

COASTAL INDUSTRIALISED LAND DEVELOPMENT IN THE UK

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Introduction

In the UK development of industrialised land has reached the top of the political development and social agenda. Not least because of the increasing pressures to find additional housing land to provide for the emerging new social living patterns, but also because of the urgency to ensure the need for redundant industrialised land to become a clean environment that will sustain existing and future generations.

This presentation focuses upon coastal industrialised land and the management process required to regenerate land to meet the aspirations of sustainable land use. Taussik has usefully categorised 'spoilt' land into four definable types. These are brownfield sites; land contaminated in situ, land degraded by activities elsewhere, and finally land affected by natural events (1). Accordingly development projects are drawn from coastal spoilt land: a former oil refinery site, an aggregate site, and a former naval site.

By drawing upon the author's direct project co ordination experience of coastal spoilt site redevelopment as well as ongoing cases, the aim is to illustrate the co ordination and appraisal processes essential to a planned multi disciplinary approach. The key to success is leadership from the top and delegated leadership to the project co ordinator. In such cases a Surveyor, acting as a project co ordinator has a valuable contribution to make. But it must be emphasised that a range of key disciplines is needed.

The process requires an understanding of the Approach, which deals with the contextual background such as government regulatory control at European, national and local level. Next the Project Assembly process that encompasses collection of baseline data with respect to the existing historic industrialised legacy. Following this the Framework for Action can be drawn up which above all will allocate roles and responsibilities. Crucial to this is the pattern of land ownership, whether it is in public or private hands, and the relationship and levels of community participation. It will be seen that these have a direct implication upon how the process is managed.

The lessons drawn from these projects are focused upon by reference to a hypothetical case, which illustrates the range of the issues for analysis. The opportunities for development are interrogated with reference to an initial market appraisal. At this stage the environmental effects of each use are audited and the need for gap funding identified. An initial marketing campaign should also be looked at to ascertain budgets, time lags and strategic use of world opportunities. Remember we are now all global players looking to global markets.

The presentation proposes a way forward based on the technological innovations on the horizon. Such as a decision support tool which is already being used in the process of Integrated Coastal Zone development and management. This will seek to facilitate ever more comprehensive ways to promote the process forward and contribute to the appraisal methodology.

Background

Sustainability and environmental concerns are increasingly reflected in European and individual country government's policies. In the UK one of the examples of this is a policy statement that aspires for 60% of the 4.4 million new homes that are estimated to be required by 2016 to be built on reclaimed brownfield industrial land. Clearly not all of this land can or should be allocated for housing. There is a need for continuing supply of employment land.

Estimates identify over 50,000 hectares of derelict industrial land in England and Wales, but given the legacy of the industrial revolution this is probably only a fraction of the total contaminated land. Defining brownfield land is helpful. The former UK Department of Environment definition is "land so damaged by industrial or other development that it is incapable of beneficial use without treatment" (1992). Taussak has usefully expanded this by categorising 'spoilt' land into four categories. For the purposes of this presentation two are used:

1. Brownfield land, sites "which have been subject to development but is no longer in effective use" and is thus land which has ended the development cycle and is now to be appraised for redevelopment, and the second, not mutually exclusive is,
2. Land contaminated in situ described as "land where harm is being, or can be, caused by the nature of substances on, in or under the land". (2)

Three such projects worked on by the author include: 1,000 acres of brown and contaminated coastal land, 11 acres of brown estuary land, and 100 acres of brown coastal land. All are in single land ownership.

It is the land surveying profession that plays such a central role in the management of our land and resources. The purpose of this presentation is to demonstrate the management of the *project process* for appraisal of coastal (including estuary waterfront). Clearly sustainability is wider than the property life cycle, but the focus is the interrelationship between the traditional economic development appraisal and the process of achieving consensus between different parties.

This is discussed first by outlining the initial management approach, next the assembly of information needed for decision making. In this context the issues gleaned are highlighted with reference to project A (Oil refinery), and Project B (Aggregate site) and the framework for action is illustrated by Project C (Naval air station). Finally, project D is the hypothetical case that draws from the earlier project methodology and set in the context of an initial development appraisal.

Management Approach

The management approach is concerned about collecting information about landowner, community and regulatory authorities. Thus it is dealing with people, their institutions and their needs.

Clearly there are a range of different methodologies to this approach, but it is attempted here to simply illustrate the process, give an indication of the complexities, but identifying the objectives and leadership required for the decision making process. The importance of any approach is to maintain flexibility and adaptability.

There are probably three main prompts that will drive the initial development process. First, institutional framework/legislation, second objectives and delivery, and finally allocation of roles and responsibilities. Each of these is outlined before describing the salient issues that arose in the project case studies.

Institutional framework.

In the UK the overriding framework affecting development is land allocation, although other important issues include, the institution of land (3), taxation and the social and economic context. This presentation focuses specifically upon two key frameworks: the basis of land allocation and the institution of land. Each is briefly described below.

Land allocation in the UK occurs within the planning framework. This is traditionally concerned with the resolution of environmental conflicts, but is a functional development control technique. The concept of sustainability adds a new dimension and the aim is to meet society's needs according to this principle.

Implementing planning relies upon local governance through an area based authority structure. Two principal instruments combine to make up the planning framework under which control can be effected. These are the development plans, which are considered the 'heart' of the framework, and development control. The former comprises the structure, local and unitary Development plans as planning outputs. These are the statutory documents by which local authorities through their planning departments undertake their local political agendas.

These plans represent a link between planning at central and regional levels; they take account of government policies while also considering the development plans of neighbouring areas, the character of the local area and the needs and wishes of the local people. Thus they are permissive, and are statements upon which planning permission will or will not be issued. Development cannot occur without planning permission, which is based upon public consent through land use plans. The planning system applies to land issues above Mean Low Water Mark (MLWM), implying that authorities are required to consider different ways of approaching coastal regulation below LWM.

The 1990's is considered as a period of the 'plan led system', highlighting the importance attributed to the development plan, and decisions which must be in keeping with it. In addition development significantly affecting the environment, usually through size and location, is subject to Environmental Assessments.

The institution of land is the second important framework and relates to the social structuring of land rights as part of the wider socio- economic picture. Resource allocation and management inevitably relies upon freehold land tenure, which is intimately bound up with societal development. The government upholds the rights of owners to be the 'best judge' of use, thereby designating privilege in ownership. Thus the landowner's objective becomes important and is dealt with next.

Objectives

These relate to a range of different party's interests and agendas. Each must be initially identified, their objectives clarified, before deciding upon the legitimacy of each. In certain situations monetary value may not be the overriding objective. Perhaps disposing of land assets consistent with gaining the optimum value is the strategy because of the need to generate employment opportunities.

The landowner's objective may be the foremost objective, but the planning framework invites interaction between landowner and government to agree and sometimes compromise goals. Thus the philosophy and objectives of land use planning is to control development by planning for the future, and successfully controls the physical use in the public interest for which it was designed.

It has to be remembered that regeneration projects often involve multiple parties acting together, even in the case of single landownership scenarios as presented here. Objectives from the community, local planning authority, central government and industry bodies need to be identified. Of paramount importance is what can each party deliver? It is for this reason that landowners are often key because of their interest in the land. Although the rise in NGO influence over the last decade suggests that community representatives will increasingly be speaking out. It is not easy to show the direct effects of public interest on land and property, but this is set to increase as a more sophisticated information age is entered into.

An issue, such as sustainability, which fundamentally affects economic and social structures demands political and intellectual leadership. The process of change, and meeting various objectives needs managing. The purpose of leadership is to create a direction for strategy making, determining the links to implementation, and directing others. Thus leadership is about managing people both within and out of organisations. The leadership elements include vision, organisational match, and the strength and ability to implement processes. The risk to strategy is a failure to perceive conflicts and ignore, or not having awareness, of the external environment. The projects described here illustrate project co-ordination by surveyors, on behalf of the landowner.

Project Assembly

Project assembly is finding out exactly what the position is. It is this stage that represents the traditional economic study process of collecting base line data. But in the context of coastal industrial regeneration this expands to a multi- tasked process including identifying the correct professional expertise required. Project assembly may be divided into information relating to assets and liabilities (or development constraints). It may be that some liabilities may actually be assets and vice versa!

The project studies below identifies each project by site size, location and present/former use together with the purpose of advisory need. This leads to a brief overview of the salient issues arising in the context of the Approach and Project Assembly process. This process enables the calculation of an initial development appraisal. For the purposes of confidentiality the projects remain coded.

Site A

The site comprises about 1,000 acres, and is strategically positioned in the Southeast UK, and within a Government priority area. Due to its former use as an oil refinery and 900m of deep-water frontage it has established industrial and current wharf related use in the local plan. Immediately adjacent to the waterfront lies a designated environmentally sensitive area. The client required to maximise monetary receipts by sale of any potential development value extracted from an appropriate land use.

Thus project managing this process, assembling information and pulling together, a complex array of specialist advice was needed, as well as appraisal.

First, the interested parties extended to the South East Regional Development Agency (SEDA), the Local authority as well as the landowner. SEDA's objective is in line with national Government policy, which is supportive of the regeneration of large sites that are not reliant solely on road transport. The site's ability to be served by sea and its existing rail line are significant advantages for its future use. The Local authority objective is also regeneration and considers this a strategic site because it represents one of four large brownfield sites in the administrative area, and is located in a regeneration corridor identified as having priority for high quality development and job creation.

The landowner's objective is to maximise value. So if the greatest value equates to minimal use this would be acceptable. For example a major power station development only requiring a few acres at an extremely high land value may be greater than the land value achieved from a comprehensive development of the total site but which is calculated at a lower value per acre. This result would fail to meet the regional agencies and local authority objective to generate employment use. The authorities may attempt to control use through the local plan, but in this case the site is already allocated for industrial use.

Second, the landowner initiated a management approach based on leadership within the corporate framework. This resulted in initial antagonism between the landowner and local authority. Each approach was progressed in isolation. The landowner was not updating the local authority of project assembly actions, albeit that much was being done. Consequently the authority perceived that nothing was happening to address the long-term future use of this site, and so their approach was to begin work on a planning brief that would direct any future development. Developers' are generally concerned that these briefs do not always take full account of market feasibility, rather being inclined towards a planning ideal. At a later date the local property agent acting on behalf of the landowner, re negotiated and addressed this position.

A partnership was not formed early on resulting in each party perceiving conflicts in information thus the cost of consultancy reports were not shared on the basis that

exchange of information may compromise the other party. Fortunately the landowner after two years of project assembly work, is now beginning to liaise with the Council and other relevant agencies to achieve regeneration of this major site. It is hoped that active help will be forthcoming from agencies such as the regional economic development agency.

Most large sites will require complex information in order to aid decision-making. The third issue refers to the detail and extent of project information, and the manner in which this is controlled throughout. The landowner initially assembled a small group of key specialist advisors including property development and planning, marine resource manager, and inhouse expertise on environmental liabilities. After a period of 12 months of market appraisal and initial information assembly, a port economist and coastal engineer were also included into the team.

The key information needs included the land allocation framework. The Council's policies permit General Industrial (Class B2) and Storage and Distribution (Class B8) activities, together with wharves and port related development. It acknowledges that the site is also suitable for uses that would not normally be acceptable near to housing. This placed the landowner in a favourable negotiating position with the planners given the likely end market uses and any refusals to detailed planning applications are unlikely.

Port development in the UK requires a number of additional permissions by virtue of the coastal location. The time required to obtain these needs to be factored into the project development period. These permissions include: Environmental Impact Assessment under the Town & Country Planning Regulations, Discharge consents from the Environment Agency under the Water Resources Act, Licence from Ministry of Agriculture Fisheries & Food under the Food & Environment Protection Act, and a Licence Under the relevant Port Authority.

Other constraints largely surrounded environmental considerations were identified at an early stage of the decision making process. The landowner sought positive approaches and solutions, but the extent of survey detail reflected 'a need to know basis':

1. Remediation solutions relied upon several scoping studies which had been completed it was agreed in partnership with the Environment Agency (EA) that a phased site investigation and remediation programme be undertaken as development takes place on a plot by plot basis.
2. Drainage is a major issue because of the need for ongoing maintenance of the system. An improved system will achieve protection against flooding and the cleaning of leached contaminants from the surface water prior to entry into the estuary.
3. Ecological and environmental issues are an objective of the landowner. Development will include ecological improvement incorporating a replacement wetland area and other improvement of landscape but in tandem with feasible development needs.
4. Topographical issues will also impact upon the cost of development because river and estuarine alluvium of varying thickness overlying clay cover the majority of the site. This will require the load bearing characteristics to be

considered as well as the existing network of pipes and tunnels that may exist below ground. Full surveys are not yet available.

This process led to additional consultants being recruited to assist in environmental, drainage and ecological issues, and to prepare an Environmental Management Plan. This will address the key environmental issues associated with the site: existing ground contamination, the proximity of statutory protected nature conservation sites, and the existence within the site of species of importance. For example, the following environmental impacts could be considered: potential migration of contaminants, the effects upon local ecology and surrounding nature conservation sites, exposure risks to humans and ecological, dust, noise and vibration nuisance from construction vehicles, other atmospheric pollution, management of waste and contaminated materials, water discharges, and site materials handling and storage.

Transport economic consultants were also recruited both for on site roads and rail access but also external roads and rail essential for the development of a successful port.

Finally the project assembly process was conducted prior to formally requesting expressions of interest for the port development. This contrasts to the approach adopted by the project leaders of site C (See later). Thus by taking care to recruit the appropriate consultant at the appropriate time the landowner ensured that cost were controlled and risk limited.

Site B

The salient issue highlighted by this project is the importance of delivering individual party's objectives. It is not unusual for industrialist in the coastal and estuarine zone to wish to continue their business operations. This may be a prime objective and may conflict with the regulatory authority's objectives. Thus issues highlighted are the mismatch of the objectives, the emerging role of leadership, and the impact of environmental information.

This 11 acre site is located in East London on a peninsula formed by a loop of the River Thames. It has wharf frontage and is operationally used for import and export of marine aggregates. Historically the Peninsula has been used for a variety of industrial/employment uses maximising the waterfront and wharf areas. But currently substantial re - development is occurring around the site including high levels of development in the area, some prompted under an early SRB grant aid, and the 300 acre adjoining brownfield development.

Advice was needed that recognised that the Company's overriding objective is to take a fresh look at how to release value from the site but maintain an operational presence within the locality.

First the interested parties included the regeneration agency, the local authority and the Port of London Authority as well as the landowner. At a later stage a third party developer interest emerged. The local authority objective appeared to be ambivalent since their agenda was to create access to the riverside for a public cycle path. The regeneration agency was keen to purchase the land via a deal based on the open market,

hoping to add this site to the comprehensive regeneration programme being undertaken on the adjoining site.

The landowner's objective was externally driven because of the regeneration activity being undertaken in the surrounding area. Initially this required a strategy that would protect the business interests against the possible threat of Compulsory Purchase by the regeneration agency, and was thus reactive. Once project assembly was underway the landowner's role changed to a proactive position and took over leadership.

Assembling project information entailed a review of the land holding, next appraising alternative sites for the business operation. This identified only one site in a radius of approximately $\frac{3}{4}$ mile with river frontage. Followed by identifying other interested parties in the market with which development deals could be structured.

Second, the diverse objectives of the local authority and landowner emerged during the review of sites. The local authority land use plan controlled aggregate use by allocating only existing sites and they were not favouring opening new sites. This policy by implication could cause friction with the Port of London Authority as acting harbour authority for the River Thames, since they wanted to maintain operational wharves for revenue purposes. This position had to be reconciled by negotiation.

Third, deliverability is illustrated by an informal market exercise. Although the land use plan allocates industrial and employment uses, the exercise identified that a leisure development allied to the adjoining regeneration development would be feasible and provide high end development values.

This was borne out by interest from the regeneration agency that wished to purchase via market negotiation, albeit the threat of CPO always existed. In addition third party developers were demonstrating interest. The developer was able to deliver a range of objectives: the landowner's (operational security), the local authority (riverside cycle path), the Port of London (revenue and operational wharf) and in the end the regeneration agency (redevelopment). Terms were agreed for a back to back relocation package.

Finally, linked to the above is the means by which environmental information was collected. This was during the negotiation process. The usual scenario arose that while the aggregates operation had been established for several decades, the present landowner was in possession for a few years. Consequently during the change of ownership records were lost, although a history of services existed the extent of ground contamination (if any) did not. The private developer had greater flexibility to bear 'up front risks', albeit that these risks will always be translated to the eventual land price! A deal was concluded by the developer undertaking a phase one audit prior to exchange of contracts, but the structure of payments upon completion related to a risk sharing arrangement whereby costs would be deducted from the land price.

Site C

This site is illustrative of the framework for action. In comparison to the two projects above it looks at how the allocation of roles and responsibilities is affecting the process, and will provide a contrast to the leadership role due to the pattern of landownership.

It is a 100 acre site located in the South West of England approximately 150 miles from London. Formerly used as the Royal Naval Air station in conjunction with the adjoining former naval port it has an extensive frontage to a Harbour with existing quays and jetties.

The key requirement is to find an alternative regenerative use for this site. But it represents a most unusual redevelopment opportunity. On the one hand, it has a substantial area of enclosed water and some excellent access to the harbour, but it suffers from poor road communications and the closure of the station will have an impact on the local community.

A multiplicity of parties is interested including the landowner, regeneration agency, the local authority, the neighbouring port operator, existing businesses, and the local community who use some of the facilities.

In 1999 the Landowner delegated project co ordination to the South West Regional Development Agency (SWRDA), a government regeneration agency. This leadership position grants substantial initial control to the SWRDA enabling them to drive their own agenda. This is likely to be seeking to re- use local skills in new employment sectors, thus they will wish to optimise rather than maximise the profit level. This objective will need to be balanced with accountability associated with using taxpayers' money in the form of gap funding. In addition to this the objective to protect the many environmental attributes of the important Harbour area will persist.

The SWRDA has initiated a project assembly process that is ongoing in tandem with marketing. Information readily to hand includes a supportive planning framework which specifically address the reuse of the naval air station for the development of marine, leisure, tourism, commercial business, port and related employment uses. But this is subject to adequate infrastructure provision, and provided that the criteria in policy are met having particular regard to nature and marine conservation interests. The latter includes environmentally protected sites that surround the area including Chesil Beach but also ancient monuments.

Consultants are being used to masterplan a land-based development as well as assessing the potential reuse of the existing maritime facilities. Within the plan, the site's identifiable complex development constraints will be discussed. These include retaining the current flood water channel (currently used as a helicopter landing strip), accommodating the neighbouring visually intrusive tank farm, the need for improved road access both into the site as well as from the major trunk network, identifying the load bearing capability of the ground condition, Archaeological and heritage merit of existing buildings and monuments above and below waterline. Services and power do exist by virtue of the previous use.

However, deliverability will rely upon market feasibility. The demand for harbour or coastal sites generally tends to come from two quarters. The first is for high quality residential development that seeks to benefit from maritime views is often associated with leisure development. Alternatively heavy industrial processes, needing access to port/ wharf or use large volumes of seawater for cooling, or perhaps effluent purposes.

Such uses are almost always bad neighbours and are often sited well away from other development.

The real issue is finding a suitable partner that can prove deliverability within appropriate timescales. This is recognised by the SWRDA and the site is now available on the open market as a development opportunity. Initial expressions of interest were sought from developers late in 1999. This was occurring while the legal process to delegate the control of land to the SWRDA was being completed. In Spring 2000 it is envisaged that invited consortium/ developers will submit outline proposals, bearing in mind these are unlikely to include full detailed analysis due to the dearth of information relating to liabilities.

A real threat to the project is the appropriate allocation of roles and responsibilities, and subsequent piecemeal development. This will require co-ordinating all the parties objectives and interests. There is an urgent need for a strong lead agency, with access to significant resources to 'pump prime' the development of the site, but applications to obtain external public funds will dissipate roles and responsibilities thus subjecting the project to delay. The SWRDA has an opportunity to provide this, but will need a visionary lead partner.

The potential Framework for Action is for a comprehensive master plan and development of the wider area. This will need substantial vision, leadership and eventually subsidises probably in the form of gap funding. The development of this coastal industrial site could involve other accommodated buildings, (HMS Osprey site), sports facilities (Boscowen Centre and sports field), and Portland castle a listed ancient monument and visitor attraction. This would be planned in conjunction with the existing 32 acre port facilities (on the former naval port) and Mere tank farm.

Initial Development Appraisal

The purpose of an initial development appraisal is to illustrate how to get a project to work using an approach that recognises the multi- disciplinary needs of all.

The lessons learnt from the above projects are combined into site D, a hypothetical site. This recognises the need for a multi- tasked approach through out the project life. A leader/ project co- ordinator that achieves consensus by adopting a sound management approach, conducts a rigorous project assembly process, and constantly refines development appraisals is of paramount importance. By progressing on this basis the leader will attempt to manage the effects of externalities which will impact on project timing and deliverability. For example, there may be a need to move the process forward say to reduce the impact of environmental hazards.

Site D

A simplistic scenario may be presented thus:

The site comprises 10 acres; it is flat and fronts a minor Estuary. Access is available and all services and infrastructure to and within the site, is in place. The former use of the port is incorporated within the land use plan as uses associated with the harbour

operations of fishing and ancillary import and export of products. Thus employment use is acceptable. However, it is located away from the main area of commerce, and has environmentally sensitive areas adjacent.

Two opportunities for development are clarified by an initial market exercise. There is demand for residential homes but the local residents are concerned that local house prices will increase disproportionately to incomes. The planning authority wishes to see employment generating uses and is also against residential development. Alternatively demand for storage units each of 1000 ft. sq. together with retail allied with a heritage museum also exists. The latter development is unlikely to provide such a high return as the former.

The landowners negotiated with the interested parties, primarily the local authority. The objectives are merged and the landowner accepts that residential is not acceptable but is confident that flats above the retail accommodation will be. Consequently an initial appraisal is calculated, which basically considers

$$\begin{array}{rcl} & & \text{Capital Value} \\ \text{Minus} & & \underline{\text{Development Cost}} \\ \text{Equals} & & \text{Development Profit.} \end{array}$$

Development is sensitive to key problem areas. These can be reflected in the appraisal by use of cash flow analysis. The key problem areas usually identified during project assembly include Planning, programme, possession, Site survey information and albeit not dealt with here, taxation (VAT). Referring to site D the scenario could unfold thus:

- Planning

Although initial negotiations have taken place there still remains a need for an application for change of land use for mixed residential and retail/ museum use. The planning authority may not consider these use as sufficient generators of employment. The developer will not wish to be in a position of appealing against a refused application and is likely to negotiate. This will involve understanding the planning objectives and presenting a true picture of employment generation. For example, the introduction of mechanised handling systems into Ports reduces substantially the need for labour. The heritage use is likely to be presented as a community gain, particularly if the developer subsidised the rent for a period of years.

- Programme

This relates to the project timescale. At all stages the appraisal will take into account the period over which money is borrowed and when the rental income streams will be received. If rental income is delayed then the cost of borrowing will over time increase as interest payments mount, especially if interest is on a compound basis.

- Possession

All the projects in this presentation are assuming single ownership. But in instances of the need to assemble land or where the sites are in multiple occupation then timing and costs need to be managed and mutually acceptable possession dates need to be agreed with all parties in an attempt to minimise unexpected delays. For example, business may have to be relocated, or tenant's lease purchased or allowed to expire.

- **Site Survey information**

In instances of brownfield and contaminated land this is perhaps the greatest area of risk. By its very nature quantifying the cost early in the process is difficult. Although data can be retrieved from existing records this is often unlikely. Information may be gleaned from land records, if any, previous or existing business organisation records, maps and databases. Thus current surveys may need to be commissioned but consideration must be given to how detailed these surveys need to be, they must be done on the basis of need to know. In order to structure development deals information will need to be shared, and mechanisms found that do not compromise either party's negotiation position.

At this juncture the management approach has identified all interests, the gaps in project information identified and the initial appraisal undertaken. In this instance there is a need for additional funding sources. All avenues will be investigated and could include Lottery bids for the heritage site, conventional public sector funding structures under an Assisted Area or European Objective areas, Land grant or SRB funds, and finally government regeneration agencies.

Finally, it is important to decide the marketing profile for the site at a reasonably early stage. The methods used in the projects above range from, supporting planning authority development briefs and being selective and controlling the level of interest by requesting expressions of intent from third parties. Deciding marketing budgets may influence the degree of success in finding a suitable developer/ operator. Marketing material that seeks to identify global interest will need to use the appropriate medium.

Conclusion

This presentation is not suggesting a panacea to all the issues arising, but seeks to reflect practical industrial development experience along coastal lands. The methodology proposed emphasises that leadership is important. It requires the identification of the correct management approach, ensuring appropriate project assembly that will inform the initial appraisal. This in turn will inform decision making and ultimately provide a structured framework of an approach that includes a consensus view. There are now interesting developments in Information technology support tools that are currently being developed and may aid this process further.

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Biographical note

Diane A Dumashie BSc ARICS is a Chartered Surveyor, has a degree in estate management, and has considerable experience in land usage, property management development and appraisal both in a consultancy capacity and in the corporate sector. For 5 years she has been consulting on a range of projects, after holding senior business management positions at Scotts Hotels Limited (Trading as Marriott Hotels) where she was in charge of all property matters, land acquisition and development projects. She worked as a consultant at a marine engineering firm, Metoc plc where she combined her knowledge of coastal zones with her experience in land management to act as International Coastal Zone Management Consultant.

Now Diane continues to provide client strategic advice and project co-ordination across a range of industries, and focuses upon the regeneration of land taking a strategic view with particular emphasis on coastal and waterfront areas across industrial, and leisure market sectors. She has special experience in Marine Resource Management, land administration, waterfront/ property development and feasibility advice, co-ordination of land regeneration projects, the development of leisure and tourist facilities in a national and regional planning context and Acquisition.

As an active member of committees Diane maintains a presence at the forefront of Marine resource management issues including community, development and planning and marketing surveyors skills. In addition over the period 1995- 8 was a Committee member of Land Commission 7 (FIG) contributing issues relating to coastal resource development.

Finally Diane is the author of a range of papers those presented at conference include:

- 2000 Littoral: The use of Decision Support and Information Management in land and economic Regeneration of Coastal Areas.
- 2000 International Federation of Surveyors, Commission 9: Land development in the Coastal Zone
- 1998 International Federation of Surveyors, Land Commission 7: paper presentation, Commercial landowner contributions to sustainable management of coastal areas.
- 1998 Littoral Barcelona – Sustainable waterfront and coastal development in Europe, socio economic technical and environmental aspects. Paper presentation leisure and port developments.
- 1995 International Conference Coastal Zone ((Florida) paper presentation, Building CZM partnerships
- 1994 World Wide Fund for Nature (UK), A Review of UK Coastal Plans
- 1993 Author of A Coastal Directory of Local Planning Authorities: A review of local planning authority plans and partnerships in Coastal Zone Management on behalf of the Royal Yachting Association.
- 1993 International Federation of Surveyors (FIG), Marine Policy in the State of Hawaii.
- 1992-8 Ph.D. part time research, University of Wales: Thesis: ‘Strategic management; Land owners, Local Authorities and coastal zone management’. This is with particular reference to the strategic business approach of coastal landowner and industry and Government Coastal policy.