance and direction takes within the policy community and networks of Edinburgh's South East Wedge that represents the question in hand and matter which requires particular attention.

This is a matter Rydin (1977) draws attention to in examining the 'policy discourse and networks' of environmental issues in Edinburgh City. As this examination suggests, the discourse on environmental concerns illustrates there is very little dialogue between environmental organisations and economic agencies in the city. Studies of communication between such agencies and organisations illustrate little dialogue, or consensus on environmental issues between the members of the policy network. The examination suggests the balance of power over policy making in the city rests with the economic development agencies and not the environmental planning organisations.

Under this balance of power, interests are seen to coalesce around the effects of economic development, growth and expansion upon the cultural heritage of the city, rather than the protectionism of environmental planning. Here it is suggested interests are able to coalesce in a way that promotes the economic development, growth and expansion of tourism, retail and finance, while focusing environmental attention on issues surrounding the conservation of built heritage, as opposed to protection. This being achieved through the concentration of tourism, high value comparison retail trading and location of financial headquarters in the city centre, while decentralising other service sectors, industrial and housing provision towards the periphery. The burgeoning economic demand resulting from this growth and expansion resulting in the concentration of market-led tourist, retail and financial sector development at the centre and need for subsequent traffic congestion to be planned through 'town' management schemes aimed at the conservation of cultural heritage.

While complicated by growth poles, corridors and regeneration to the west of the city, it is possible to draw upon this pro-growth, expansion-minded and conservation based representation of the City's economic development and environmental planning to clarify the South East Wedge's position in the form of plan-led development the interim framework puts forward. For while the interim framework is put forward to represent a radical experiment in the shift away from property-led development of market economies and towards forms of environmental planning under the policy commitment to sustainability, it is evident a number of the conventions underlying the former can still be found in environmentalism of the latter. This is because, far from representing a break with convention, it is evident that many of the neo-liberal traditions underlying the pro-growth, expansion-minded development rhetoric, vis-à-vis enterprise culture of market economies, also survive the transition towards environmental planning – albeit under the more inclusive rubric of economic development, growth, expansion, conservation and protectionist/enhancement themes of planning based environmentalism [18-20].

The way in which the framework for the South East Wedge manages to stick with convention, rather than make a radical break with tradition is instructive and deserves further attention. This is because in focusing attention on the continuation of past trends, conventions and extension of traditions built up over the past decade, it has the effect of highlighting questions about the communicative and technical qualities of enterprise culture founded upon the civic virtues, partnership and competition of pro-growth, expansion-minded economic development, while drawing attention away from matters concerning the translation to appropriate forms of environmental planning. The tactic the framework adopts in this aim is simple. What is does is to focus attention on the one common denominator in the 'economic development cum environmental planning strategy' equation, that of the 'market' and technical questions about the use which land should be put in order for the economic development and environmental planning strategy to meet the needs of growth, expansion, conservation and protection. What this does is reduce the question of the economic development and environmental planning strategy surrounding the South East Wedge to the matter of distinctive urban forms, design, layout and settlement patterns to concerns about the use of land in sustainable communities. To be more precise, to the economic development and environmental planning of land as the strategic means to manage growth, expansion, conservation and protection in the production of distinct urban forms, layouts and settlements for sustainable communities.

As a form of land management, the economic development and environmental planning strategy the framework adopts for this purpose also has to be recognised as having its rationale firmly rooted in property and the economics of market exchange. For nowhere in the framework do the proposals for the development of the South East Wedge manage to transcend the market or its mechanisms for the allocation of uses to land. This is because in line with the conventions and traditions built up over the past decade under the policy of privatisation, resulting 'boosterism' of civic privatism and drive towards the all pervasive marketisation of management, the main point of concern lies not so much with the communicative or technical demands of an economic development cum environmental planning strategy, as with the accountability, value for money, economy, efficiency and effectiveness disclosures needed to fund expenditures on the servicing of infrastructures with abnormal costs under the particularly enterprising, highly competitive, growth, expansion, conservation and protection measures laid down for the South East Wedge [21-25].

As the City's 1995 Economic Strategy makes clear: the use of Edinburgh's strategic portfolio of property holdings and intervention in the market that has formed a mainstay of the land management strategy underlying the development sustainable communities in the South East Wedge. In 1994 a large area of land previously owned by British Coal was jointly purchased with Mid Lothian, ownership passing to 'Joint Venture Holdings' administered by a committee of representatives from the two authorities. The acquisition has allowed the authorities to transcend their statutory planning powers as regulations and enabled them to become stakeholders in the development. The transition to stakeholder was undertaken by taking a real property right to get around the vagaries of planning gain and yet drive the concept forward through what is termed the 'principle of land equalisation'. This principle is advanced to allow the development to go ahead in the spirit of a 'true partnership'. One that allows the owners of the land to participate in the uncertainties and risks of the development by agreeing to:

- use the release of development value from change of use from agricultural land to housing/commercial to pay for infrastructure costs significant infrastructure costs

including land stabilisation, roads, drains, servers, landscaping, recreation, schools etc.;
- the phasing of the development;
- the procedures to settle any disputes;
- assign a project management team.

Exactly how the principle of land equalisation should work is not clear - it is currently a point of dispute - however, what is clear is that the development partnership is in the 'spirit' of planning gain, using the development value released from the plan to fund infrastructure requirements for the urban design, layout and settlement pattern. As such it adopts the appraisal logic of Alonso (1967) and Denman (1972) in the sense it is assumed an identifiable market for the exchange of land exists and can be drawn upon as a means - in this instance - to support the economics of the property-led development (vis-a-vis economic development) and environmental planning strategy [26-27]. Unlike the theoretical position taken by the aforementioned, in the principle of land equalisation the practical realities of the residential and commercial property markets are draw attention to and made use of to distinguish the 'transfer earnings' relating to a change of use. Separated from development costs of the built forms and price of the construction product, the equalisation of the planning gain in the provision of communal infrastructure costs is seen to be non-inflationary and not to have any adverse impact on aggregate demand. As the Joint Venture agreement is with the land element, the equalisation of the planning gain is also not seen to have any adverse effects on supply and while it restricts the appropriation of value through land trading, this does not appear to be seen as a major hurdle to either the planning or development of the proposal.

What this type of appraisal does is to phase income in the form of capital receipts from land sales against outgoings in the form of infrastructure costs. The phasing is taken over a 20 year period and sub-divided into three time horizons: 1996-2003; 2004-2009 and 2010-2015. Adopting a discounted cash flow analysis in the form of a financial appraisal, the economic development and environmental planning is seen to produce a positive net present value and equivalent 11% internal rate of return when discounted at the opportunity cost of capital. It is the viability of this financial appraisal that forms the basis of the economic development and environmental planning strategy for the South East Wedge. Without it, it should not be possible to contemplate the technical consideration of urban design, layout and settlement pattern, or communicate them in a form that allows the economic development or environmental planning of sustainable communities in the South East Wedge to take place in line with the principles set out in the conceptual model.

8. PLAN-LED DEVELOPMENT AND THE ENVIRONMENT

As Glasson, Therival and Chadwick (1994), Ratcliffe and Stubbs (1996) and Goodchild's (1997) examination of the new settlement phenomena make clear, such development proposals are not new to planning [28-30]. As Glasson, Therival and Chadwick (1994) show, the review of structure plans in the late 1980's and 1990's has provided the opportunity for such new settlement developments to be put forward as the main growth management strategy. As the authors illustrate, between 1988-92 no less than 46 such development proposals had been submitted to planning authorities throughout the UK.

What their examinations show is that the majority of proposals allow for development of up to 3,000 dwellings. They also point out that by 1994 only 18 development proposals had been forwarded for consideration: as they show, out of these only 2 had been granted outline planning consent, with 16 being refused by the Secretary of State on appeal. Speculative submission by consortiums not supported by either structure or local plans failed to gain consent. The submissions in question being those of Stone Bassett, Oxfordshire and Foxley Wood, Hampshire. Successful submissions are those following Planning Policy Guidance Note 3 in the sense of being supported by structure and local plans, but as the figures suggests, this is not a guarantee of success.

What Glasson, Therival and Chadwell (1994) draw particular attention to is the less than clear, if somewhat ambiguous relationship the new planned development of settlements have to the environment. Under the 1988 Regulations for the Assessment of Environmental Effects, free standing new settlements do not fall in either Schedule 1 or 2 of the environmental impact assessment regulations. As they point out, it is an anomaly that has been made even more noticeable from rulings by the Secretary of State stating no such assessment of the impact such plan-led developments have upon the environment are required [31]. Indeed as they go on to point out, there is little evidence to suggest local planning authorities see the need for such environmental impact assessment, for most of them submitted to support new settlement developments are offered on a voluntary basis. After considering the examples of best practice in environmental impact assessment, such submissions provide, Glasson, Therival and Chadwell (1994) go on to consider the irony of the situation. The situation whereby planned developments of this kind can circumvent the need for environmental impact assessments. Following the authors' call for further research into the matter, Ratcliff and Stubbs (1996) draw attention to the more recent success of such development proposals.

Here attention is drawn to the 11 successful new settlement developments that have obtained planning permission without calls for environmental impact assessments or recourse to the Secretary of State. Ratcliff and Stubbs (1996) summarise the reason for the success of such proposals as follows:
- there is government support for the idea has been published in Planning Policy Guidance Notes;
- such proposals provide a comprehensive and co-ordinated way of accommodating new housing (with necessary infrastructure) and diverting pressure for 'cramming' away from existing urban areas or land with special value;
- they are also able to provide for social housing and other forms of planning gain within the new settlement, or its surrounding environment;
- it provides the potential to work with the planning system by promoting the principles of sustainable development.

The similarities between this summary and the position taken over the development of sustainable communities in the South East Wedge of Edinburgh are noticeable in the sense it follows policy guidelines, diverts pressure away from cramming, is seen to conserve and protect the environment and releases sufficient planning gain from the development to meet infrastructure costs. It also manages to do this in a way that stretches the proceeds of planning gain to meet the social housing requirements of those settlements adjoining the development in question. Assuming the four points Ratcliff and Stubbs (1996) draw attention to can be read as a progressive chronological development, it is possible to identify that while all new settlement proposals meet the first two criteria, what distinguishes the South East Wedge from the others is the emphasis placed on its relationship to surrounding settlements. As the conceptual model proposes, the development will provide for a planned integration of a run down urban settlement - a peripheral housing estate, with the expansion of existing settlements and the development of new communities. In the existing settlements the planled development is being used to promote urban regeneration. What it does is to release the 'planning gain' from the development to meet the objectives set out in the policy document: *New Life for Urban Scotland* [32].Here again, it is noticeable the emphasis is upon the economic development themes of urban regeneration, with employment opportunities, industrial growth, service sector promotion and the diversification of tenure in the social housing sector. The only reference to environmental planning comes through the proposed development of a strong landscape network, to conserve the heritage of the surrounding areas and to protect the natural beauty of the location by stopping the settlements from coalescing. Like the other developments it also

avoids the question of environmental impact assessment.

9. THE QUESTION OF ENVIRONMENTAL IMPACT ASSESSMENT

It is perhaps telling that Ratcliff and Stubbs (1996) do not dwell upon the question of environmental impact assessment and this is a matter picked up by Litchfield (1996)[33]. In this examination, Litchfield draws attention to the anomalies of environmental impact assessment and the need to integrate the economics of development planning with the environment. Litchfield (1996) suggests these anomalies have their origins in the 1985 European Union Directive and 1998 UK Regulations referred to earlier. Those supported by the Department of Environment (1988a, 91 and 94) and the Scottish Office (1994) in terms of guidance on the assessment of environmental impact. He suggests the 'terms of reference' for environmental impact assessment are not clear and ambiguous in the sense guidance available on the form of assessment procedure or content of this impact exercise are left open to interpretation [34-37]. For while it is acknowledged the form of impact assessment should contain and cut across the ecological, economic and social dimensions of the environment, differences between the utilitarian welfarism, social justice and deep ecology schools of sustainable development mean it is difficult to agree upon the content. The outcome of this as Litchfield (1996) points out, is unsatisfactory, resulting in a symbolic rather than real commitment to the principle of sustainability underlying the plan-led development of new settlements and their relationship to the environment. Others like Davoudi (1997) draw attention to the 'fact' that under such circumstances, plan-led experiments of this kind can be seen as highly stylised forms of economic development cum environmental planning strategies whose references to the principles of sustainability represent little more than image building exercises geared towards the promotion of places as 'green spaces', both economically efficient and environmentally friendly (also see, Davoudi, Healey and Hall,1997) [38-40]. Attempts in that sense, not so much to integrate economic development and environmental planning under the principles of sustainability as to market the attributes of new settlements taking the form of green spaces, which are both economically efficient and environmentally friendly.

10. SOME REFLECTIONS

Reflecting on Mazza and Rydin (1997) and Rydin's (1997) examinations, the source of such anomalies and confusion over what the economic development cum environmental planning strategy represents, can be seen to originate from the nature of the discourse over sustainability in the policy community of Edinburgh City[41-42]. As Rydin's (1997) examination suggests, in the City of Edinburgh it is the economic interests of business and heritage concerns of conservation groups in the centre that dominate the development planning agenda. This suggests the policy network is ill-informed as to environmental matters other than those concerning the built heritage and it is this centralisation of any communication under the theme of conservation that results in a rather informal political debate over sustainability in the city and search for a form of development planning which provides a technical fix to the problem of accommodating growth via a management strategy capable of balancing the demands for market driven economic development with the protectionism of environmental planning.

As Healey and Shaw (1994) and Healey (1995) also suggest, such a technical fix has the effect of turning attentions towards the early modern reformers in the development of planning thought: Howard, Geddes and Abercrombie in particular [43-44]. The problem with this is that the solutions this type of development planning produces tend to be deterministic, assuming rather than being able to demonstrate a knowledge of either the ecological, economic or social conditions giving rise to the publics concerns over the environment (also, see Rydin, 1997)[45]. What this does is reduce the question of sustainability to a set of assumptions adding up to little more than an aesthetic and matter of professional expertise over design, layout, settlement and landscape, rather than knowledge of the ecological, economic and social conditions underlying the planning and development of the environment. An aesthetic so strong that it is able to ignore the ecological aspects of the development and focus on the economic by exploiting the anomalies which exist at the judicial level of civil society about the form and content of environmental impact assessment. Having emptied out the ecological content of the exercise in this way, it is at this point the development planning supporting the interim framework for the planned development of sustainable communities in the South East Wedge, reduces the civic dimensions of environmental impact assessment to the economics of a land management strategy capable of allowing the market to accommodate the damands of growth, expansion, conservation and protection in a distinct form of urban design, layout and settlement pattern. It is also noticeable that in restricting the economic development and environmental strategy to the market, the framework also reduces the form of economics it takes to a question over the exchange of land and as a consequence is silent on the question of the built environment. This has the unfortunate effect of concentrating attention on the release of development value from the economics of the land management strategy and planning 'gain' resulting from the allocation of land into a distinct urban form, layout and settlement pattern, rather than the impact resulting from the engineering and construction of the buildings forming the sustainable communities in question. Nowhere does the examination transcend the market for land, or matter of planning gain. Neither does it manage to address questions about built forms, attempt to 'green' economic development, or make planning 'environmentally friendly' by either 'costing the earth', or 'valuing the environment', through impact assessments based on a full cost pricing mechanism, hedonic, or contingency style appraisal [46-47].

What the examination shows is that there is a fault line running through the structure of the policy towards sustainability in terms of both the communicative dimensions of the discourse between the economic development agencies and environmental planning organisations (shown in the lack of dialogue, open democratic debate, or consensus) and the technical expertise needed to operate such a form of planning and development. The weakness of the technical dimension being shown in how the plan-led development put forward draws upon innovations in the economics of the land market to strategically manage the competing demands from civil society for growth, expansion, conservation and protection and a new style of development planning able to accommodate them in a distinct form of urban design, layout and settlement pattern. One that in this instance has the effect of reducing the issues which surround the economic development and environmental planning of the South East Wedge to a management strategy whose main concern lies with the exchange of land and planning gain released by the market from the development.

The irony of the situation should not be lost, for while the actions taken have the outcome of reducing the policy of sustainability to an economic development and environmental planning strategy that adds up to little more than a an exercise in managing the exchange of land, it is this very process of marketisation which provides the means to not only adopt a sustainable policy, but the basis to operate it - if not in the form adopted by Edinburgh City for the South East Wedge. This is because unlike the approach taken in the economic development and environmental planning of the South East Wedge, an appropriate response to the demand for growth, expansion, conservation and protection, would require that it is not innovations in the economics of land management, but the ecological, economic and social content of the strategy which is the issue at the centre of the search for sustainable communities in the plan-led development of the South East Wedge and core to considerations being made by Edinburgh City about balancing the respective demands of civil society through forms of

urban design, layout and settlement pattern.

Without such considerations - and as the exercise goes some way to demonstrate- the ecological loses out to economic development, meaning that the concerns of civil society about the growth, conservation and protection of environmental planning do not firmly embedded themselves into the culture of the policy community. Rather than being seen as core to the search for sustainable communities in the South East Wedge, such concerns remain skewed towards the pro-growth, expansion-minded and conservation rhetoric of the economic development agenda lying at the centre. The knock-on effect of this being that the protectionist themes of environmental planning in the South East Wedge becomes 'peripherised' under a management strategy whose economics of land exchange means the balancing of growth, expansion, conservation and protection is reduced to an aesthetic under the professionalism and expertise of development planning. An aesthetic that surfaces in the form of questions about urban design, layout and settlement pattern.

If this situation is to be reversed it will be necessary to open up and democratise the policy community so as to allow the concerns of civil society about economic development and environmental planning to be fully represented. This would provide the opportunity for advocates of both the utilitarian welfare and social justice schools of sustainability to take a stronger position in steering the economic development and environmental planning strategy, moving it through the marketisation of land on route to the capital resources of the buildings also falling under the management remit. It would also provide the opportunity for the sustainable communities in the South East Wedge to green economic development and make planning environmentally friendly in the manner it seeks to meet civil society's concerns over how the demands for growth, expansion and conservation can be legitimately balanced with those of protection. This is because rather than trying to achieve this via aesthetic considerations about urban design, layout and settlement pattern, the focus of attention would shift to the question of how best development planning can meet these concerns through appropriate environmental impact assessments.

11. SOME COMMENTS ON THE SOUTH EAST WEDGE

If it can be accepted that there is a fault line running through the policy towards sustainable development and the weaknesses of both the communicative and technical dimensions to the economic development cum environmental planning strategy do tend to qualify the interim development framework's claims to provide an urban design, layout and settlement pattern for sustainable communities in the South East Wedge, it is necessary to identify the reasons for this so a more meaningful search for the development of sustainable communities can be undertaken. The following will do this by summarising the development project, its fault line, weaknesses and go on to make some suggestions on how to strengthen the policy commitment towards sustainability under the form of plan-led development and environmental planning in question. In this regard:

- the written statement representing the Lothian Structure Plan identifies the development of sustainable communities in the South East Wedge of Edinburgh as the mainstay of the growth management strategy for the city-region, balancing the competing demands of growth, expansion, conservation and protection through economic development and environmental planning. The reasons for this being fourfold: while promoting development in the green belt, the extensive areas of open land to the south east have a lower intrinsic landscape value and will avoid coalescence of settlements; the required public utilities exist in this location; the south east can accommodate the required transportation infrastructure and draw upon the potential public transport provides in the form of rail and bus corridors to minimise congestion: it would also assist the regeneration of adjoining communities. Crossing the boundaries of three local authorities, the new settlement development proposed for the South East Wedge is being promoted through a Joint Area Study;
- undertaken by Chesterton's the study reflects the principles of partnership shared by the various statements of Edinburgh's Economic and Environmental Strategies. The study marks a new style of economic development and environmental planning whereby the principles of sustainability are adopted to improve the relationship planled development has to the environment;
- modelling the urban character, design and layout in question, the study proposes the proposed new settlement should adopt the principles of sustainable development. The principles found in the Bruntland Report, the EC's *Green Paper on the Urban Environment* and the UK's *Common Inheritance*. Given this adoption of EC and UK policy on sustainable development represents a contestable area of planning, it is necessary to identify the degree of commitment for the principles of sustainability in Edinburgh by examining the policy community and network of communication in place to operate the instruments guiding the growth, expansion, conservation and protectionism through the plan-led development in question;
- evidence exists to suggest there is a fault line running through the structure of the sustainable development policy in Edinburgh, with the policy agenda dominated by economic development agencies rather than environmental organisations and little in terms of dialogue between them. This lack of communication, overlap or common ground between them results in the policy of sustainable development being reduced to a technical fix whereby the ecological, economic and social content of the interim framework adds up to little more than a set of aesthetic considerations about urban design, layout and settlement pattern as opposed to the environmental planning required to balance the competing demands of growth, expansion, conservation and protection;
- what this does is reduce the question of economic development and environmental planning strategy surrounding the matter of distinctive urban forms, design, layout and settlement patterns to concerns about the use of land in sustainable communities. To be more precise, to the economic development and environmental planning of land as the strategic means to balance growth, expansion, conservation and protection in the production of distinct urban forms, layouts and settlements for sustainable communities. As a form of land management, the economic development and environmental planning strategy the framework adopts for this purpose also has to be recognised as having its rationale firmly rooted in the market. For nowhere in the framework do the proposals for the development of the South East Wedge manage to transcend the market or its mechanisms for the allocation of uses to land. This is because in line with the conventions and traditions built up over the past decade under the policy of privatisation, boosterism of civic privatism and drive towards the all pervasive marketisation of management, the main point of concern lies not so much with the communicative or technical demands of an economic development cum environmental planning strategy, as with the supplementary question of accountability, value for money, economy, efficiency and effectiveness disclosures of a highly competitive, pro-growth, expansion-minded economic development logic. This having the effect of focusing attention on the conservation of built heritage in the centre and raising questions about land management as the strategic means to support the transition towards forms of environmental planning able to protect the environment at the periphery;
- while the emphasis of the land management strategy is upon the 'true' partnership through the strategic acquisition of land and exchange of it under a form of 'equalisation', the South East Wedge shares a number of similarities with other planled development proposals. Its tactic has been to learn from the experiences of the

previous experiments in terms of economic development, but follow them in the form of environmental planning in the sense of not underpinning the economic development of the proposal with an environmental impact assessment. Unlike the situation in Lancashire, the economic development of the Lothian structure Plan is not supported with an environmental audit and the consortium promoting the development which the City is part of has not undertaken any such study or made any statements of this kind. The possibility arises for this to be left to the local plans soon to be formalised. There are of course, two points to make in this regard. Glasson, Therival and Chadwell (1994) and Litchfield (1997) argue such impact assessments i.e. environmental considerations should be met at the design not engineering or construction phase and the development framework is of such magnitude it crosses a number of local boundaries in the form of a Joint Area Study and would therefore be difficult to manage at such a level;

- putting this aside, the question is about the form such an assessment should take and what ecological, economic and social content it ought to include;
- clarification of the content requires to be provided if the policy commitment to sustainability is to be restructured and in that sense made stronger by providing the communicative means to balance the respective environmental concerns with the economic, thereby supplementing the technical assumptions about the balancing of competing demands for growth, expansion, conservation and protection, with a knowledge of the ecological, economic and social content of the planning and development underlying the urban design, layout and settlement pattern of the South East Wedge;
- to achieve this the land management strategy's concern with accountability via value for money tests, economy, efficiency and effectiveness assessments supporting the matter of planning gain will have to transcend the market for land. This is because it is clear that the discounting mechanism the framework draws upon for the appraisal of development land is too simplistic in the manner it echoes the logic of Alonso (1967) and Denman (1972). In its current form it fails to give due recognition to the uncertainty and risk which underlies the development, is deterministic as opposed to probabilistic and as a consequence is not duly sensitive to the contingencies it faces [48-49]. The fact it also reduces the appraisal to a measurement of receipts from land sales means that it only captures about 20-30% of the capital expenditure in question and little, if any of the subsequent revenue commitments. Perhaps of greater significance though is the fact that such an appraisal restricts the measurement of income to capital receipts from land sales, relative to expenditure on the servicing sites, rather than capital costs and revenues from the engineering and construction of built structures forming the bulk of the development [50-51]. In negating the possibility of adopting 'net annual return' welfare improvement models for the development of land and buildings, it undermines the ability to not only measure the rate of return on capital investment from the economic development in question - a contradiction in itself - but more importantly, stops the exercise from passing through the stage of image building and place promotion on route to the measurement of gains/loses both the utilitarian welfare and social justice schools of sustainable development propose environmental planning should adopt as the assessment standard [52].

Examining the response to these weaknesses in the policy towards sustainable development, it is evident little progress has been made in trying to resolve the technical difficulties over the land equalisation question. Instead attention has turned to communicative questions of consultation, open democratic debate and consensus building over the

ecological, economic and social content of the framework for the development of sustainable communities in the South East Wedge. Such debate should be seen as an attempt to formalise the politics of commitment towards sustainable development in civil society and put together an economic development and environmental planning strategy that is able to manage the competing demands of growth, expansion, conservation and protection in a manner which avoids it becoming a technical fix with 'end of pipe' solutions put forward as little more than an aesthetic by professional experts responsible for the design, layout and pattern of settlement.

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HOUSING PRIVATISATION IN THE BALTIC STATES

J. KURSIS, Department of Housing Development & Management, Lund University, Box 118, SE 221 00 Lund, Sweden.
Fax: +46 46 222 3182, E-mail: janis.kursis@hdm.lth.se

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ABSTRACT: This paper investigates the legal frameworks, institutions and processes in housing privatisation in the Baltic States. Restoration of confiscated property, selling of publicly owned dwellings, establishment of apartment owners associations and the development of a real estate market are some of the processes examined. The main obstacles identified are: conflicts of interest in privatising land and a lack of incentives for apartment owners to take over responsibilities for housing management. The report recommends development of public support to housing finance, the establishment of apartment owners associations, reorganisation of the municipal housing companies and reestablishment of a publicly owned and managed housing stock.

1. INTRODUCTION

The word privatisation is usually used for the process aiming to transfer publicly owned property and means of production to private owners as well as for the process of transferring the publicly run service and commodity production to private operators. The use of the word is fairly recent. The reverse processes have dominated most of the period after the Second World War, not only in Eastern Europe but also in the industrialised West.

The dogma of reducing the state's commitment in owning and managing property, production and business is pragmatic as well as ideological. The pragmatic idea is based on the firm conviction that private owners are more efficient property managers. The most usual pragmatic reason for privatisation seems to be that central and local governments want to get rid of hard manageable property or quite simply need money. The ideological idea of privatisation is the redistribution of the state's accumulated wealth to the people who participated in the creation of it. These ideas contain dimensions of equity and justice with far-reaching consequences when set into practice. Careful considerations should be made, to avoid social unrest, dissatisfaction and the cost of enforcing law and order, about which objects and subjects will be submitted to privatisation and which procedures will be set up for the implementation.

Housing privatisation is a central part of the transition in Central and Eastern Europe from centrally governed to market oriented economies. Private property rights and trade with real property are fundamental parts of market economy. The success of the transition therefore depends on the efficiency of the privatisation programmes. While few people are involved in the privatisation of enterprises, the current mass privatisation of housing concerns everyone. New laws, new institutions and new processes replace the old ones in such a speed that few people take in the whole situation. Many of the steps taken in the direction of privatisation are not well considered and often result in unforeseen effects. New rules and poor information make it difficult for people to follow what is happening and act accordingly.

There is a clear lack of collected, detailed, current information about housing privatisation in the Baltic States. Not even the authorities responsible for monitoring the process conduct systematic and continuous evaluations. The actors in the Baltic countries appear to be more interested in learning about housing developments in Western Europe than among their closest neighbours, although there

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Conference Announcements

The International Conference on Ecobalance and LCA (http://www.igidr.ac.in/lca)

Date: February, 13-15, 2002
Venue: Indira Gandhi Institute of Development Research (IGIDR), Gen. Vaidya Marg, Goregaon (East), Mumbai-400065, India

The Conference is sponsored by: Ministry of Environment and Forests, Government of India • Asian Productivity Organisation, Tokyo • Industrial Development Bank of India

Introduction: The objective of this workshop is to communicate the LCA concept and capacity building in India. The workshop is intended to be a forum for the close interaction of International and National researchers. Various sessions are planned for presentations on theoretical aspects and practical applications of LCA in different countries.

Topics: The Conference will cover Concepts, Methodology and Case Studies on LCA for products and processes in various ecosystems. Some major areas to be addressed are Urban Ecosystems (including management), Solid Waste Management (inlcuding trade of waste), Air and Water Pollution, Marine Ecosystems (mangroves, in particular), GHGs (CO_2 and CH_4 in particular), Forest and Biodiversity, Rural Development, Agriculture (including pesticides, insecticides, chemical fertilizers, biotechnology and vermiculture), Power (both conventional and non-coventional), Mines and Minerals, etc.

Conference Schedule

Deadline for Registration and Submission of Abstracts: November 16, 2001
(registration form and abstract submission form can be downloaded from the web site)

Call for Papers and Participation:
Those who want to present their research work should submit a one-page abstract and the full manuscript

Submission of Full Papers: December 17, 2001

Fees: The completed application form with the registration fee of Rs. 1000/- (for Indian Participants), Rs. 500 for Indian students and small NGOs, and US $ 100 (for International Participants) should be submitted on or before November 16, 2001. The fees include conference material, morning and evening tea, lunch and accomodation at IGIDR guest house. The fee should be paid in the form of Demand Draft Payable at Mumbai to 'Indira Gandhi Institute of Development Research, Mumbai'.

Expected output: The proceedings of the conference (presented papers, discussions and conclusions are included) will be published in the Internet Journal 'Gate to EHS (Environmental and Health Science)', Section 'Life Cycle Management' (edited by Walter Klöpffer) and peer-reviewed abstracts in 'The International Journal of Life Cycle Assessment'.

Contact: Vinod K. Sharma, Indira Gandhi Institute of Development Research, Gen. Vaidya Marg, Goregaon (East), Mumbai 400 065, India
T (91-22) 840 0919/20/21 / 8405653; F (91-22) 840 2752 / 840 5653; Email: vks@igidr.ac.in

Commentaries

BEQUEST: The Framework and Directory of Assessment Methods

Mark Deakin[1], Steve Curwell[2] and Patrizia Lombardi[3]

[1] School of the Built Environment, Napier University, Scotland
[2] School of Construction and Property Management, University of Salford, England
[3] Casa-Città Department, Polytechnic of Turin, Italy

Corresponding author: Mark Deakin; e-mail: M.Deakin@napier.ac.uk

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Introduction

This paper documents the interim findings of the BEQUEST (Building Environmental Quality Evaluation for Sustainability) network and the project's investigation of sustainable urban development. The network has its origins in an international conference: 'The Environmental Impact of Buildings and Cities', held in Florence in 1995 (Brandon et al. 1997). More recently the network has been supported with funding from the Research Directorate of the EU Framework 4 Programme. The project sets out to develop a common language and approach to Sustainable Urban Development (SUD) and aims to produce a framework, directory of assessment methods and set of procurement protocols for such purposes. The said framework, directory of assessment methods and procurement protocols, are currently in the process of being linked together in the form of a tool-kit. It is anticipated this instrument will be of particular use for those advising on the sustainability of urban development, taking decisions about the city of tomorrow and its cultural heritage. Collectively these deliverables are aimed at building environmental capacity, qualifying and evaluating the sustainability of urban development.

Reporting on the BEQUEST project and its methodology, the paper outlines the interim findings of work carried out on two of the project objectives: the framework for a common understanding of sustainable development (its foregrounding of the urban question) and the movement towards a directory of methods able to assess the sustainability of urban development in particular.

1 The BEQUEST Project and Methodology

Although BEQUEST is a Framework 4 project, it addresses Action 4 of the EU Environment and Climate Programme appearing in Framework 5. The aims and objectives of the BEQUEST project relate to Section 4.1 of the said Action (City of Tomorrow and Cultural Heritage). The project is also relevant to Section 4.3 and the paragraphs referring to sustainable development, resource conservation and environmental protection. In terms of the EU's document: 'Sustainable Urban Development: A Framework for Action' (CEU 1998), the project also raises awareness of SUD. This is done by exploring ways of utilising communication and information technology to exchange experiences in framing the relevant issues and assessing the effect resource conservation and environmental protection has upon the city of tomorrow and its cultural heritage.

The 1992 E.C. Programme of policy and action, clearly identifies the need to study sustainable development as a priority, particularly in terms of reconciling the conflicting demands of urban growth, with those of resource conservation and environmental protection. The BEQUEST concerted action project aims to lay the foundations for a common understanding of sustainable urban development through a multi-disciplinary network of contributions from the scientific and professional communities. The research method adopted by the Concerted Action Programme, provides a structured process of interaction between the wide range of interests involved in the process of urban development (i.e. the planning, provision, use and maintenance of the built environment as a form of human settlement). Mature deliberation, debate and evolution are key elements of the project and develop through an iterative learning cycle of workshops, reflection and action.

The project partners, known as the Intranet, act as the mentors and facilitators of this process. Extranet members participate in the project though the workshops and by means of follow-up comments on information papers. Using communication systems, including a web page, the workshops provide the project partners and extranet members with the information technology needed for the networked community to debate sustainable urban development and enter into a dialogue about both resource conservation and environmental protection. Together the intranet and extranet represent the virtual organisation responsible for building the environmental capacity needed to qualify whether the city of tomorrow is able to carry its cultural heritage and evaluate if the forms of human settlement resulting from this process of urban development are sustainable. There are 14 partners in the BEQUEST EU project and over 130 extranet members in the networked community. To date 6 international workshops have been held (Milton Keynes, Amsterdam, Turin, Helsinki,

Florence, Vienna) and further details of this work, together with the associated information papers, can be found at the following web-site address: http://www.surveying.salford.ac.uk/bq/extra. The web-site also provides an outline of the project, the partners and extranet members.

2 A Framework for a Common Understanding

As any standard textbook on environmental issues points out, what sustainable development means is difficult to define. The first commonly accepted meaning of the term was that offered by the Brundtland Report, which defines it as: "...development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987: 43). Subsequently the U.N. 'Earth Summit' held in Rio in 1992 developed a wider concept known as Agenda 21 and represented in shorthand form as Fig. 1 (Mitchell et. al. 1995, as developed by Cooper 1997). This focuses on a four-sided definition of sustainable development. Here attention is drawn to the concern about the quality of the environment, the equity of resource consumption, as well as the participation of the public in decisions taken about the future of the urban development process, the city of tomorrow and its cultural heritage.

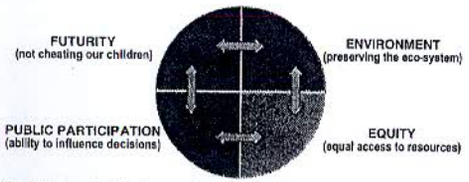

Fig. 1: The underlying issues of sustainable development (Source: Adapted from Cooper 1997)

It is this four-fold (environment, equity, participation and futurity) representation of sustainable development that the BEQUEST project has adopted. Following the issue of 'human settlement' appearing in the Brundtland Report, Agenda 21 and the UN Habitat Conference in 1996, the project has sought to draw upon these definitions as a means of moving the EU towards a framework for a common understanding of sustainable development. In Europe, human settlement is pre-dominantly urban in form (two thirds of EU citizens live in towns or cities) and as a consequence, questions about sustainable development relate to matters concerning the future of the urban development process. In particular they are matters that relate to questions about urban development, the city of tomorrow and its cultural heritage. They are questions about how to build the capacity needed to not only conserve resources and protect the environment, but qualify and evaluate whether such action is equitable and dealt with in an manner which fosters public participation in decisions taken over the future of urban development.

3 Fore-grounding the Urban Question

Drawing upon recent research findings, the project has sought to identify the common issues underlying this growing interest in sustainable development and structure them in such a way as to provide a framework for analysis (Nijkamp 1991, Mitchell et al. 1995, Mega 1996, Miltin and Satterhwaite 1996, Pugh 1996).This has been done by first adopting the Mitchell et. al (1995) definition of sustainable development, 'mapping out' the 'fuzzy buzzwords' (Palmer et al. 1997) and by then modifying it to include the issues underlying the process of urbanisation. The sustainable development issues underlying the urban process, are those drawn attention to by the EC and other organisations listed above. This modification has required the following:

- fore-grounding the question of urban development (Nijkamp 1991) and representing the process of urbanisation as a life cycle of inter-related activities;
- agreeing the sustainable development issues (Mega 1996, Miltin and Satterhwaite 1996) underlying the urban process;
- identifying the environmental, economic and social structure, spatial level and time scales of sustainable urban development (Pugh 1996).

In fore-grounding the urban question the project has sub-divided the development process by division of labour in the scientific and professional communities. The division of labour is question is that of urban development: planning, design, construction and operation (use, demolition and recycling). Representing the process of urbanisation as a life cycle of inter-related activities, the sustainable development issues that surface concern the environmental, economic and social structure, spatial level and time scales of SUD. The spatial level of analysis identifies the impact urban development has upon the built environment. This illustrates that the environmental impact can be at the city, district, neighbourhood, estate, building and component and material level. The consideration of time-scales also shows that the said impact can be short, medium and long-term in nature.

4 Towards a Directory of Environmental Assessment Methods

While the aforesaid provides a framework for analysis, it does not address the question of how decision makers can reverse the current trend of resource depletion, conserve resources and protect the environment? That is build – through resource conservation measures – the environmental capacity needed to ensure the city of tomorrow is able to carry its cultural heritage and develop forms of human settlement which are sustainable. To achieve this it is necessary to: (a) assess whether the environmental capacity (ecological integrity, equity, participation and futurity) required for the city of tomorrow to carry its cultural heritage currently exists and; (b) qualify and evaluate if the forms of human settlement which develop are sustainable. This raises the question of what assessment methods are currently available for such purposes and how they can, either on their own, or in combination with others, be drawn upon to build environmental capacity. That is build the environmental capacity needed for the city of tomorrow to not only carry its cultural heritage, but both qualify and evaluate if the forms of human settlement which develop from the process of urban development are sustainable?

In addressing this question, the networked community has agreed the sustainable development issues underlying the process of urbanisation. These have been defined in terms of their environmental, economic, social and institutional components. Here environmental issues take on the form of considerations about how the process of urbanisation consumes natural resources, whether it produces emission that pollute the atmosphere and the effect development has upon the bio-diversity of habitats. Economic considerations relate to questions about the financing of the infrastructures, transport and utilities required for the built environment to accommodate urban growth and the employment of resources associated with this development process. The social issues concern matters about access to such services, the safety and security of cities, human health and well-being cultural heritage provides (Fig. 2). The institutional issues refer to the governance, justice and ethics of settlement patterns subject to urban development.

The reason why sustainable development issues, their spatial levels and time scales raise questions about environmental assessment is of particular significance. This is because many of the assessment methods currently in existence are pre-Brundtland and in their present form do not adequately address the questions of, resource conservation, environmental capacity, or sustainable development. Many of the assessment methods currently in existence can be traced back to cost benefit analysis and the critique of the discounting principle this technique of analysis is based upon (Pearce and Markauya 1989, Pearce and Turner 1990, Norgaard and Howarth 1991, Rydin 1992, Deakin 1996, 97, 99). Their development can also be linked to the emergence of hedonic and non-market techniques of analysis as alternative forms of assessment. Techniques of analysis such as the contingent value and travel cost methods of environmental assessment (Miltin and Satterhwaite 1996, Brooks et al. 1997, Powell et al. 1997).

Since the Brundtland Report, the science of environmental assessment has been placed under investigation by the green movement and critical distinctions have been drawn between eco and anthropocentric techniques of analysis (Rees 1992, Pearce and Warford 1993). The former incorporating the ecological systems making up the environment which the anthropology of human settlement (in all its economic, social and institutional forms) is understood to depend. This is because since the Rio Earth Summit, attention has turned to the concept of 'ecological footprint' (Kozlowski and Hill 1993) and the anthropology of human settlements (Brehney 1992a, 1992b, Brehney and Rookwood 1993, Brehney, et. al. 1993, Brehney 1995, Selman 1996). This in turn has led to the development of environmental assessment methods that assess whether the environmental capacity (ecological-integrity, equity, participation and futurity) required for the city of tomorrow to carry its cultural heritage currently exists. Methods that also in turn provide the means to both qualify and evaluate if the forms of human settlement which develop are sustainable (Brandon et al. 1997).

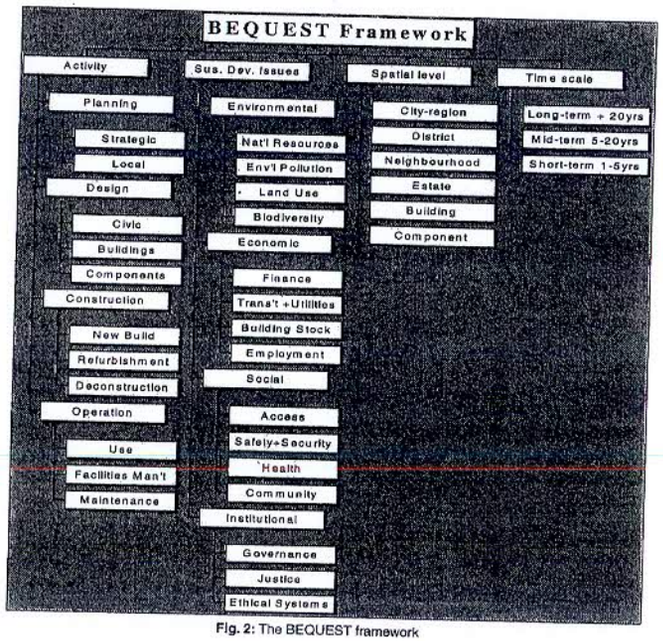

Fig. 2: The BEQUEST framework

Recent surveys of environmental assessment examine how the methods are currently being used. The examinations in question provide:

- reviews of how assessment methods are being drawn upon to promote sustainable development through resource conservation and environmental protection policies (Thrivel 1992, Glasson et al. 1994, Jowsey and Kellnet 1996, Lichfield 1996);
- evaluations of the impact that major infrastructure and building installation projects have upon resource conservation, environmental protection and the sustainable development of cities (Guy and Marvin 1997, Marvin and Guy 1997, Brandon et al. 1997);
- meta-analysis' of the potential that assessment methods have to conserve resources, build environmental capacity, support the city of tomorrow and its cultural heritage in forms of human settlement which are sustainable (Bergh et al. 1997, Nijkamp and Pepping 1998).

Such surveys illustrate the gaps that currently exist between the inter-related activities of the urban life cycle the assessment methods cover and the sustainable development issues which the techniques of analysis address (Cooper 1997). An example of this can be found in the different techniques used in the Environmental Impact Assessment (EIA) of larger urban development projects (i.e. infrastructure projects) and those drawn upon to assess individual building installations (Cooper and Curwell 1998). The surveys also reveal that scientific opinion about the potential of environmental assessment is currently divided. Firstly, there are those who are of the opinion environmental assessment methods can be used to promote sustainable development (Brandon et al. 1997, Bergh 1997, Nijkamp and Pepping 1998). Secondly, there are others who are of the opinion the all-pervasive marketisation, privatisation of the environment, resultant risk and uncertainty surrounding the nature of common goods, means the assessment methods currently available (for example, cost benefit analysis, the hedonic and non-market techniques of analysis) are no longer appropriate. As a consequence, this group tend to question whether the techniques of analysis currently available are appropriate for an assessment of SUD (Guy and Marvin 1997). This division of opinion is important for two reasons. Firstly, because it illustrates the scientific community is divided about both the quality and value of assessment methods. Secondly, the division of opinion tends to undermine the certainty the professional community needs to be confident not only about the quality and value of such assessments, but their overall worth as techniques of analysis (Pugh 1996, Cooper 1997, 99).

The position BEQUEST has taken on the matter tends to align with the first opinion. This is because the networked community is of the opinion environmental assessment methods can be used to promote sustainable urban development and that the uncertainty and risk surrounding the process of privatisation represents a particular, but not insurmountable challenge for the scientific community. The networked community is of the opinion that the source of such division lies in the absence of appropriate frameworks and the less than systematic approach which has previously been taken towards the inter-related activities of the urban life cycle, sustainable development issues, spatial levels and time scales BEQUEST draw attention to (Curwell et al. 1998, Cooper and Curwell 1998). The assessment methodology the networked community adopts is based upon an understanding that the growing international and increasingly global nature of the relationship between the environment and economy is uncertain, resulting in as yet incalculable degrees of risk associated with EC Environment and Climate policy and any actions taken by member states about resource conservation. This in turn means that standard methods are of limited help in building environmental capacity because such exercises increasingly require the use of non-standard assessment (hedonic and contingency type) methods (Powell, Pearce and Craighill 1997).

Perhaps most critically though, the networked community is of the opinion that the point of departure for any such assessment is a critique of natural capital as an index of sustainable development and the formulation of what is termed a 'co-evolutionary approach' to assessment (Facheaux et al. 1996, O'Conner 1998, Facheaux and O'Conner 1998). This is because such an approach proposes that the environmental, economic and social are complementary. Not just in the way conservation can reduce resource depletion and build the environmental capacity needed for the city of tomorrow to carry its cultural heritage, but develop forms of human settlement which are sustainable. Which are sustainable in terms of the quality of life they offer.

It should perhaps also be noted that this concern with the quality of life is significant because it shifts attention to the environment in terms of ecosystem integrity (carrying capacity, degradation, waste, pollution etc.) and the scientific basis of such evaluations. What such studies do is turn attention towards the ecology of energy consumption and the laws of thermo-dynamics. The advantage of this lies in the opportunity such a form of assessment offers to apply the so-called 'hard' certainties of bio-physical science to the more uncertain, risky social relations connected with sustainable development (Facheaux and O'Conner 1998). This is done by emphasising the bio-physical and social in a co-evolutionary approach to the hard and soft issues of sustainable urban development (Fusco et al. 1997, Capello et al. 1999).

5 The Post-Brundtland Directory

In response to this, the partners of BEQUEST have sought to survey the methods currently in existence and provide the networked community with a post-Brundtland directory of environmental assessment. The methods surveyed are classified in terms of the following:

- name
- description
- data required
- status (well established, or experimental)
- activity (planning, design, construction and operation)
- environmental and social issues (environmental, economic, social and institutional)
- scale of assessment (spatial level and time scale)
- references

So far, the survey has identified that 59 such methods are available to conserve resources and build environmental capacity. It has also identified the said methods have been applied to the planning, design, construction and operational activities of the urban life cycle and used to analyse the sustainability issues this raises at the various scales of assessment.

The directory can be accessed via the web-site address referred to earlier in the paper. The web-site provides a copy of each standard classification and in a number of cases offers hyper-text links to the case-studies they have been drawn from. This provides the opportunity for the reader to explore the implications of applying the method in further detail and satisfying themselves as to whether the technique is appropriate for the assessment under consideration. The list of methods are drawn from a survey of the scientific literature and unpublished reports written by professional members of the community. In certain cases they represent assessment methods the partner and extranet members of BEQUEST have been engaged in developing or have a detailed knowledge of. A full list of the environmental assessment methods can be found in **Appendix 1:** List of Environmental Assessment Methods.

6 The Assessment Methods

The assessment methods fall into two classes: 'environmental in general' and those augmenting into particular forms of 'life cycle assessments'. The environment in general tend to focus on assessments of eco-system integrity. Those augmenting into particular forms of life cycle assessment, tend to focus on building the environmental capacity needed to not only qualify the integrity of eco-systems, but evaluate the equity, participation and futurity of the economic, social and institutional issues underlying the city of tomorrow and its cultural heritage. That is qualify and evaluate if the forms of human settlements which develop are sustainable.

Examples of the 'environment in general' class include: cost-benefit analysis, hedonic analysis and multi-criteria analysis. The forms of life cycle assessment have been sub-classified as 'environmental appraisal' (simple base-line qualifications) and 'environmental impact assessments' (complex and advanced evaluations). The forms of environmental appraisal include: the production of a compatibility matrix, the use of eco-profiling measures and environmental auditing techniques (simple-base line appraisals). The environmental impact assessments include: project, strategic, economic, social and community evaluations BEES, BREEAM, Eco-points and the Green Building Challenge (complex). It also includes, the MASTER Framework, the Pentagon model, the Quantifiable City model, SPARTACUS, the Sustainable City model, sustainable region, sustainable community and Transit-oriented settlement models, as advanced forms of environmental assessment. Examples of these two classifications are set out in **Table 1.**

In terms of the general and particular classification, the assessment methods tend to further sub-divide into the following types:

- methods supporting the post-Brundtland commitment to sustainable development in terms of the policies adopted by the EU and its member states (Bentivenga 1997, Davoudi 1997, Therivel 1998);

Table 1: Environmental assessment methods (Source: See Appendix 1)

Environment in General	Forms of Life Cycle Assessment	
	Environmental Appraisal	EIA
Contingent Valuation	Compatibility matrix	Project
Cost benefit analysis	Eco-profiling	Strategic
Hedonic analysis	Ecological footprint	• economic
Multi-criteria analysis	Environmental auditing	• social
Travel cost theory	Flag method	Community evaluation
	Spider analysis	ASSIPAC
		BEES
		BREEAM
		Eco-points
		Green Building Challenge
		MASTER Framework
		Meta-analysis (Pentagon method)
		NAR model
		Quantitative City model
		Regime analysis
		SPARTACUS
		Sustainable City model
		Sustain. communities
		Sustainable regions
		Transit-oriented settlement

- those centring on the assessments of projects providing the infrastructures (energy, water and drainage, transport, tele-communication technologies, leisure and tourism) required to build the environmental capacity (ecological integrity, equity, participation and futurity) needed for the city of tomorrow to carry its cultural heritage (Banister and Burton 1993, Nijkamp and Pepping 1994, Graham and Marvin 1996, William et al. 1996, Nijkamp et al. 1997, Guy and Marvin 1997a, b, Jones et al. 1996, Allwinkle and Speed 1997);
- those assessment methods focussing on the procurement and installation of operations, qualification and evaluation of whether the forms of human settlement which it builds are sustainable (Prior 1993, Vale and Vale 1993, Cole 1997, Curwell et al. 1999, Deakin 1999).

7 Building Environmental Capacity

The survey of the assessment methods currently being used to conserve resources and build environmental capacity, is drawn from those assessment methods listed in **Appendix 1**. It represents the classification of each method by inter-related activities of the urban life cycle, sustainable development issues, spatial level and time scale. The urban life cycle, sustainable development issues, spatial level and time scale to which both classes of assessment methods (environment in general and forms of life cycle assessment) are applied with the object of building environmental capacity.

Fig. 3 maps the methods by the inter-related activities (planning, design, construction and operation) of the urban life cycle, sustainable development issues, spatial level and time scale of assessment. It illustrates the strength of representation spread across the range of activities making up the aforesaid. In this aggregated form, the survey provides evidence to suggest a wide range of methods exist to assess the environmental capacity of all the activities (planning, design, construction and operational activities) making up the urban life cycle, sustainable development issues, spatial level and time scales. The purpose of mapping the assessment methods by such co-ordinates is fourfold. First, it illustrates the range and spread of methods currently available. Secondly, it provides the means to identify how the assessment methods are being used. Thirdly, it identifies the strength of representation by sustainable development issue, spatial level and time scale. Fourthly, it draws attention to the gaps that exist in the range and spread of methods needed to provide a comprehensive assessment of environmental capacity. It also provides the opportunity to direct further research aimed at developing the methodology (science, theory and practice) of environmental assessment.

What the mapping exercise suggests is that the scientific and professional communities are drawing on assessment methods to build environmental capacity. It provides evidence to suggest that assessment methods are being used to build environmental capacity (ecological integrity, equity, participation and futurity) in the policy planning, infrastructure

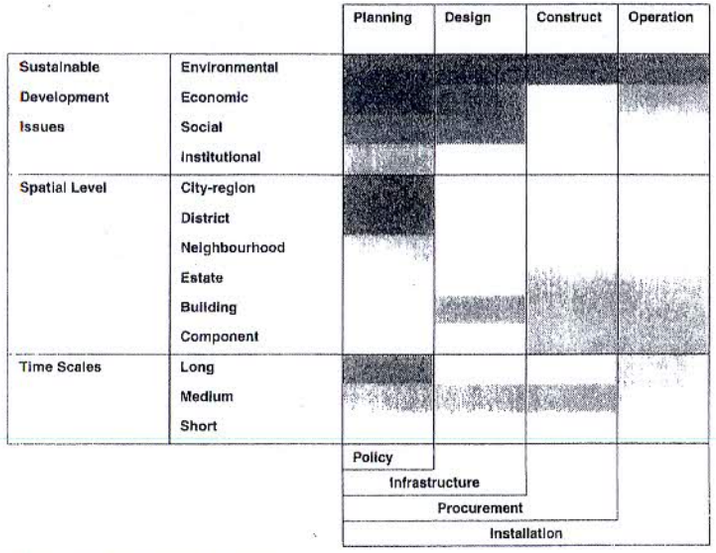

Fig. 3: Assessment methods (Source: Mapping of Appendix 1)
Note: the shading is indicative of the 'intensity scores', or 'frequency' by which the assessment methods address the sustainable urban development issues in question.

design, construction procurement and operation of installations. It also illustrates that it is the urban life cycle, sustainable development issues, spatial levels and time scales of the planning policy and infrastructure design activities, which are the most strongly represented forms of assessment. This is because the other forms of assessment (construction and operation) are not as well covered in terms of sustainable development issues, spatial level, or time scale (see Fig. 3). This suggest that the gaps which exist in the range and spread of methods needed to provide a comprehensive assessment are located here in the construction and operation stages of the urban life cycle, their particular sustainable development issues, spatial levels and time scales.

It should be noted that Fig. 3 does not map how the assessment methods represent the ecological integrity, equity, participation and futurity issues underlying the sustainability issues of the urban development process. To be explicit about this further analysis will need to be carried out. These will need to extend the analysis beyond the matrix-based mapping set out in Fig. 3 and introduce a more comprehensive grid referencing system. One that can map, not only the urban development process in terms of its life cycle, sustainability, spatial levels and temporal scale, but cross-reference them with the ecological integrity, equity, participation and futurity components of the assessment methods in a form of 'frontier analysis'.

What follows will limit its observations to the mapping exercise of Fig. 3 and discuss what it tells us about the attempts being made to build environmental capacity. In particular, it is proposed that Fig. 3 provides evidence to suggest:

1. A number of methods exist to assess the post-Brundtland commitment towards sustainable development and these include the use of:
   - Cost benefit analysis, contingent valuation, travel cost, hedonic and multi-criteria analysis, to assess the environmental value of urban development proposals;
   - simple base-line methods drawn upon to assess the integrity of eco-systems and ensure the economic, social and institutional issues underlying the process of urbanisation are consistent with policy commitments towards sustainable development.
     Examples of such methods appear under the title of 'environmental appraisal' and include: the use of compatibility, eco-profiling and ecological foot-printing exercises. They also include the use of environmental auditing techniques, the flag method and a spider analysis exercise.
   - the use of more complex methods to assess whether infrastructure projects (servicing energy, water and drainage, transport, tele-communication technologies, leisure and tourism services), build the environmental capacity (in this instance ecological integrity) that is needed for the city of tomorrow to carry its cultural heritage in forms of human settlement which are economically efficient in the way they accommodate growth, encourage competitiveness and the social cohesion of institutions.
     Examples of such methods appear under the heading of EIA and include project, strategic, economic, social and community evaluations.
   - the development of complex methods that assess the environmental capacity of building installations, qualify and evaluate whether the forms of human settlement which they provide are sustainable.
     These evaluations include BREEAM, Eco-points, the Green Building Challenge, the NAR (net annual return) model of environmental impact assessment.
   - the emergence of advanced methods which assess (at the level of policy and infrastructure projects) the ecological integrity and equity of the alternative urban development paths it is possible for the public to participate in. Participate in, that is, as those pathways most able to build the environmental capacity, economic and social structures needed for the city of tomorrow to carry its cultural heritage. Participate in and select, it ought to be added, as those forms of human settlement whose future is seen to be sustainable due to the quality of life which such evaluations institute.
     These methods include ASSIPAC, the MASTER Framework, the Pentagon model, the Quantitative City model, SPARTACUS, the Sustainable City, sustainable region, sustainable community and Transit-orientated settlement models.
2. The methods are used in a specific or more general capacity. That is as a means to assess the environmental capacity of a specific stage of the urban development process i.e. policy planning, or in the more general capacity. In, for example, the more general capacity of qualifying and evaluating whether the planning and design of the city of tomorrow, its cultural heritage and forms of human settlement are sustainable (Birtles 1997, Cooper 1997, 99).
3. The use of the methods illustrates the growing inter-disciplinary nature of the assessment exercise, providing evidence of assessment methods being used to assess the following:
   - the policy planning and infrastructure design of the urban development process;
   - the infrastructure design, procurement of construction and operation of installations making up the city of tomorrow and its cultural heritage.

   Irrespective of whether the methods in question are applied to policy planning, infrastructure design, procurement of construction, or the installation of operations, the object of the 'environment in general class' is to assess the environmental capacity (in this instance ecological integrity) of the sustainable development issues under consideration. With the application of this class, it is also noticeable that any economic analysis is confined to the planning and design stage of policy and infrastructure provision and does not extend into the construction procurement, or installation of operations. This is also the case for any social issues that surface from the application of such assessment methods. Perhaps most noticeable is the relative absence of any institutional analysis at this level of assessment. With the 'forms of life cycle assessment' the situation is somewhat different. This is because with this class of method there is evidence to suggest the assessments take environmental capacity to

include the equity, public participation and futurity of the sustainable development issues underlying the economic and social structures in question. The economic and social structures that underlie the city of tomorrow and which support its cultural heritage. The economic and social structures that not only underlie the city of tomorrow and support its cultural heritage, but give rise to forms of human settlement which it is the object of the assessment methods to both qualify and evaluate the sustainability of.

It is also noticeable that in augmenting into this kind of life cycle assessment, it is common to see methods from the other classification (environment in general) embedded in and providing the foundation for the range of environmental appraisals and impact assessments undertaken. This is common irrespective of whatever environmental appraisal is undertaken and whether the environmental impact assessment is of the simple, complex, or even advanced type. Examples of this occur with the use of cost benefit analysis in environmental appraisal and impact assessment (Glasson et al. 1994, Lichfield 1996, Therival 1998). It is also evident in the use of the multiple-regression component of the hedonic technique. The technique forming the meta-analysis of policy planning and infrastructure design (Berg et al. 1997, Nijkamp 1998). Another example of this can also be found in the transformation of multi-criteria assessments into regime analysis and use of this technique to resolve environmental conflicts over the economic and social structure of sustainable development (Bizarro and Nijkamp 1997). Although, even here, there is clear evidence to show the methods experience noticeable difficulties in dealing with the complexity of institutional structures and the range of stakeholder interests this introduces into any such assessment (Lombardi 2001).

4. The methods are being applied at different spatial levels of analysis and evidence exists to suggest these are as follows:
   - methods to assess the policy and planning of sustainable development are applied at the city-regional, district and neighbourhood scale;
   - these levels of analysis are also typical of the methods adopted to assess the policy planning and design of major infrastructure projects;
   - in terms of methods assessing the design, construction procurement and operation of the various building installations, the levels of analysis tend to be those of the estate, building, component and material levels.
5. The time-scales implied in the assessment of policy commitment and both planning and design of major infrastructure projects at the city-regional, district and neighbourhood scale, is medium to long term. However, often the political pressures for rapid reversal of areas in environmental stress, economic decline and social depravation, means that the opposite is the case. So, as with the design, construction and operation of the various building installations, short-term considerations often apply and can be seen to dominate the concerns of the assessment in question (Curwell and Lombardi 1999).
6. The simple base-line, complex infrastructure and installation methods tend to restrict the spatial level of assessment to the city-region, district, neighbourhood, estate, building and component level of analysis, while the advanced methods assess the cumulative national, growing international and global impact of the urban development process over the long, medium and short term. In taking this form, the advanced assessment methods recognise the need for a pan-European understanding of the urban development process. This in turn recognises the need to develop assessment methods that are urban in nature. That is urban in the sense they provide the technologies and communicative structures required by member states to conserve resources and build the environmental capacity needed for the city of tomorrow to carry its cultural heritage. Furthermore, do so in a form of human settlement that is sustainable in terms of the quality of life which evaluations of this kind (i.e. of a macro, meso and microscopic nature) institute (Brandon and Lombardi 2001).
7. While this suggests a great deal of headway has been made post-Brundtland to progress the theory, science and practice of assessment, it should be recognised that it is only the simple base-line methods for policy planning, infrastructure design, construction procurement and installation of operations, which are currently well established. This is because the more advanced assessment methods are still experimental.
8. It should also be recognised the following tend to restrict the degree of progress made in advancing the theory and practice of assessment:
   - the tendency for the policy planning and infrastructure design stages to overshadow the assessment needs of the construction procurement and operation of installations (Cooper 1997, 1999, 2000, Deakin 2000, 01);
   - the paucity of environmental, economic and social (sustainable development) indicators it is possible to draw upon as a means of benchmarking and assessing the effect policy, infrastructure, procurement and installation have upon the capacity which the city of tomorrow has to carry its cultural heritage (Mitchell 1996, 2000);
   - the fact that this in turn makes it difficult – in methodological terms – to assess the aggregate effect policy planning, infrastructure design, construction procurement and operation of installations, have upon attempts to not only build environmental capacity, but develop the economic and social structures needed to qualify and evaluate whether such action leads to a position where the city of tomorrow is able to carry its cultural heritage. If, in particular, the form of human settlement that develops for such purposes is sustainable in terms of the quality of life which such evaluations institute (Brandon and Lombardi 2000, Cooper 2000, Lombardi 2000).

   The aforesaid are restrictive because they tend to highlight the rather limited nature of the data-sets currently available to assess the impact of the urban development process and inform us about the effect attempts to build environmental capacity (in this instance, the ecological integrity, equity, public participation and futurity of its economic and social structures), have upon the city of tomorrow, its cultural heritage and forms of human settlement.

8 Conclusions

This paper has outlined the areas of the Environment and Climate Programme (Economic and Social Aspects of Human Settlement) the BEQUEST project addresses. It has also examined the framework for analysis the project sets out for a common understanding of SUD and the assessment methods currently made use of by planners, architects, engineers and surveyors to build environmental capacity. The paper has done this by:

- fore-grounding the question of urban development and representing the process of urbanisation as a life cycle of inter-related activities;
- agreeing the sustainable development issues underlying the urban process;
- identifying the environmental, economic and social structure, spatial level and time scales of sustainable urban development.

Having done this, the paper has gone on to set out the issues the BEQUEST project addresses in moving towards a directory of assessment methods. This in tun has led to an outline presentation of the post-Brundtland directory of assessment methods the networked community has compiled to date. The paper has suggested the assessment methods in question fall into two classes: 'environmental in general' and those augmenting into particular forms of 'life cycle assessments'. It has proposed the environment in general tend to focus on assessments of eco-system integrity. It has also proposed that those methods augmenting into particular forms of life cycle assessment, tend to focus on the environmental capacity needed to not only ensure the integrity of eco-systems, but the equity, participation and futurity (sustainable development) of the economic, social and institutional structures underlying the city of tomorrow and its cultural heritage. It has also suggested that such assessment methods are used to evaluate whether the forms of human settlement which surface from this process of urban development are sustainable in terms of the quality of life they institute. The paper has also begun to highlight some of the current problems associated with the application of the said methods and weaknesses they illustrate in assessing the sustainability of urban development. These include:

- the need to extend the analysis beyond the matrix-based mapping set out in this paper and to introduce a more comprehensive grid referencing system. One that can map, not only the urban development process in terms of its life cycle, sustainability, spatial levels and temporal scale, but cross-reference them with the ecological integrity, equity, participation and futurity components of the assessment in a form of 'frontier analysis';
- the difficulty current assessment methods have in dealing with the complexity of institutional structures and associated stakeholder interests;
- the tendency for the policy planning and infrastructure design stages to overshadow the assessment needs of the other stages and result in a situation where comparatively speaking, relatively little is known about either the procurement of construction, or installation of operations;
- the paucity of sustainable development indicators currently available in relation to a broader context of environmental, economic and social issues;
- the problem of assessing the aggregate effect policy, infrastructure, procurement and installations in question have upon attempts to not only build environmental capacity (ecological integrity, equity, public participation and futurity), but use the economic and social structures this institutes to qualify and evaluate the sustainability of urban development.

Finally, it is recognised that methods able to overcome such difficulties are still in the research phase and that practical tools for an integrated assessment of SUD are some years away. In the meantime, the decision support toolkit being developed by BEQUEST will provide some assistance to professional actors carrying out such assessments. It will identify appropriate and relevant methods and allow them to be used for the purposes of establishing whether the city of tomorrow, its cultural heritage and forms of human settlement are sustainable.

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Appendix 1

List of Assessment Methods (19 September 2000)

Analysis of Interconnected Decision Areas (AIDA)
Analytic Hierarchy Process (AHP)
ASSIPAC (Assessing the Sustainability of Societal Initiatives and Proposed Agendas for Change)
ATHENA
BEPAC
BRE Environmental Assessment Method (BREEAM)
BRE Environmental Management Toolkits
Building Energy Environment (BEE 1.0)
Building Environmental Assessment and Rating System (BEARS)
Building for Economic and Environmental Sustainability (BEES 2:0)
Cluster Evaluation
Community Impact Evaluation
Concordance Analysis
Contingent Valuation Method
Cost Benefit Analysis
Eco-Effect
Eco-Indicator '95
Eco-Instal
Economic Impact Assessment
Ecological Footprint
Eco-points
Ecopro
Eco-Profile
EcoProP
Eco-Quantum
ENVEST
Environmental Impact Analysis
Environmental Impact Assessment
Environmental Profiles (The BRE Methodology for Environmental Profiles of Construction Materials, Components and Building Materials)
EQUER
ESCALE
Financial Evaluation of Sustainable Communities
Flag Model
Green Building Challenge
Hedonic analysis
Green Guide to Specification (An Environmental Profiling System for Building Materials and Components)
Hochbaukonstruktionen nach ökologischen Gesichtspunkten (SIA D0123)
INSURED
Leadership in Energy and Environmental Design Green Building Rating System (LEEDTM)
Life Cycle Analysis (LCA)
Mass Intensity Per Service Unit (MIPS)
MASTER Framework
Meta Regression Analysis
Multi-Criteria Analysis
Net Annual Return Model
Optimierung der Gesamtanforderungen (Kosten/Energie/Umwelt) ein Instrument für die Integrale Planung (OGIP)
PAPOOSE
PIMWAQ
Project Impact Assessment
Regime Analysis
Quantitative City Model
Planning Balance Sheet Analysis
Risk Assessment Method(s)
SANDAT
Semantic Differential
Social Impact Assessment
SPARTACUS
Strategic Environmental Assessment (SEA)
SUDECIR
SYSTIM
Sustainable Communities
Sustainable Cities
Sustainable Regions
Transit-orientated Settlement

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COMPUTER-BASED INFORMATION SYSTEMS, PROPERTY MANAGEMENT AND THE APPRAISAL OF LAND AND BUILDINGS IN THE URBAN ENVIRONMENT

M. DEAKIN
School of the Built Environment, Napier University, Scotland
E-mail: m.deakin@napier.ac.uk

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ABSTRACT. The paper examines the structure of property management and assesses how well the theory and method of property management assists the application of IT and development of computer-based information systems. In undertaking a review of the developments which have already taken place, the paper suggests there has been a tendency for computer-based information systems to take on the status of asset registers, rather than tools for the valuation of property and measurement of performance. This is a development the examination suggests is unfortunate and needs to be altered if the limits it places on the valuation of property and measurement of performance are to be overcome. If, that is, computer-based information systems are to improve the standards of property management and provide an effective appraisal of the land and buildings which make up the urban environment.

1. INTRODUCTION

Reports by the Audit Commission (AC, 1988a,b,c, 97, 2000) and Chartered Institute of Public Finance and Accountancy (CIPFA, 1989, 1991a,b, 93, 94, 1997a,b), all draw attention to the potential computer-based information systems have to improve standards of property management. Yet despite the attention such reports have drawn to the development of computer-based information systems, there is a tendency for studies of this kind to do little more than provide a list of how the application of IT can improve the management of property.

In the interests of focusing attention on the application of IT and development of computer-based information systems for property management, the following will first of all set out the issues in question. It will then go on to look at the theory and method of property management. Attention will then turn to the application of such knowledge and the technology of computer-based information systems. Here attention will focus on the information requirements, IT needs and question of how information systems of this kind bring about an improvement in the management of property. It will then go on to examine what such a system of asset registration, property valuation and performance measurement (referred to collectively as property management), contributes to the appraisal of land and buildings in the urban environment.

2. ISSUES

Contrary to the positive image of property management put forward by the AC and CIPFA, there is evidence to suggest the vision of property management as competitive, decentred, accountable and corporate, is fraught with problems. Evidence is emerging to suggest the IT needed to develop the computer-based information systems capable of bringing about such a form of property management does not exist and the absence of such technology is tending to cast some doubt on the ability to meet the standards of property management set out by the AC, CIPFA and Royal Institution of Chartered Surveyors (RICS, 1984, 95, 99). The evidence in question tends to suggest the problems and difficulties being encountered in the application of IT and development of computer-based information systems for the management of property, are as follow:

- the lack of data available on the development of computer-based information systems (Spicer, 1979; Kirkwood, 1984);
- the low level of IT-related skills in the management of property (RICS, 1984; MAC, 1985; Avis, Gibson and Watts, 1989);
- the absence of suitable guidance on the application of IT for the development of computer-based information systems (Dixon, 1985; Ralphs and Wyatt, 1999);
- concern over the design of data-bases as information systems for the management of property (Jenkins and Gronow, 1989; Deakin 1997 a,b,98a);
- questions about the relationship between such information systems and the asset register (Webster, Gronow and Jenkins, 1995, Deakin,1997a,b,88a,b,c);
- unease about the bases of property valuation put forward by the AC and CIPFA (Dent and Bond, 1993; Young, 1995; Dent 1997; Deakin,1999a);
- reservations about the application of income and cost conventions to the valuation and pricing of property (Britton, Connellan and Crofts, 1989, 91; Connellan, 1994, 98; Martindale, 1994, 98; Deakin, 1994, 98 a, b, c, d, e, f, g, 99 a,);
- worries over the lack of any clear standards for the measurement of property performance (Crofts, 1989; Gammans, 1990; French, 1994, Carter, 1999; Deakin, 1999b);
- the noticeable absence of any information in terms of the corporate strategy or financial instruments required to improve the standards of property management (Gibson, 1985, 94; Kirkwood and Padden, 1988; Deakin, 1998b,c,99a,b,c,d,e).

As Spicer (1979) and Kirkwood's (1984) observations go some way to show, prior to the AC's reports on property management, questions about the application of IT and development of computer-based information systems attracted little attention. As both Spicer (1979) and Kirkwood (1984) point out, the origins of IT applications in the development of computer-based information systems lie in the Gazetter and Local Authority Management Information Systems (LAMIS). Databases that Kirkwood (1984) notes, have been designed not so much with the question of property in mind, as for the management of information having a bearing on the financial planning, budgeting and development of expenditures on public services. Designed, that is, not so much with the property manager as information officer in mind.

This is an unfortunate situation the RICS (1984) and Management Analysis Centre (MAC, 1985) also draw attention to and see as directly responsible for the low level of IT skills available to assist organisations in the management of property. It is a view also supported to a large degree by Dixon (1989) and Avis, Gibson and Watts' (1989) discussions about the problems and difficulties being experienced over the lack of suitable guidance on the development of computer-based information systems, design of data-bases and adoption of software for the registration of assets, valuation of property and measurement of performance (see also, for example; Jenkins and Gronow 1989; French, 1994 and Martindale, 1995 on the respective issues).

As a set of separate issues, the problem and difficulties listed give obvious cause for concern. The lack of data, low level of IT skills and absence of suitable guidance, all tend work against any attempts to apply IT in the development computer-based information systems. Perhaps most noticeable of all is the extent and nature of the problems and difficulties property management divisions face in attempting to apply IT in the development of such information systems. For in looking at the list of concerns, questions, general level of unease, reservations and worries in question, it is evident the problems and difficulties are not self contained, or isolated to any one issue; for example: the application of IT, development of computer-based information systems, registration of assets, valuation of property, or measurement of performance, but are inter-related to one another. This is most noticeable in the absence of guidance, concern over the design of data-bases and questions about the relationship between such information systems and the registration of assets. For not only does this represent a problem in its own right, but one that also causes difficulties in the form of unease, reservations and

worries about the valuation of property and measurement of performance.

3. THE STRUCTURE OF PROPERTY MANAGEMENT

Looked at together, it is also evident that such an array of problems and difficulties signal something more significant and tends to indicate the cause for concern does not lie with any one issue, but with the structure of property management as a whole. That is with both the initiatives and strategies of property management which surveyors have adopted to guide them in the application of IT and development of computer-based information systems. To test this hypothesis, it will of course be necessary to examine the structure of property management and assess how well the initiatives and strategies of property management translate into in the application of IT and development of computer-based information systems. As should become clear from the review of the developments that have already taken place, if anything there has been a tendency for computer-based information systems to take on the status of asset registers, rather than tools for the valuation of property and measurement of performance. Something this examination shall suggest is unfortunate and needs to be overcome if the limits it places on the valuation of property and measurement of performance are to be overcome. If, that is, the application of IT in the development of computer-based information systems is to improve the standards of property management along the lines which have been set out by the AC, CIPFA and RICS.

4. THE NEW MODEL OF SERVICE PROVISION

There are perhaps four main variables in the pro-quality, enterprise-minded vision of property management and few constants. The variables are competition, decentralisation, accountability and corporatisation. It is the ideas about the virtues of competition, decentralisation, accountability and corporatisation in the communicative structure of property which have to a large degree, brought about a management re-organisation and reform. What the new model of service provision can perhaps best be seen to represent, is an attempt to re-organise and reform property management by introducing a competitive, decentralist, more accountable and corporate minded attitude towards the management of property.

In theory the introduction of new metaphors like competition, decentralisation and accountability into the culture of property management are quite uncontroversial. But the question about the communicative structure of property management is more problematic and difficult to resolve because it demands we are more exact in the use of such terms. In view of this the following shall break the question down into three parts. The first concentrating on what action needs to be taken if property management is to become competitive, decentralist, accountable and corporate. The second drawing upon this terms of reference to provide a more detailed framework for property management. The third draws attention to the steps that need to be taken if such a form of property management is to develop. The third point should bring us back to the questions about the technology of computer-based information systems.

5. ACTION THAT NEEDS TO BE TAKEN

Table 1 shows the variables in question and the relationship they have to property management. Here, competition is seen to surface through the introduction of market criteria into property management. This being secured through the process of contracting-out and market-testing and to some extent by the trading of services via the introduction of internal markets (i.e. in the form of service level agreements). Decentralisation goes on to develop this theme by introducing autonomous trading units, with non-hierarchical, or, flat, broad structures of decision making. This takes the form of either centre-peripheral forms of service delivery, or forms

of service delivery that transfer decision making power from the centre to the periphery and on to the customers.

The accountability variable comes into play via the introduction of tighter controls over the budgeting of expenditure. Such control is seen to rest with the executive and directorate responsible for the management of property. The former having particular responsibility for managing the uncertainty and risk that surround the formation of a strategy towards the acquisition, use, development and disposal of property (see Leach, Stewart and Walsh, 1994; Walsh, 1995). The executive and directorate together having responsibility for the planning, budgeting and control of expenditure on the management of property.

6. DETAILED FRAMEWORK

Drawing upon this characterisation of property management, it is possible to develop a more detailed framework for the management of property. This is set out in Table 2 As can be seen, it inverts the form of presentation adopted in the previous table by turning it upside down and starting with the corporate variable. It also draws attention to the relationship that exists between property and the management of land and buildings.

Table 2 attempts to highlight how the four principles referred to so far as variables, become part of property management. How, that is, the principles become 'incorporated' into the management of property and way in which they take on a particular form. It shows that it is the formation of a central unit which makes it possible to transfer authority for the management of such resources to an executive. It also illustrates that it is the setting up of controls and budgetary planning mechanisms to standards set by independent bodies which allows the 'value for money' (VFM) test to be taken into account and establish whether service delivery benefits from economy, efficiency and effectiveness (the 3E's).

Here decentralisation takes place via the break-up of departments into a network of autonomous 'trading' units. An event made possible by the development of information systems linking the centre to the periphery through the authority the unit gives an executive to develop a strategy towards the ownership, use, acquisition, disposal and development of property and it in turn gives the directorate to manage routine operations.

Table 1. Property Management and Corporations

Variables	Property Management	Corporations
competitive	market criteria	contracting out, market testing and introduction of internal markets
decentred	autonomous trading units, non-hierarchical, with flat, broad structures of decision-making, service- based with customer orientation	centre-periphery forms of service delivery
accountable	audit and review of income and outgoings expenditure - be it revenue or capital based	control over budgets and regulation of expenditure to meet pre-determined targets
corporate	divisional control over budgeting of some services, with executive body and directorate based on the distinction between strategic management and routine operations	small number of core staff responsible for policy and strategic issues, who network with larger numbers of project-based and task centred experts employed on service delivery to customers.

The execution, direction, financial planning and budgeting of such a strategy is also seen to take place in a competitive environment due to the adoption of market testing and contracting.

Fortunately it is possible to see how this model is applied in practice by reference to a number of studies undertaken to monitor the development of property management. It should be noted that the studies are limited to the asset registration stage of development. For the purpose of this paper the fact that the information available is limited to the initial stages of the development is not something which raises problems for as should become clear, it serves to pin-point a problem of particular concern. As already pointed out, the development of information systems for the registration of assets is an aspect of property management the AC and CIPFA have drawn particular attention to. As a general rule neither institution has sought to be prescriptive in laying down the type of system organisations should adopt and have simply suggested it ought to develop 'fitness for purpose' in terms of fulfilling this particular function.

In the first attempt to monitor the development of such information systems, the Association of District Councils (ADC, 1990) found that while many organisations have introduced IT into the management of property, some have been successful in this venture but others have failed. In a subsequent exercise aimed at surveying the types of information systems in place, Erdman Lewis (1993) found that 75% of organisations had introduced computer-based information systems for the management of property. Out of this, 39% were found to take the form of mainframe data-bases, 36% micro-processor, or personal-computer based. The survey also highlighted that a great many organisations perceive the value of the information systems to lie in the ability data-bases have to act as an electronic filing cabinet, holding information about property in the form of data on ownership, tenure, use, value and the cost of outgoings. In effect in the ability computer-based information systems of this kind have to act as a register of assets. One that not only provides data in the form of an asset register, but information valuable for the next stage of the management process i.e. the valuation of property and measurement of performance.

It is the perception of computer-based property information systems as little more than electronic filing cabinets, capable of speeding up the access to data held on assets which this examination seeks to avoid. Indeed it is hoped that the discussions which have taken place so far have already gone some way in achieving this. In contrast, it seeks to adopt a wider definition and one that places emphasis, not so much on the capacity for systems of this kind to operate as a data-bank,

Table 2. Property Management in Corporations

Property	Management
corporate	central unit responsible for policy formation and strategy for the management of property through an executive and directorate
accountability	application of IT to control expenditure on the management of property and to meet predetermined targets and standards set by independent bodies
decentralisation	delegation of decision making power via network of communications to and from autonomous trading units and made possible by the development of computer-based information systems linking the centre to peripheral activities
competition	through the adoption of market testing, contracting out, financial criteria for the registration on assets, valuation of property and measurement of performance (by unit comparison of income, outgoings and rates of return) on commercial standards

but on the information they provide for the next stage of the management process. It also adopts such a definition in an attempt to transcend the rather narrow view of information systems as data-banks for the registration of assets and in the aim of drawing particular attention to the data and information required for the valuation of property and measurement of performance. It is also adopted because such a tripartite definition of property management provides the key to recognising the pivotal role computer-based information systems play in the strategic and routine operation of management functions.

7. THE TECHNOLOGY OF COMPUTER-BASED INFORMATION SYSTEMS

So far attention has focused on a number of problems and difficulties associated with the development of property management and how the theory and method of the aforesaid tends to result in computer-based information systems being seen as little more than data-banks: a perception this examination argues is far too narrow and fails to address the questions of property valuation, or performance measurement - the other two dimensions of the management function.

Here the discussion will move beyond the consideration of theory and method and shall consider the technology of computer-based information systems.. In focusing on the technology of computer-based information systems, the examination aims to show what measures can be taken to overcome the difficulties and problems in the theory and method of property management outlined so far. In meeting this objective the discussion will divide into three parts: the information requirements, the IT needs, system design and operation.

8. INFORMATION REQUIREMENTS

As all discussions on the application of IT to the management of property tend to point out, before considering the technology of computer-based information systems, it is first necessary to specify what information is required. Keeping this maxim firmly in mind, the development in question identified the following requirements:

- a central unit, who in conjunction with an executive and directorate will be responsible for the strategy;
- an executive with responsibility for strategy towards the corporatisation of property in terms of: the acquisition, use, development and disposal of holdings and direction of more routine operations concerning their management;
- a computer-based information system capable of providing the corporate body with the financial instruments required to control expenditure on the management of property - be they operational, investment, or assets held surplus to requirements on the trading account;
- data for the registration of assets on the computer-based information system, manipulation of data and processing of information for the valuation of property and measurement of performance under the said corporatisation and set of financial instruments;
- a network of communications to link the property management division to the user of assets.

As Figure 1 shows, it is the formation of a central unit that makes it possible to develop a strategy that 'corporatises' the acquisition, use, development and disposal of property. This being done through the division of management responsibilities between the executive and directorate (as a corporate body). The former having responsibilities for the strategic aspects of property in terms of use, development and disposal, the latter directing the more routine management operations. It also illustrates the question about whether property passes the 'VFM test', or if the management of holdings meets the '3E's', are answered through the corporatisation of property management and financial instruments developed to control expenditure in line with the commercial standards laid down by independent bodies. What it also illustrates is that decentralisation takes place through the delegation of decision-making power into what can be best referred to as a 'network of com-

munications' to and from autonomous trading units. Communications made possible by the development of computer-based information systems linking the centre i.e. central unit, to the executive, directorate and client-customer 'interface', via the circulation of information also required for the valuation of property and measurement of performance. The valuation of property and measurement of performance, making up the financial instruments and commercial standards of property management. The diagram also attempts to highlight how the four principles referred to so far as 'variables' (i.e. competitive, decentralised, accountable and corporate) become part of property management. How, that is, they become strategically incorporated into a culture of property management which us emerging under this new model of service provision.

While the diagram goes some way to show the pivotal role the computer-based information system takes in this development, it also identifies the points of contact where it 'incorporates' the variables forming the new model of service provision. For as can be seen, it is the type of information that property management draws upon which is critical in meeting the competitive criteria. The fact, that is, it draws upon data from market transactions, which itself introduces a more

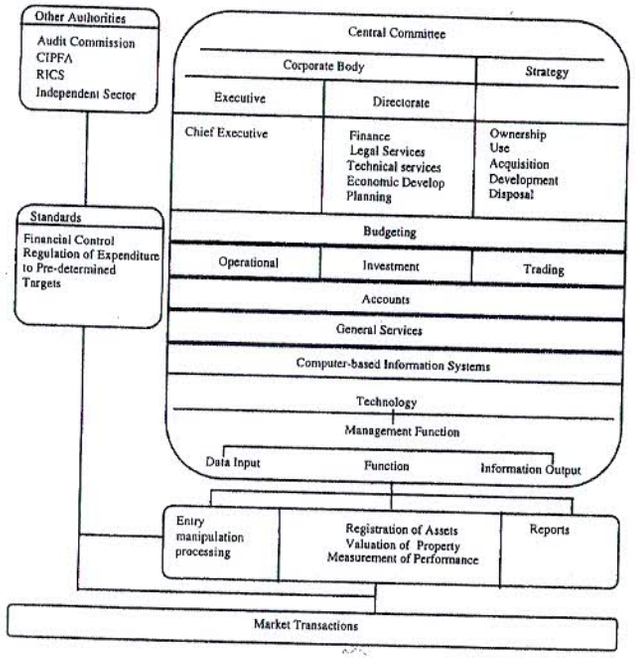

Figure 1. Information Requirements

decentred process of decision making into the management of property. One whose application of IT is also seen to be more accountable in the way that it transfers authority (executive and directorate) for the management of property to a central unit. The central unit which in turn becomes responsible for the corporate (both the strategic and routine) management of the property in question.

9. INFORMATION CATEGORIES

Experience suggests it is best to simplify the information requirements by dividing them into the following categories:

- information regarding legal status, ownership, use, holding purpose etc., from existing, usually card index and manual-based property records;
- plan drawings, site, floor areas from land survey, along with engineering, construction, building design, repair and maintenance details supplied by technical services;
- tenure details regarding the allocation of property rights to service departments from legal services, with class of asset, category, holding purpose i.e. operational, investment or on the trading account held surplus to requirements, along with rents, market yields and transfer prices;
- data from intermediate and service departments on outgoings including energy, cleansing, repair and maintenance, insurance, local tax and management costs.

Having obtained the data, consideration has to be given to the form it should take to represent the material suitable for input into a computer-based information system. In doing this it is considered best not to focus on the IT upon which the computer is based, but on the information system that is required to move the management process from one stage to another. In view of this, it is perhaps best to organise the information in such a way that it allows the exercise to progress through the following stages:

- survey (data collection) for audit and review purposes;
- the registration, entry of the specified data to input the physical, legal and financial attributes of assets;
- manipulation and processing of data for the valuation of property;
- further processing of data to provide information for the measurement of performance;
- reporting on the management of property.

10. IT NEEDS

The application of IT in the design of the information system in question has taken place on the assumption it should be geared towards meeting user needs. In this instance, the property management division's needs regarding the development of a computer-based information system for the registration of assets, valuation of property and measurement of performance (see Hsia and Bryne, 1989). Taking into account the comments made earlier about the absence of IT expertise in the field of property management, it is perhaps best to try and meet the users' requirements through the adoption of what is commonly referred to as the 'toolbox' approach to systems design. That is not by the commissioning of a 'bespoke', or 'tailor made' information system, but through the design, operation and maintenance of a computer-based information system which makes use of a micro-processor and data-base with auxiliary software.

The advantages of taking such an approach to the system design are numerous and include the following:

- the relatively low level of skill they require for the design, operation and use of information systems;
- the fact that personal computers are relatively cheap and readily available;
- the software is also readily available and inexpensive;
- it is possible to 'customise' the data-base files and structure of records to function as a information system for the management of property;
- the information system is flexible and can be modified to meet changing circumstances;

- it is also relatively user-friendly, with easy to follow menus, screen layouts, data retrieval commands and report writing;
- auxiliary software allows more complex tasks to be undertaken.

As Kirkwood (1984) points out, the use of micro-processors as the computational basis of an information system has the distinct advantage of allowing the mass storage of data and making it possible to quickly process information - it is also seen to provide users with a high quality output that is both reliable and accurate (also see, Hsia, 1989). As Dixon, Hargitay and Bevan (1991) point out, micro-computers of this kind i.e. with a data-base and software package, have the district advantage of providing data-base management systems capable of mirroring LAMIS, but without the considerable cost of a bespoke mainframe technology.

11. DESIGN AND OPERATION

Figure 2 shows the design of the computer-based information system. It breaks the structure of the system down into columns of: micro-computer, data-base, software and function. The form and content of the system require further explanation.

The design of the files and structure of the screen layout set the parameters for the survey and proformas used to input data. In addition to providing the record, or data on the property in question, it also forms the basis of the asset register through the input of data provided from the survey of each holding. Following on from the question of design and data input, are those of processing and information manipulation for the valuation of property. The processing and information for the valuation of property draws upon two data sources: the register for the assets forming the subject of valuation and the property transaction file. The latter holding information on unit rates in the property and construction sector and evidence of current values from transactions comparable to those in question. In drawing on both data sources, the information processing required to complete the valuation of property is carried out through the sorting and search functions. Using these functions data can be sorted through any process of indexation and simple mathematical functions can be undertaken to analyse evidence of transactions, standard units of measurement and carry out the calculations required for the valuation of property. The calculation function requires particular attention. Here the holdings are classified in terms of the standard criteria set out by CIPFA and RICS.

12. THE APPRAISAL OF LAND AND BUILDINGS IN THE URBAN ENVIRONMENT

The classification of holdings is made in terms of specialist, non-specialist assets held for operational purposes, investment, or surplus to requirements on the trading account. The standards of property valuation laid down in the RICS (1995) *Appraisal and Valuation Manual* are applied. This draws upon information contained in the property transactions file and the analysis of current values, construction costs and notional pricing mechanisms available for the valuation of property. Here again the data processing facilities can be applied to the valuation of property so as to provide notional prices for individual assets, or statements of asset value for groups, sectors, even geographical areas of the territory in question.

It is normally through this means the 'automated' valuation of property, for either individual or a 'mass' of assets is carried out. Such assessments tend to be carried out for groups of similar, or comparable subjects with the same classification, base and method for the valuation of commercial, industrial and housing categories of the property market and goes some way to provide the benchmarks to measure the performance of the holdings in question. Such benchmarks are drawn from the degree of usage, cost of outgoings, yield and level of rental growth. Together they represent standards of performance measurement that make it possible to compare assets forming the portfolio of holdings against property in general. This also

Micro-computer	Data-base	Software	Functions
fileserver, with network on token ring	*design* of files, structure of screen layout and records	*dBase II - V*	*survey* of property using proformas
individual personal computers	*input* of primary data and secondary data on current values from the property and construction sector		audit and review, via the *registration* of assets' physical, legal and financial attributes
data-base held on file server where processing takes place before being sent to PC's.	data manipulation, sorting, indexation, calculation *processing*, functions, command and programming facilities, data output in the form of reports	*wordprocessor (with memo fields) spreadsheet applications* (Lotus 1-2-3 for Windows, Microsoft, Excel) *statistical packages*	*valuation of property* by classifications, base, category of holding and sector
			performance measurement, in terms of costs of outgoings, yields, risk, growth, obsolescence and depreciation, rate of return over cost

Figure 2. Design of the Computer-based Information System

provides the information to design a strategy towards the acquisition, utilisation, development and disposal of assets within the portfolio of holdings. This is done by drawing on the results of the measurement and its ranking of performance as good, average or poor. If a subject ranks as average, or poor, the asset in question can be selected for review by either (operational/investment), holding (retail, office, industrial, residential) sector (prime, secondary) or area (within the centre, inner or outer suburbs) and subject to a rationalisation. As such a review and/or rationalisation is contingent upon the performance measurement, customised reports need to be specified for such programmes.

Turning to the question of how the computer-based information system designed to fulfil the three main management functions actually operates, it is perhaps best to demonstrate the practicalities of asset registration, property valuation and performance measurement by providing examples of the way it works to improve the standards of property management. To do this it is perhaps best to represent the computer-based information system as a register of asset classifications, set of, bases, methods of property valuation and performance measurement techniques, drawn upon by an 'expert' to model the appraisal process. Or as an expert system that provides a register of assets, valuation of property - be it through a form of an electronic filing cabinet, automated valuation of property and measurement of performance. Figure 3, shows the asset register in terms of 'basic information', central committee, measurement, tenure (lease, rent details, review, termination pattern) market analysis and occupier. Figure 4 illustrates the type of in-

formation held on each asset for the valuation of property. Information, that is, on asset type, base and method of property valuation, category of holding, sector and techniques in terms of either rental, or capital transfer prices and yield drawn upon as part of the appraisal process.

Given the portfolio of asset classes the information system manages is heterogeneous in nature requiring; as it does: bases and methods of property valuation - not to mention performance measurement - suitable for the commercial, industrial and residential categories of holdings in the prime and secondary sectors, the full significance of the development tends to become apparent. Unlike previous studies which tend to focus on the valuation of either the commercial (predominantly office) or residential sectors of the property market, this form of appraisal (the registration of assets and valuation property) cannot rely on the conventions of the income approach, but must also supplement the comparative and investment methods with those of the contractors and residual. This is something that requires the adoption of asset

Basic Information	
Use:	
Description:	
Street number:	
Town/city:	Name:
Ward:	Postcode:
Account:	OS Ref No:
Classifications:	
Holding purpose (O/I/S to R):	
Category (R, B, I* W & D, O*):	
Acquisition date:	Use class order:
Historic cost:	Listed status:
Valuation basis (OMV/DRC):	
Valuation:	Ratable value:
Date of Valuation ( ):	
Central Committee Data	
Latest report:	
Purpose:	
Decision:	
Measurement	
Analysis (NIA/NEA/GIA/GEA):	
Site (acres/hectares):	
Floor area (sq.ft/ sq.metres):	
Tenure	
Ownership (F/L):	
Title ref:	Lease start date:
Lease ref:	Termination date:
Rent roll ref:	Frequency (Y/H/Q/M):
Current rent date:	Passing rent:
Rent sq.ft/metre:	Rent review pattern (yrs):
Market Analysis	
Current value:	
Market yield:	
Occupier	
User:	
Owner:	
Agents:	Correspondence address:
	.....

Figure 3. Asset Register

classes and both the open market value (OMV) and depreciated replacement cost (DRC) as bases and methods for the valuation of property, measurement of performance and notional pricing of the holdings in question. The effect of this is to open up the traditional division in the methods of property valuation about the basis of the former to provide good reliable evidence of values and prices assets will exchange for in the market, rather than the more subjective valuation of what a property is worth as a holding under the latter.

Given it has also been traditional for both the public and independent sector to hold a large amount of specialist assets for operational use relative to investment and development properties, the lack of opportunity to make use of the income approach and requirement to rely on cost, has tended to give a perception of the property management divisions in such organisations as having only a distant relationship to the market. Indeed it is a view that has done much to reproduce the status-quo in property management.

This discussion shows that fundamental developments are taking place which tend to challenge such a view - the adoption of net current replacement as the principle of notional pricing, be it approached on the basis of income or cost - to mention but a few. Moreover, if it can be accepted the income approach concentrates on the investment method and in its present form only covers that category and sector of the market which generates income from standard, non-specialist property (predominantly in the independent sector), the extent of the developments taking place can be brought into focus. Put in as few words as possible, it is perhaps best seen as the development of an emergent procorporate, accountable, decentralised and competitive form of property valuation which cuts across the specialist, non-specialist, or standard classification and incorporates the logic of the income form in an attempt to price the full cost of management.

When this cannot be done through the application of the income approach (because the assets in question are non-standard, or specialist and not open to the investment method), it is done through the use of the cost approach on the basis of depreciated replacement and the contractor's method. For it is this form of property valuation that generates an income from specialist, non-standard holdings as a return on investment. Given the income it generates represent a rental payment in the form of a capital charge, the return it provides from the structure of yields in the market (to cover notional interest, obsolescence and depreciation) represents the price paid for the right to occupy the asset under a leasehold agreement and with the tenant responsible for the payment of outgo-

File Reference:	
Asset classification (S, N-S)	
Base (OMV, DRC, AHC)	
Method (C, I, R, C*, P)	
Category (R, B, I, &, W&D, O*)	
Market sector (P*, S*)	
Technique	
Direct capital comparison:	All-risks yield:
Rack rented:	Initial yield:
Term and revision:	Reversionary yield:
Hardcore/layered:	Equivalent yield:
Site Value:	Equated yield:
Replacement cost:	
Turnover:	
Discounted cash flow:	
Rational:	
Real:	

Figure 4. Property Valuation

Key to Figures 3 and 4.

O	=	Operational	M	=	Monthly
I	=	Investment	OMV	=	Open market value
S to R	=	Surplus to requirement	DRC	=	Depreciated replacement cost
P*	=	Prime	AHC	=	Amortised historic cost
S*	=	Secondary	C	=	Comparative
NIA	=	Net internal area	C*	=	Contractor's
NEA	=	Net external area	P	=	Profit
GIA	=	Gross internal areas	R	=	Retail
GEA	=	Gross external area	B	=	Business
F	=	Freehold	I	=	Industrial
L	=	Leasehold	W & D	=	Warehouse
Y	=	Yearly	O	=	Other
H	=	Half yearly	Q	=	Quarterly

ings. But, perhaps most significant of all is the fact what such a development goes to demonstrate is that irrespective of whether the notional pricing exercise is of standard, non-specialist, or specialist assets, of any category, or sector, a form of investment method operates and is drawn upon as the basis of property valuation and performance measurement.

Under these circumstances, perhaps the most pertinent question to ask is what form of investment method and whether-or-not these subtle twists in the theory and method of property valuation bring about an equivalence, or uniform set of standards between the public and independent sector? To answer this question it is perhaps best to begin by looking more closely at the institutional setting of the development and listing the 'pros and cons' of one approach relative to another. That is of the income against the form of valuation which is emerging under the transition to property management.

The advocates of the income approach would no doubt want to stress that the emerging form of valuation tends to take the most appropriate elements of its own methodology and augments it with some kind of contractor-based 'capital asset pricing model', the value of which has already come under criticism from advocates of the income approach and pro-investment appraisal lobby - albeit in another, less radical form (see Baum 1989, 91; Deakin, 2000, 2001). One whose rather crude treatment of the income-cost relationship, question of risk, growth, obsolescence and depreciation, would, no doubt, attract considerable criticism for the simple reason it doesn't meet the 'market test'.

While it would be correct to suggest much work needs to be done on the question of equivalence before it can be given any serious consideration, the outcome of taking such a stance on the matter is unfortunate in that it tends to undermine the value of such an investigation by imposing the standards of the income approach on the one in question. Rather than simply reproducing the status quo, it might perhaps be best to look at the matter as one which places both forms of property valuation under question and represents a position where no particular set of standards should be seen to dominate the other. Looking at the matter in this way, it might be possible to hold on to the possibility of braking the strangle-hold the income approach has over property valuation and opening it up to contemporary developments of the kind outlined under this heading. But this is only half the story, for the development of the computer-based information systems outlined here also marks a radical break with more traditional forms of appraisal. This is because the computer-based information system outlined here not only draws upon the strategies, culture or communicative structure of property management, but the new model of service provision underlying its development.

Taking this form, the computer-based information system represents the technology needed for the strategic management of property. The strategic management upon which the communicative structure of property management rests. Representing the basis of what is in effect a 'high-tech, informational rich, economic cum cultural paradigm' of property management, this model of service provision can perhaps best be referred to as an expert system for the corporatisation, financial instruments and commercial standards (communicative structure) needed to progress the on-going re-organisation and reform of property management.

13. CONCLUSIONS

This paper has sought to examine the issues that underlie the development of computer-based information systems for the management of property. As such it has set out the issues that surround the application of IT to the development in question and has suggested the problems and difficulties currently being experienced in the application of IT, development of computer-based information systems and management of property, lie in the structure of local authority property management and both the theory and method of property management put forward by inde-

Table 3. The Income and Emerging Form

Pros	Income	Emerging form
	relies on market evidence from analysis of transactions comparable in nature	competitive, decentralist accountable and corporatist
	bases the notional prices of property on the investment method of valuation	bases its notional pricing on replacement cost, the valuation of standard, non-specialist and specialist assets in the commercial and industrial categories/sectors and adopts the investment and contractor's method of property valuation along with the comparative method for residential holdings
	is growth, risk and depreciation explicit	the valuation of specialist assets adopts a contractor's form of asset pricing with a rate of return on investment from the structure of yields in the capital market
	draws on independent evidence to compare the relationship between valuation and price	makes use of independent standards of financial control over budgeting for audit, review, asset registration, property valuation and performance measurement whenever possible
Cons	narrow focus on standard, non-specialist classification of assets and investment method of valuation	as yet the income it generates is not sensitive to risk, growth implicit and problematic in its treatment of obsolescence and depreciation
	does not incorporate a large section of the 'market'	the landlord and tenant type relations of the internal market which underpin such a structure of income are ill-defined
	concentrates on the investment method with some consideration of the residual method for development purposes	legal constraints restrict the circulation of capital into all classifications of assets - be they specialist/non-specialist, the commercial, industrial, or residential categories
	offers no solution to the problem of non-standard, specialist property and is ambivalent about the nature of the relationship between the public and independent sector	the limited circulation of capital and lack of transactional data in the specialist sector make it difficult to obtain independent evidence of the relationship between valuations and price

pendent bodies like the AC and CIPFA.

While it is appreciated that bodies of this kind do not wish to be over-prescriptive in the form of property management they should like to see develop, it is evident the translation of the theory which focuses attention on a competitive, decentred, accountable and corporate form of property management into a method of application (i.e. into a strategy geared towards the adoption of IT and development of computer-based information systems) requires a great deal of further consideration if the exercise is to produce something more valuable than an electronic filing cabinet. If, that is, it is going to improve the standards of property management by progressing through this preliminary stage of development and do so in the manner which allows the valuation of property and measurement of performance to take place.

The paper has documented how such a transition from electronic filing cabinet to automated property valuation and performance measurement is being achieved. It has also drawn attention to how the application of IT and development of such an information system aids the appraisal of land and buildings in the urban environment. In this respect it has sought to show how the development in question represents an emergent form of property valuation which challenges the conventions of the income approach as part of an attempt to cut across the asset classes, bases and methods of property valuation in an attempt to price the full cost of holding land and buildings. In doing so it has drawn attention to the radical nature of the break this emerging form of property valuation makes with more established conventions. In view of this, it has also sought to qualify the significance of the development and balance the 'pros and cons' of the conventional position against the more radical nature of the emergent form. While such a representation tends to emphasise the somewhat radical nature of the development, it is important not to mis-represent the situation as a straight forward innovation in the valuation of property, for this should be wrong and would run the considerable risk of trivialising a matter of even greater concern. On the contrary, the development should be seen as anything but a straight forward innovation in the valuation of property and ought to be seen as a response to the overall restructuring of property management currently taking place.

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MULTIPLE CRITERIA ANALYSIS OF FACILITIES MANAGEMENT ALTERNATIVES

E. ZAVADSKAS [1], A. KAKLAUSKAS [2] and N. LEPKOVA [3]

[1] *Department of Building Technology and Management, Vilnius Gediminas Technical University, Saulėtekio al. 11, LT-2040 Vilnius, Lithuania*
[2] *Department of Construction Economics and Property Management, Vilnius Gediminas Technical University, Saulėtekio al. 11, LT-2040 Vilnius, Lithuania.*
E-mail: arturas@st.vtu.lt
[3] *Department of Construction Economics and Property Management, Vilnius Gediminas Technical University, Saulėtekio al. 11, LT-2040 Vilnius, Lithuania.*
E-mail: Natalija.Lepkova@st.vtu.lt

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ABSTRACT: In order to design and realise an efficient facilities management system, it is necessary to carry out an exhaustive investigation of all facilities (e.g. space management, administrative facilities management, technical management and other facilities management services) and then to form the system. The efficiency level of the considered facilities management alternatives depends on a great number of factors, including: cost, management expenses, property protection, technical part management, preservation of surrouding areas, cleaning, contract management, building utilization control and advertisements, etc. Solutions of an alternative character allows for more rational and realistic assessment of economic, infrastructure, climatic and social conditions. As well as traditions and for using satisfaction solutions of functional, technical, economic, maintenance, comfort and other customer requirements. The solutions to the above also enable one to cut down facilities management costs. The selection of a facilities management alternative mainly depends on the needs, existing financial and technical capabilities of tenants. The proposed methods of multiple criteria analysis and their practical application are described in this paper. Basing oneself on the proposed multiple criteria analysis methods, it is possible to perform a design of facilities management alternatives, multicriteria analysis and a selection of the most efficient versions.

The objective of this paper is to describe facilities management conception; determine and describe factors influencing efficiency of facilities management; apply multiple criteria analysis methods for facilities management. The paper contains an application of multiple criteria analysis methods for facilities management alternatives.

1. INTRODUCTION

Many various definitions of facilities management have been proposed by different researches, practicians and institutions.

Wes McGregor and Danny Shiem-Shim Then [9] describe facilities management as *"The infrastructure that supports people in the organization in their endeavours to achieve business goals"*. In other words, facilities are the tools which people in the business have at their disposal to carry out their tasks.

The definition of the International Facility Management Association [8] provides an initial definition that is often quoted to explain the breadth of the field of facilities management. It is as follows: *"The practice of coordinating the physical workplace with the people and the work of the organization; integrates the principles of business administration, architecture and the behavioural and engineering sciences"*.

The British Institute of Facilities Management [5, 6] adopts a definition that emphasizes the multidisciplinary nature of the role of facilities managers which includes extensive responsibilities for providing, maintaining and developing services ranging from property strategy, space management and communication infrastructure, to building maintenance, administration and contract management. Effective facilities management is vital to the success of an organization by contributing to the delivery of its strategic and operational objectives.

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PRACTICE FORUM

Modelling the Development of Sustainable Communities in Edinburgh's South East Wedge

MARK DEAKIN

Introduction

The on—going review of structure plans in the United Kingdom (UK) has highlighted the attractiveness of new settlements as an alternative to town cramming, peripheral expansion and urban sprawl. This paper examines the argument for new settlements made by the Lothian Structure Plan Review (Lothian Regional Council, 1993). It goes on to establish how the experiments going on in Edinburgh's South East Wedge are transforming the new settlement phenomenon in to the search for a plan—led, environmentally friendly and sustainable pattern of settlement. It draws attention to the Interim Development Framework put in place to support the plan—led, environmentally friendly experiment and the settlement model it adopts for such purposes.

The Objective of the Structure Plan

The 1995 Written Statement on the Lothian Structure Plan Review states: the development of Edinburgh can no longer be accommodated within the existing boundaries of the city. The cramming of development on brownfield sites is no longer an option for Edinburgh. Neither is development by peripheral expansion around the edge of the city's greenbelt. There are simply not enough brownfield sites to develop in Edinburgh and peripheral expansion around the edge of the city would put too much pressure on the greenbelt and result in urban sprawl. (p. 14).

The solution, the statement suggests, rests with the development of new settlements; in particular with the development of new settlements on a 1,600—hectare site on the periphery of Edinburgh and in an area of the city's green belt known as the South East Wedge (p. 15).

The statement suggests that plan—led development of this kind can protect the environment and the proposal to develop new settlements in the South East Wedge of Edinburgh provides the city with just such an opportunity (p. 15). The reasons put forward to explain why the development of new settlements in Edinburgh's South East Wedge provides such an opportunity are as follows.

- Representing less than 10% of the green belt, the site has the capacity to accommodate 35% of Edinburgh's land—use requirements, 60% of the city's population growth, 15% of additional households and 30% of future employment opportunities.
- The site is able to carry a high level of growth due to spare capacity in both the utility and transport networks and because it is already well serviced with out—of—town shopping centres, retail, warehouse parks, leisure and entertainment facilities.

Mark Deakin, School of the Built Environment, Napier University. Email: M.Deakin@napier.ac.uk

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- In releasing pressure for speculative development around the edge of the city and protecting the green belt, the site provides the opportunity for Edinburgh to make sure the use of land, utilities, transport networks, retail and leisure services is environmentally friendly and fosters a more sustainable pattern of settlement.

The case the written statement makes for the development of new settlements is compelling. It goes a long way to illustrate the strategic significance of the 1,600—hectare site in Edinburgh's South East Wedge. It suggests the site offers Edinburgh an alternative to the speculative development of greenfield sites, the peripheral expansion that follows and urban sprawl which this produces. It is argued that the development provides an opportunity for Edinburgh to plan the city's expansion into the green belt and protect the environment through a more sustainable pattern of settlement.

The New Settlement Phenomenon

The development of new settlements is not a new a phenomenon. Since the privatisation of the New Towns Commission, private consortiums have sought to develop new settlements as an alternative to peripheral expansion and urban sprawl (Ward, 1992). Glasson, Therivel and Chadwick *et al.* (1994) reviewed structure plans prepared between 1988 and 1993, and found that 46 new settlement proposals had been submitted to planning authorities throughout the UK. Of these, only two were successful in receiving outline planning consent. Ratcliff and Stubbs (1996) argue that whilst the tight fiscal regime local governments operated under during this period made the development of new settlements by private consortiums attractive, the proposals were too speculative, not supported by the planning system and unable to allay fears about their impact on the environment.

The proposal to develop new settlements in Edinburgh's South East Wedge may go some way to avoiding the difficulties experienced by many of its predecessors. It is supported by a public policy though the structure plan written statement and thus is plan led, and it proposes to be environmentally friendly in the pattern of settlement it develops. This approach distinguishes the development of new settlements in Edinburgh from previous experiments of this type, but there are other proposed qualities of the new settlement that mark it out from its predecessors as a more advanced exercise in the modelling of alternatives to peripheral expansion and urban sprawl. These arise from the explicit intention to ensure that the new settlement patterns are sustainable. Thus the Edinburgh experiment is important because it marks a move from the speculative development of greenfield sites, to a planned approach which explicitly seeks an environmentally friendly and sustainable outcome.

The Settlement Model

The Interim Development Framework (Chesterton, 1996) began the search for a more sustainable pattern of settlement. Here, attention was given to the matter of how to design a settlement pattern that would create sustainable communities. The starting point was a list of the principles of sustainable development derived from research. The document proposes that sustainable settlement patterns need to be based on the following:

- a distinctive urban culture;
- a spatially compact urban form;
- a strong landscape framework in a countryside setting;
- a set of neighbourhoods;
- a high density of population;
- a balance of land use, economic and social structures;
- an energy—conscious public transportation network;
- high levels of infrastructure and shared service provision;
- a pattern of settlement that is able to integrate existing communities with those emerging from the development;
- a financial structure that is viable in the short, medium and long-term horizons.

These qualities of sustainable settlements reflect the findings of Breheny (1992a, 1992b), Breheny and Rookwood (1993), and Breheny, Gent and Lock *et al.* (1993). The general findings can be found in the Department of the Environment's (DOE, 1994) sustainable development strategy. The framework draws on the experiences of model cities in the UK (Selman, 1996; Brown, 1998). Also important are the findings of Hall and Ward (1998), who use the development of settlements in the Thames Corridor, cities of Cambridge, Portsmouth and Swindon, to draw attention to the fiscal regimes under which sustainable urban expansion needs to take place, particularly the financing of the infrastructures required to service neighbourhoods within high—quality living and working environments.

The Model for the South East Wedge

Within this settlement model, the proposal to develop a distinctive urban culture is of general concern. This is defined as an alternative to the suburban lifestyle with its particular brand of resource—intensive consumerism, linked to demands for expansion into the urban periphery through the speculative development of greenfield sites. The speculative development of greenfield sites that results in the coalescence of settlements around the edge of the city and which leads to the break up of communities.

The settlement model proposes that such an outcome can be avoided by restricting development around the edge of the city and concentrating it on the South East Wedge. The model allows for the new development to build out from existing peripheral housing estates and a former mining village. Set in a strong landscape framework, the model goes on to propose that the countryside setting should make use of natural features, woodlands and parks, to separate the existing and new settlements from one another. The model also proposes an urban regeneration programme and limited town—centre expansion for the former mining village, so as to retain its identity and position in the settlement pattern. Elsewhere, it is proposed that up to 20,000 people should be accommodated within three new settlements. These will be developed as clusters of neighbourhoods of 5,000 households, again physically separated from each other. The model proposes that the neighbourhoods are to have a high population density (forecast to be between 50 and 200 persons per hectare) and a balanced set of land uses, comprising residential, commercial (light industrial, business, warehouse and distribution and retail) and community services (transportation, recreational, education and health). The design also allows for each neighbourhood to have a balanced (low, middle and upper income) economic and social structure.

The proposals in the model for the development of 'an energy energy—conscious transportation system' include a new public transport corridor; bus priority proposals, a park and ride scheme; and range of traffic calming measures. The development framework also proposes that some of the neighbourhoods should be car free and that all residents ought to be within easy walking distance of public transport facilities.

Given the relatively high density of population forecast for the site, the infrastructure requirements are considerable. They include land consolidation works, sites and service provision, transport, recreation, education and health provision. The model proposes that new physical and social infrastructure should be developed in a shared way to service the peripheral housing estate and former mining village, as well as the new neighbourhoods. It is argued that neither the new neighbourhoods nor the existing settlements can carry the employment, recreational, education, health or retail services that are needed to support the aim of a high—level working and living environment. Thus the sharing of new infrastructures and services is a key factor in integrating the peripheral housing estate, former mining village and new neighbourhoods into a settlement pattern which should produce a more sustainable pattern of settlement.

The development framework goes on to address the central issue of the financial viability of providing a high level of new infrastructure in the face of abnormally high development preparation costs; and sets out forecasts of what the development will yield in the form of land receipts. The cash flows making up these land receipts are analysed over the short,

medium and long-term horizons and discounted at the opportunity cost of capital. The income takes the form of receipts from the sale of sites making up the mixed set of land uses (residential, light industrial and retail). The income represents the development value of the sites with planning permission. The costs include the purchase of land at existing use value (that is, without the development proposal or consent) and capital expenditure on the infrastructures required to service the sites. The existing use value is taken to represent the sum of agricultural and 'hope value'. The capital expenditure represents the cost of providing the recreation, education, health and public transport network. The discounted cash flow analysis supporting the appraisal forecasts that the overall project should yield a 11% internal rate of return (that is, surplus of income over cost of development).

As a planning exercise the appraisal (analysis and pricing) of the development follows the environmental guidelines set out by the Department of the Environment (DoE, 1991, 1993) and the Local Government Management Board (LGMB, 1994). It draws on a number of economic instruments to establish whether the planning gain released from the development is sufficient to fund the infrastructure requirements.

Observations

The planning and development solution proposed in this model advances a pattern of settlement that offers an alternative to the speculative development of greenfield sites, peripheral expansion and urban sprawl. The growth management strategy adopted for Edinburgh's South East Wedge is clearly planned. It argues that the approach will protect the green belt, and guard against the coalescence of settlement, the loss of identity of existing settlements and the potential break up of communities resulting from subsequent infill development. However, despite its aspirations, the degree to which this form of experiment can be seen to be environmentally friendly is more difficult to assess. This is because the model puts forward very little by the way of either an environmental or sustainability assessment. The structure plan written statement emphasises the creation of spatially compact urban forms in strong landscape frameworks and countryside settings, but it offers no formal assessment of their effect on the site's carrying capacities, its ecological footprint, environmental loading, biodiversity, or natural capital—all of which are key factors in a more sustainable settlement! Thus in its existing form the model is vulnerable to many of the criticisms that have previously been applied to the new settlement phenomenon (Lichfield, 1996).

This is because the development model operates in a somewhat anthropocentric terms of reference with, it might be argued, the environmentally friendly nature of the proposed settlement pattern consisting of little more than a 'green aesthetic'. About the virtues of designs which have distinct urban cultures, that take on spatially compact forms, and have strong landscaping frameworks in countryside settings. Population densities, land uses, socio-economic structures and related public transport networks that are seen as environmentally friendly only because the site values they produce generate enough planning gain to fund the infrastructure services forming part of the 'sustainable' solution.

The difficulty with this is that the value of the aesthetic may be seen to lie with the land market rather than the environment. This is because the model does not manage to transcend the market or its mechanisms for the allocation of uses to land. Market considerations about the use of land also dominate the design solution. This arises from the need to use planning gain as a means of funding the infrastructure expenditures in the context of the tight fiscal regime, highly enterprising and intensly competitive land markets operating in the South East Wedge.

While clearly planned, the viability of the development may still seen to be very much market driven. This is because what is viable from the environmental point of view is not known. The assessments needed to evaluate this have not been carried out. The cunning of this aesthetic rests with its ability to side step such matters. For while it does not assess the ecology of the urban culture and spatially compact forms it advocates, the model still suggests the design solution is sustainable. This is because the settlement pattern offers an alternative to all that is seen to threaten the environment; namely peripheral expansion around the edge of cities, the coalescence of settlements, loss of identity, and break up of communities.

Underlying this approach are the development conventions and traditions built up over the past decade under the policies of privatisation, 'boosterism', civic privatism, and the drive towards the all—pervasive marketisation. Thus fundamentally, and despite the references that are made to the development of an environmentally friendly pattern of settlement, the main points of concern can be seen to lie elsewhere (Deakin, 1996, 1997, 1999a). They lie not so much with the development of environmentally friendly patterns of settlement, or the ecology of the urban culture and spatially compact forms the model advocates, as with the value-for-money, economy, efficiency and effectiveness disclosures needed to ensure that the land market releases enough planning gain to fund the infrastructures forming the mainstay of the design's 'sustainable' solution (Deakin, 1999b).

Conclusions

It is evident that the proposal to develop sustainable communities in Edinburgh's South East Wedge is transforming the new settlement phenomenon in a search for plan led, environmentally friendly and sustainable patterns of settlement. But whilst clearly planned, the settlement model adopted says little about the ecology of the urban development and chooses instead to focus on the anthropology of the neighbourhoods, population densities, land use and socio-economic structures of the design solution. Thus the suggested 'environmentally friendly nature' of the proposed settlement pattern might be seen to add up to little more than a green aesthetic built around the supposed virtues of designs that take on spatially compact urban forms, with strong landscaping frameworks and countryside settings.

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PLANNING EDUCATION

Planning Education in Sub-Saharan Africa: Responding to the Demands of a Changing Context

KOFI DIAW, TUMSIFU NNKYA & VANESSA WATSON

Introduction

This article reviews the nature and content of planning education in Sub-Saharan Africa, and raises the question of how appropriate it is, given the dramatic and diverse changes which have occurred in both urban and rural areas. The central argument is that while the primary formative influences on most academic planning programmes in Africa can be traced to either inherited colonial systems of planning and land management, or the influence of 'First-World' donor organisations, the context within which planning graduates in Africa have to operate is significantly different from that in the resource-rich countries.

The arguments in this article are based on the experience of the authors in three countries in Sub-Saharan Africa: Tanzania, Ghana and South Africa. While it is difficult to generalise from these countries to the rest of the sub-continent, we feel that the three cases (which include the wealthiest and one of the poorest countries) offer a wide range of experience and thus help to raise issues, which can frame inquiry in other specific cases.

The article first highlights those dynamics of African urban and rural areas which particularly now demand the skills of planners, recognising the great diversity of circumstances across the sub-continent. The next section reviews the nature of planning practice in the three countries and how in some instances it is responding to new demands, but how, in other respects, there are strong continuities with the past. It then considers current systems of planning education in the three cases and reflects on the extent to which practising planners, the products of this education, have been able to respond to these new dynamics.

The Context of Sub-Saharan Africa

There is, at this stage, a high degree of consensus in the development literature that the problems faced by Sub-Saharan Africa are more extreme than those elsewhere in what may be called the Third World. Economies today are generally in a worse state than they were at independence. The mean annual growth rate of real gross domestic product (GDP) per capita has declined steadily since the 1970s (Elbadawi & Mwega, 2000), with the result that of the 500 million people in Sub-Saharan Africa, nearly 300 million are living in absolute poverty, and these numbers are growing (World Bank, 2001). In countries such as the Central African Republic, Mali and Zambia, the majority of the population earns less than $1.00 per day (United Nations, 2000) and 28 million Africans

Kofi Diaw, Department of Planning, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. Tumsifu Nnkya, Department of Rural and Urban Planning, University of Dar-es-Salaam, Tanzania. Vanessa Watson, School of Architecture and Planning, University of Cape Town, South Africa.

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