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Project management in protected areas: a tale of two systems

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PROJECT MANAGEMENT IN PROTECTED AREAS:
A TALE OF TWO SYSTEMS

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Abstract

This paper examines the application of information technology to project management in the context of the implementation of management plans for protected areas which now cover some 20% of the land surface of developed countries. CMS, an 'off the shelf' system intended for use on any conservation site, is compared with PMIS, an organisationally based bespoke system in which site and property management was merely one aspect of an integrated IT system encompassing virtually every function of a large organisation, the National Trust.

CMS was conceived 'bottom up' as a modest experiment by site managers to solve their immediate problems of project control, has been highly successful to date and is in use in over 350 sites within the UK as well as in a number of other countries. PMIS, initiated 'top down' as probably the most ambitious attempt to date of any conservation organisation to computerise its activities has failed to fulfil early hopes, proving unwieldy and expensive and development was curtailed in late 1995.

The implications for protected area and conservation site project management are considerable. Small may not be particularly beautiful but is currently the only available option for those who need a working project management system. In the long term however the choice between 'off the shelf' PC-based software and the development of a networked bespoke system will be an increasingly difficult one, particularly for large land managing conservation organisations.

Keywords: CMS. PMIS. PROTECTED AREA. IMPLEMENTATION PLANNING, PROJECT PLANNING AND RECORDING.

Introduction: protected areas and management planning

Protected areas are parts of the planet's surface with *de jure* or *de facto* protection from development or from other activities likely to damage their wildlife, ecological processes, archaeological resources or landscape. They range from internationally designated areas such as Biosphere Reserves and World Heritage Sites through national parks and nature reserves to urban parks and other sites which by reason of designation (such as green belt) or use (such as cemeteries) have particular natural, cultural, aesthetic or recreational value.

Worldwide, there are currently more than 8,500 statutorily designated sites which correspond to internationally recognised categories, distributed across 170 countries and covering almost 775 million hectares, equivalent to over 5% of the planet's land surface [1] A similar area again is covered by 'landscape' areas or non-statutorily designated sites such as voluntary reserves which lack the strict protection required for international recognition but where planning designations or ownership restrict the potential for major development. In developed countries the extent of protective designation is now significant. Some 12% of the UK land surface is covered by 'strict' designations such as National Nature Reserve or National Park, a figure similar to that for most European countries and one which rises to some 25% if planning designations such as Areas of Outstanding Natural Beauty (AONB) or Green Belt are included. Increasingly also, management approaches derived from protected area management are being applied to non-designated areas such as water catchments and the coastal zone.

Protected areas - national, regional and local - are increasingly seen as a means of delivering environmental goods. These include wildlife conservation and environmental protection, archaeological and cultural heritage preservation and recreational access. In the vast majority, restrictive policies are accompanied by some form of positive management of the human and/ or natural resource. Large scale or potentially damaging development is generally strictly controlled. 'Project management' in the context of protected area management consists to a large degree of the management of multiple, often routine and small-scale tasks. As in any other context such tasks require planning and it is a matter of consensus that every protected area 'should have a management plan covering information, evaluation, intention and actions' [2]. Such plans are now a formal requirement in many contexts as, for example in 'Natura 2000' sites established under the 1992 EU Habitats Directive. 'Just as there is no single approach to the establishment of protected landscapes, so there is no single approach to management planning' [3]. However all management plans include some common elements:

- an *assessment* of the area and its significance
- a declaration of the *objectives* of management
- an elaboration of outline *prescriptions* for management.

These key stages (and, as they often appear in the final plan, sections) constitute the strategic plan which is usually reviewed at five or ten year intervals. Strategic planning is increasingly separated as a process (and also in the final plan) from implementation (or operational) planning, which consists of breaking down prescriptions into executable units of work, or *projects* which are assembled into a programme of work usually reviewed annually.

Projects and project management

A project is defined simply as a unit of work which can be precisely described and costed, for which responsibility can be assigned and which can be executed within a defined timescale. The relation between projects, prescriptions and objectives is shown in Figure 1. For the purpose of clarity only one objective is considered. However the achievement of any particular objective may require more than one prescription and any prescription may contribute to the fulfilment of more than one objective. Several discrete projects (including any requirement for monitoring) are normally needed to realise a particular prescription: several prescriptions may be part implemented by the execution of a particular project.

**** Figure 1 ****
The relation between objectives, prescriptions and projects.

Once a list of projects has been produced it can be assembled into a work programme. The execution of individual projects, when completed, is recorded and the completion of the work programme is monitored by means of an annual review. The outcome of the annual review is fed back into a revision of the whole plan, normally at 5-year intervals.

Detailed planning procedures, formats, and terminology vary greatly with the managing organisation. The best known and most highly structured format is that of the UK Nature Conservancy Council (NCC) [5] which has become widely adopted in other contexts, both in the UK and elsewhere [6].

In the NCC planning format and its later derivatives [7], a finite list of standard project titles is used and each given a fixed code, set by a central user group. For example, RV51 is the standard code for 'Collect press cuttings'. Project codes are extended by a further two digits (01, 02 &c) to allow subdivision or to distinguish similar but distinct projects, and project titles may be extended with a qualifying phrase. For example AL10 is the standard code corresponding to the project title 'Implement inspection, site equipment'. In an actual work programme, projects might therefore be represented as follows:

- AL10/01: Implement inspection, site equipment/ Landrover
- AL10/02 'Implement inspection, site equipment/ drainage pumps'.

Each project may be planned on a standard project planning form. In addition to the project code and title this form has sections for entering the time and place of execution, its priority, the operative responsible, estimated labour and materials costs. There is also a free-text section where instructions for execution can be entered. Completion of the project may be entered on a project record form which has similar sections where any variations from the intended details (for example as regards staff time) may be entered and where the textual section may be used for recording any other significant facts or, for monitoring projects, data.

The collection of projects required to implement a particular prescription is known as a project group; the full list of projects for a site, past and future, completed (i.e. recorded) and planned is known as the project register. The project register allocated to each year of the plan becomes the annual and long term work programme and, at the end of the appropriate term, the basis for the annual and long-term review.

Such is the principle. The practical reality can be very different. A major problem with site management is that project planning and recording can be haphazard, inefficient and inordinately time consuming. Planning is often ad hoc and incomplete; recording is often delayed until the time of the annual review where it becomes dependent on the memory of the property manager aided by ephemeral records such as receipts or other records of transactions involving a financial transfer. Budgeting becomes a matter of guesswork; production of annual accounts can be a nightmare. Computers provide at least in principle, an alternative to paper (or mental) systems. They also have the potential to automate many of the administrative processes involved, particularly with respect to financial planning and reporting.

Small but successful? Nature conservation and CMS
Over the past decade a number of attempts have been made to develop software systems to meet the challenge. The most practical and indeed at present the only widely used computer system is the Countryside Management System (CMS)[8]. CMS arose from an initiative in 1989 of two individuals, Mike Alexander (Head Warden North Wales for the (then) NCC), and James Perrins (then a postgraduate research student at York University). Together they devised a prototype PC based system, the 'Project Planning and Recording System' or PPRS, based on Advanced Revelation DBMS software. PPRS was designed to assist the later (implementation) stages of NCC (and other) site and property management plans by facilitating the planning and recording of the projects by which these plans were implemented. Subsequently NCC financed the development of and enhanced version, designed to link with NCC's own COREDATA information and monitoring system (recently abandoned) for trial and evaluation. Substantial project funding from British Petroleum enabled the system to be promoted amongst UK non-governmental organisations (NGOs), including the provision of a PC (on which the system could be run) for every County Wildlife Trust and of training courses for staff and volunteers.

PPRS was based on the use of the standard NCC project codes to index management projects held on the database. This allowed data to be manipulated in many ways, for example to produce instructions (in the form of completed printed project planning forms) for the execution of individual projects. It also provided a mechanism for recording project completion and for producing five-year and annual work programmes, property budgets and annual reports, all of which could be generated in a matter of minutes.

Version 3, a much improved and refined version of PPRS was introduced in late 1991 and renamed the 'Countryside Management System' or CMS. CMS included modifications made in response to feedback from organisations other than NCC and included, for example, the linking of the database of projects to planning objectives and prescriptions, the ability to customise staff and finance codes, better indexing, and the ability to make simple maps. Version 4 of the system, released in 1993/ 1994, was modified to be linked to user defined software systems, so that in addition to import and export of text from word processors it will automatically invoke and save to a number of spreadsheet files and relate data to simple maps.

At the time of writing a Windows (3.1 and Windows 95) based (Microsoft Access) system is being beta tested and will shortly be released. The relationship of CMS to the planning process is shown in Figure 2.

**** Figure 2 ****
The relationship of CMS to the planning process

Between 1993 - 1996 development of CMS proceeded under the auspices of the 'CMS Partnership', a consortium of statutory agencies and NGOs. Members include the Countryside Council for Wales (CCW), Scottish Natural Heritage (SNH), the Department of Environment (Northern Ireland), English Nature (EN), the Joint Nature Conservation Committee (JNCC), The National Trust, the Royal Society for Nature Conservation (RSNC, for The Wildlife Trusts), the Royal Society for the Protection of Birds (RSPB) and the Wildfowl and Wetlands Trust.

One object of the partnership has been to secure common implementation of CMS on its members' own sites as well as amongst other major public and private landowners. The original 3- year agreement has now concluded with this objective well on the way to being realised. Within the UK CMS is now in use on a total of more than 350 sites. In addition to CCW (35 sites), EN (27 sites) SNH (20), DoI(NI) (13), RSPB (89), County Wildlife Trusts (75) and The National Trust (70), it is in use on over 50 sites managed by County Councils and local authorities and also by a number of smaller bodies.

Other partnership objectives included encouraging the use of CMS in educational establishments for training site managers and promotion overseas. CMS has so far been trialled in several European countries including France, Hungary, the Netherlands and Spain (provisional versions produced in French and Spanish) and also in Costa Rica, Jordan, Tanzania and India. The perceived benefits of CMS are summarised in Table 1.

**** Table 1 ****
Benefits of CMS

The bigger they come? The National Trust and PMIS

In contrast to CMS, which has been widely adopted as an IT tool for site management planning on individual sites by a variety of very different organisations, PMIS represents an attempt by a one very large property management organisation to develop a tailor-made system to implement IT based project management on all its sites and to integrate this with other IT requirements throughout its organisational structure.

Founded in 1895 as a society for the preservation of natural beauty and historic interest, the National Trust enters its second century as Britain's largest private landowner. Its land holding at the end of 1995 totalled 242,811 ha, an area equal to some 1.5% of the total land surface [9] and exceeded in Britain only by the Forestry Commission and the Crown. The Trust's estate includes some 230 'Great Houses' as well as some 20,000 smaller individual buildings (including more than sixty villages and hamlets and 37 pubs) and 1,200 tenanted farms. The Trust is also a major steward of the 'natural' heritage, including around 9% of the total area of National Park together with a similar proportion of land designated as Area of Outstanding Natural Beauty (AONB) and over 880 km of coastline, equivalent to some 15 - 17% of the total. Overall, the Trust's portfolio of property - natural and built, rural and urban, ancient and modern - is unique in its variety and quality. In addition, with a membership of over 2 million the Trust is the world's largest voluntary conservation organisation.

The last decade has seen the Trust's transformation from 'an amateurish oligarchy into a responsible business enterprise' [10]. The activities of National Trust Enterprises - the commercial arm of the Trust - include cafes and souvenir shops, the production and marketing of branded goods (including over a dozen town centre retail outlets), holidays and commercial lettings. NT Enterprises, like the Trust's membership section is relatively independent from

the 'core' property management activity of the Trust and has successfully adopted IT in its activities.

Within the core property based work of the Trust, however, it became increasingly clear during the 1980s that information management was a major organisational problem. Part of the Trust's transformation has involved the development of IT based information processing using word processors, databases and spreadsheets. However such applications have been for the most part sectoral to particular offices or office functions, with the consequence that information is often not integrated and access is often limited to a single individual at Regional Office. The consequence was that much information, even at Regional or National level is incorrect or out of date, often duplicated and not infrequently conflicting. For example, since records of tenancies are kept separately by Land Agents and by the Trust's Accounts Office, tenancy changes might often be entered in one record but not in the other with the consequence that it is impossible easily to produce an accurate list of who is occupying what. At a property level, biological and archaeological estate surveys, buildings records and contents inventories were updated on an ad hoc basis so that it was difficult or impossible ever to provide an up-to-date statement or to monitor changes. Though there were good records of important paintings in stately homes, records of the assets and condition of the Trust's estate, in terms both of wildlife and landrovers, were poor. The potential advantages of linking computer-based management at the site level with a whole-organisation management and administrative computing system covering personnel and payroll were clear. Figure 3 indicates the relation of management planning at a site level to wider organisational procedures in the Trust.

**** Figure 3 ****
The relation between management planning
and organisational planning in the National Trust

In 1989 the Trust commissioned Coopers & Lybrand Deloitte as consultants, guided by a Trust steering group and a national working party, to produce a Regional Information Technology Strategy (RITS). The consultants' report [11] recommended that an integrated computer system should be established in each of the Trust's sixteen regions to handle both numerical and textual data as well as maps and diagrams. The elements of the proposed system are shown in Table 2

**** Table 2 ****
Proposed elements of the National Trust
Regional Information Technology Strategy

The Report emphasised that the costs of a complete trial system would be high and it advocated a cautious policy in which the property records module would be implemented first and tested with data from a small number of properties in order to establish the benefit and appropriateness of this type of system. The Trust's own Working Party however, favoured early implementation of a more comprehensive system. Eventually it was decided to follow the latter path with a pilot study based in the East Midlands Region of the Trust. The ultimate objective was an integrated IT system based on an Oracle 6 DBMS linked to a GIS system to handle both textual and numerical data as well as maps and diagrams. It was intended that the system would be operational in each of the 16 Regions of the Trust by the early years of next century.

In August 1990 invitations to tender for the Pilot Study were issued to six companies resulting in May 1991 in a substantial contract to a Nottingham firm, PAFEC. This objective was to implement a data capture module for the Property Records System in four properties; two mansion properties (Belton House, Lincolnshire and Calke Abbey, S Derbyshire) and two large countryside properties in the Peak District (High Peak Estate and South Peak Estate).

Each property was provided with its own workstation linked to central servers and PC terminals, to which all staff had access in addition to two full function workstations for graphics and mapbase users at Regional Office. The first phase was the implementation of ten integrated components including property acquisitions, statutory designations, agreements, services &c, plus buildings records, work schedules, rent collection and contractor records, and property maps and observations records [12].

The ambitious scale of even this first phase is illustrated by the fact that in addition to non-graphical data, well over 500 separate paper maps existed for just the four trial properties, excluding the base OS maps; the exercise involved the training of 70 people of which thirty were first-time PC users. The original programme intended implementation of this first phase to be completed by October 1991. Full implementation of all 44 component elements was planned for December 1992.

These early hopes were never fulfilled. The system was never extended beyond the East Midlands Region and was never fully operational within it. The project proved overambitious; technical problems and logistic difficulties combined to produce continual delays. In July 1992 only three of the ten components of the first phase were running. At the end of 1995 further development of the project was formally abandoned, although some individual data handling components (but not the mapping facility) continue to be run in the East Midlands Region of the Trust.

Meanwhile a simpler system had been initiated in 1992 to provide an interim means of handling key property functions whilst the full PMIS system was being built. This interim system was based on a Novell network using Paradox DBMS. A central element is a Task Management System or TMS, intended for the Trust's built properties to handle major projects (including building and contractor records) and recurrent tasks (corresponding in concept to CMS projects). TMS incorporates for 'built' properties many of the functions that CMS offers for countryside sites and, like CMS is based upon the declared needs (and is modelled on the existing paper systems) of house managers. Subsequent to the abandonment of PMIS a decision was taken to migrate TMS to a Windows based Oracle 7 client/ server system and following testing of a prototype the full system is now being piloted in six regional offices, with the intention that the remaining regions will be phased in during 1997. The new system is to be renamed the Regional Information System or RIS. However, the costs of a wide area network to link each of the sixteen regional client/ server systems as well as the lack of common information standards, are likely to preclude synchronous electronic data links so that each Regional system will remain an isolated island for the foreseeable future.

Two paradigms for project management?
CMS and PMIS represent two very different approaches to IT support for project management (Table 3). CMS is essentially a 'bottom up' approach developed by individual practical site managers in collaboration with computer experts. PMIS is, by contrast a 'top down' initiative concerned with improving the efficiency and quality of management procedures and practices across the whole organisation.

**** Table 3 ****
Two paradigms for IT in protected area management

Each approach has its strengths and its limitations. For a large organisation like the National Trust, the major limitation of CMS is that it cannot do what it was hoped PMIS would do, that is, permit the integration of site project management with broader organisational procedures. Even at a site level CMS lacks a number of functions that will ultimately be essential if IT is to fulfil its potential in this area, for instance, a proper GIS element and the ability to exchange data with national biological recording systems. Advanced Revelation (selected in 1989 because it was at that time the database management

system in use by the NCC) is now outdated and not suited for many of the functions required of an up-to-date system. The Microsoft Access-based Windows version is a considerable improvement, both in functionality and in user-friendliness.

Any IT system is ultimately a compromise between functionality and cost. The latter is today much less of a problem than it was for many users; the price of adequate hardware system for CMS (a minimum 486DX processor, 8 - 16MB RAM, 160MB hard disc, together with an adequate printer) is now less than £1,000 and falling still. The advertised cost of CMS software is £500 though most organisational users have negotiated lower costs for multiple licences.

Much greater costs relate to the time involved in setting up and learning to use the system. The CMS partnership estimates a basic training time (for experienced management planners) of 1 day, however one user new to the NCC planning format as well as to CMS found that it took some 50 hours merely to reach the stage of writing project descriptions [13].

Having become familiar with the system a further problem is access to it. In many organisational contexts CMS may be located in a head office often some distance from the site where management is taking place and may not be accessible when required: regular users of CMS report that its value is only fully realised when used daily or at least with sufficient frequency for it to be almost routine.The Audit Commission found in a 1993 examination of English Nature's management of its National Nature Reserves that although most EN regions possessed an early version of the CMS software

> 'this is usually located in the Regional Office and hence site managers who are located away from the regional office do not have direct access. They thus prepare records manually and in some regions these are collated centrally and logged onto the computer database' [14]

Such a situation is likely to be less efficient than an entirely paper-based manual system. Despite this, the Audit Office found that CMS 'is of use locally'. Ultimately attitudes to computer based packages such as CMS will vary from user to user, one of the most important determinants of success being motivation as well as the flexibility to adapt procedures to the requirements of the system.

All these problems, however would apply with equal weight to the project management element of any IT system, including that of PMIS. PMIS as a system failed at least in part because of what was potentially its greatest strength; integration of information flows within the organisation. For the Trust, whose sixteen Regions enjoy a considerable degree of autonomy to develop their own management procedures and practices that integration remains a pressing need.

In the case of CMS many of its perceived limitations relate to the practice of conservation site management planning which is itself still often narrowly site focused, overly science based, and preoccupied with the production of a written plan (which is often ignored as a practical guide to management practice) and neglectful of the social procedures of planning, particularly the involvement of stakeholders, including local communities, and the achievement of consensus between different interests within and beyond conservation.

The role of CCW in the development of CMS is, significantly, an extension of its prominence of the North Wales Region of the old Nature Conservancy Council in the development of the NCC format plan from the early 1980s. By contrast, following the replacement of NCC by separate country agencies in 1991, English Nature has been less than enthusiastic about both the NCC format plan (preferring to focus on much simpler statements of objectives which could form the basis for agreements with private landowners) and also about CMS. The Audit Commission found in 1993 that English Nature had decided not to adopt the CMS system to provide corporate management information on reserves because:

- it had many classifications and the information required was very detailed and time consuming to input;
- it resulted in very detailed site plans and reports which were of little use to anyone other than the site manager;

- it produced extensive data which precluded any speedy evaluation and did not produce nationally relevant information' [15]

Ultimately, IT systems will be successfully adopted by organisations only when they provide demonstrable advantages to individual users or when they are clearly perceived to facilitate corporate objectives. Within the National Trust itself CMS began to be adopted by a number of individual managers of countryside properties on their own initiative in the late 1980s and early 1990s; it is currently in use on over seventy such sites. Virtually all those using the system are positive about its benefits. A small number of individuals have tried CMS and rejected it. It seems likely that the determinants of successful adoption and rejection are related as much to individual temperament and attitude to IT as to objective circumstances of site management.

One problem with management planning and project management within the Trust is that the Trust's twin statutory goals - the preservation of 'natural beauty' and of 'historic interest' - manifest themselves in cultural differences between managers of 'countryside' and 'built' properties. National Trust management planning guidance was initially based closely on the NCC approach to wildlife sites. For example, the 1992 Trust planning guidelines recommended the use of standard NCC project codes despite the fact that these apply (like the CMS system itself) primarily to nature conservation. They therefore had little appeal to managers of 'built' properties and gardens (for whom in any case a new system, TMS, was being developed) or to managing agents whose estate management training and background did not easily accommodate the highly structured (and at times scientifically abstract) approach of the NCC.

A further problem was that in practice very few management plans - for countryside or built properties - were (or are) ever taken to work programme stage (and where they exist, work programmes are rarely used as a working guide to practical management). Moreover site management planning as a whole bore little relation to other procedures used within the organisation. By 1994 it was clear that in many cases, where implementation planning was being taken seriously, "too much work is being done on project planning and recording with a variety of systems in use" [16]. The National Trust's own planning guidance was - like PMIS - abandoned in 1995 and replaced by a more flexible approach which makes a clear distinction between strategic planning and implementation which are now separated procedurally and manifest in separate documents; a long term strategic plan and an annually produced implementation plan for each property. The new guidelines acknowledge that computer based systems are a potentially valuable tool of property management but that it would be counterproductive and inappropriate to recommend their use for every property, let alone impose any single system. They state merely that "The preparation, use and ultimately recording of Implementation Plans can be undertaken with Computer Software, including the Countryside Management System (CMS) and the Task Management System (TMS)" [16].

Conclusions

The principal uses of IT in heritage conservation and protected area management are still in the traditional areas of office automation, principally in word processing (including desk-top publishing), spreadsheets and simple database applications. In the more complex areas of financial and organisational management, small organisations (for example county wildlife trusts and other NGOs) tend to use 'off the peg' systems configured (where this is possible) for the specific needs of the office or organisation. Larger organisations can afford to have custom-built systems. In either case;

'As IT moves deeper into the heart of the organisation's business, it becomes more and more an influence on the strategic decisions taken by the business. It can have a profound influence on an organization's ability to evolve and compete, adapt to changing circumstances, and exploit new opportunities'[17].

Conservation organisations do not (yet) perceive themselves as commercial organisations but are already increasingly subject to comparable constraints and challenges.

The system requirements for a single computer to serve the needs of one individual (or site) are very different from those required to serve the property management and organisational needs of a large organisation. The risks to the individual involved in adopting IT systems are limited, usually, to the costs of the software (the hardware, being generic, is likely to be of value in a range of other applications) and to the time spent in attempted implementation. The risks for the larger organisation are considerable. They are not limited to the expense of systems hardware and software and include staff training, the reorganisation of working procedures, and the opportunity costs of alternative solutions which could have been implemented in place of the option chosen.

CMS and PMIS can be represented as alternative (and largely incommensurable) paradigms for IT in project management[18], analogous to that between incrementalist and saltationist evolutionary processes. Incrementalism can never lead to perfection because the starting point and development trajectories are arbitrary; however at each stage in its development the product is likely to be doing an adequate job or it would not survive. 'Hopeful monsters' can sometimes prove superior beings. More often however they prove to be evolutionarily unstable and disappear without trace [19]. The balance of advantage between 'off-the-shelf' as compared to bespoke systems for site management leans increasingly (as good packaged software becomes available) in favour of incremental and modular approaches, based wherever possible on ready made systems. With the development of TMS, the Trust itself has now declared its commitment to a modular approach to the introduction of IT in organisational and property management.

For all large property managing organisations however the question will continue to pose dilemmas. Microsoft Access is an inappropriate basis for implementation software in multi-user environments. Even for single users response times for programmes like CMS on systems currently in use in most conservation organisations, may be unacceptable. Multi-user systems need more powerful hardware and more sophisticated database management systems, e.g. Oracle 7. TMS represents the first of such systems to be implemented within the Trust [20], on a much more modest scale than that envisaged for PMIS. As the most recent (though undoubtedly not the last) twist to the tale recounted above, following the National Trust's revision of its own ambitious plans for PMIS, the increasing sophistication and falling cost of information technology in other areas (for example in integrated database and Geographic Information Systems (GIS) such as the Countryside Information System [21]) has led some of the larger organisations within the CMS Partnership to look more favourably again on the possibilities for integrating conservation site project management with wider organisational and information systems. Lessons drawn from the experience of CMS and PMIS will undoubtedly prove instructive here.

Acknowledgements

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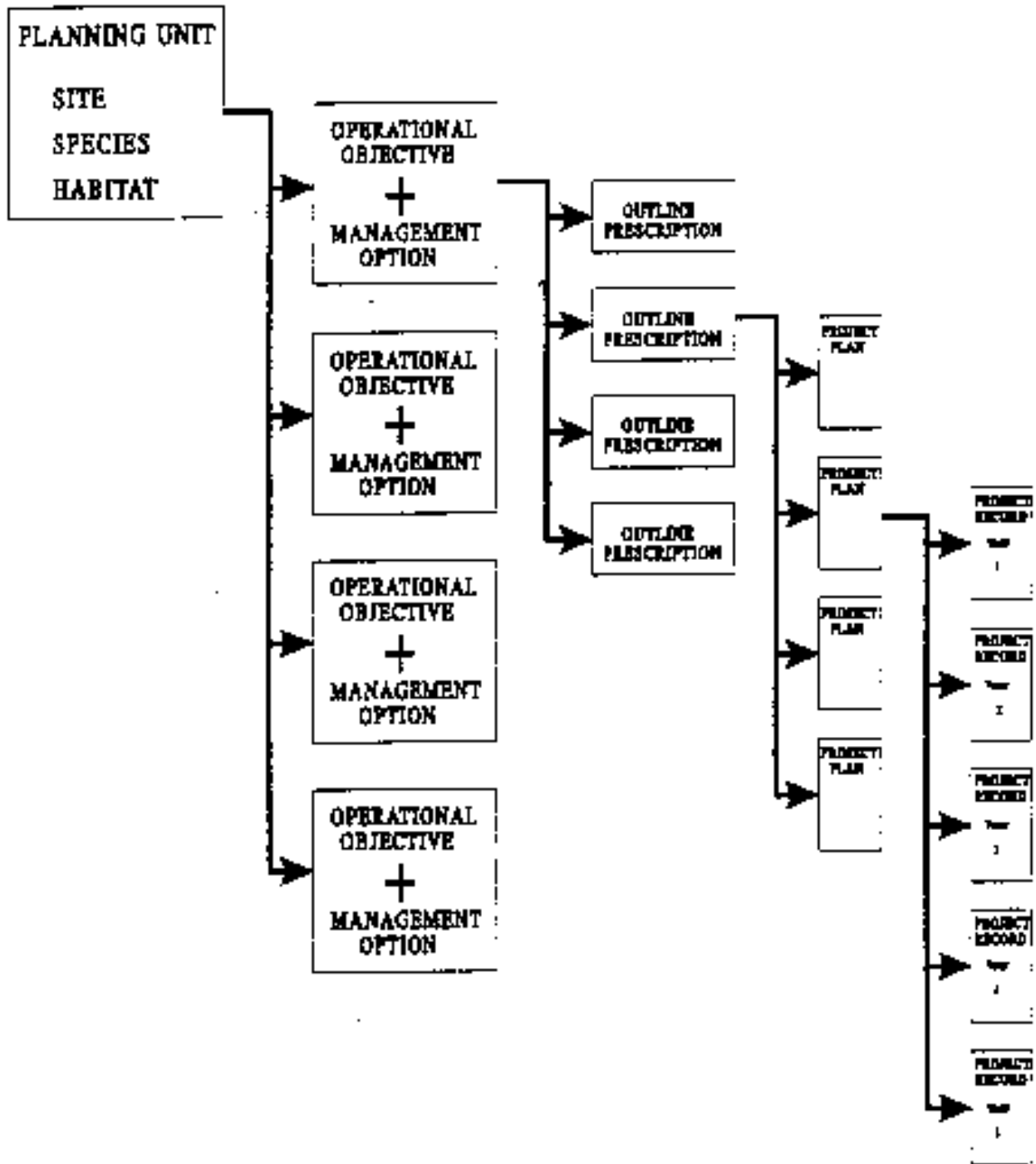
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(4) A distinction (in practice not always an easy one) must be made between management planning for designated sites and for protected landscapes. The former are areas small, homogenous or distinct enough to be managed as a unit (such as nature reserves, cultural monuments or recreation sites) they are generally under single ownership and management by executive action is directed towards the fulfilment of specific declared aims. Protected landscapes, by contrast, are usually larger areas (such as UK National Parks) consisting of many different individual sites or properties for which conservation management is often effected by proxy, through a mixture of regulatory 'sticks' and financial incentives or other 'carrots'. The principles of strategic planning apply equally to all categories of protected area; systematic implementation planning, by contrast, is usually confined to conservation sites although it may be applied to those parts of protected landscapes which are under the direct executive control of the managing authority.

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(9) The National Trust - henceforth 'NT' or 'The Trust' - covers England, Wales and Northern Ireland. There is a separate (perhaps more appropriately named) National Trust for Scotland, formed in 1931. Here, data are given and comparisons (for example as regards land areas) expressed as a percentage of that for the UK less Scotland.

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**** Figure 1 ****
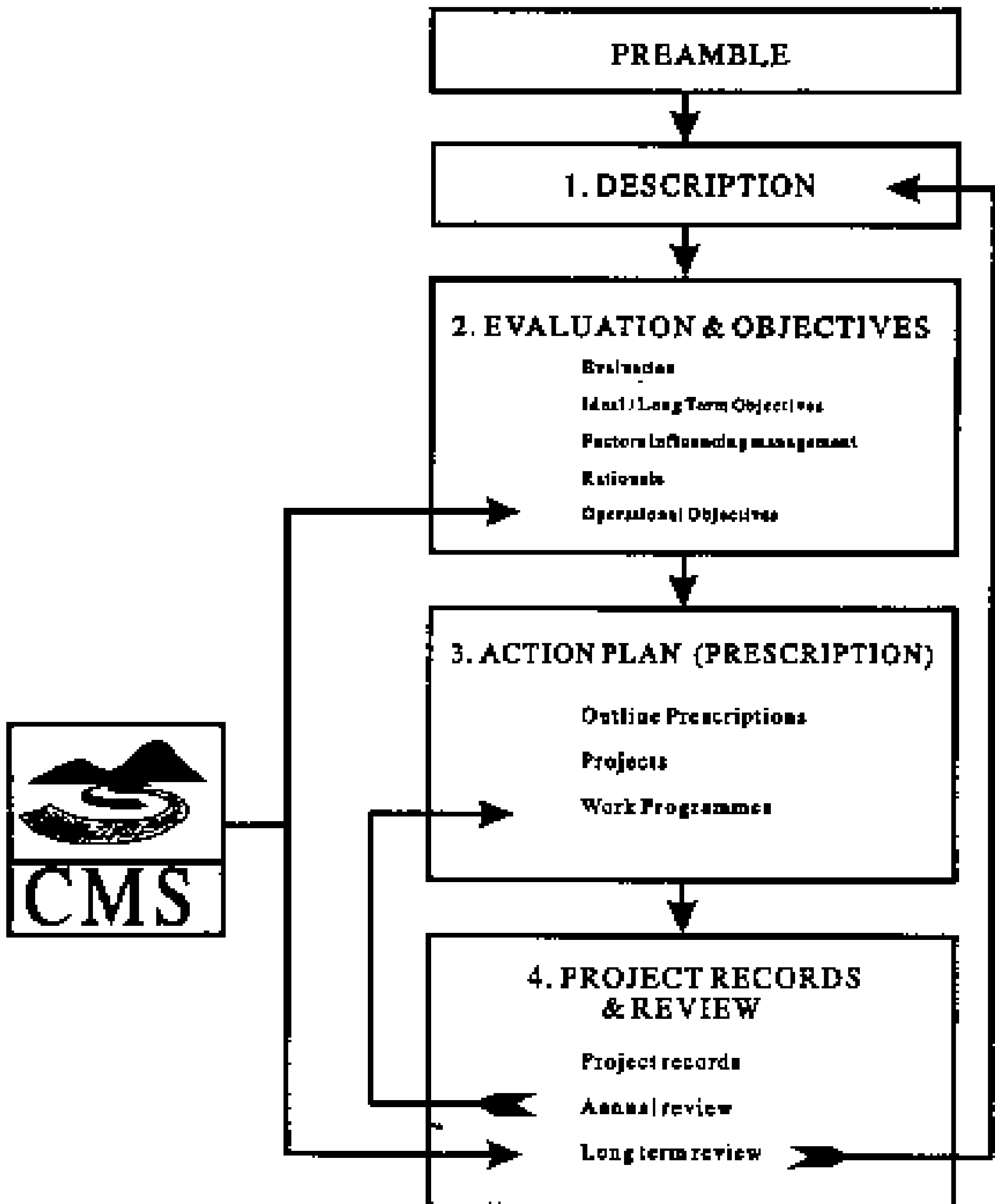**The relation between objectives, prescriptions and projects.**
(Source: Countryside Council for Wales 1994 [7])

**** Figure 2 ****
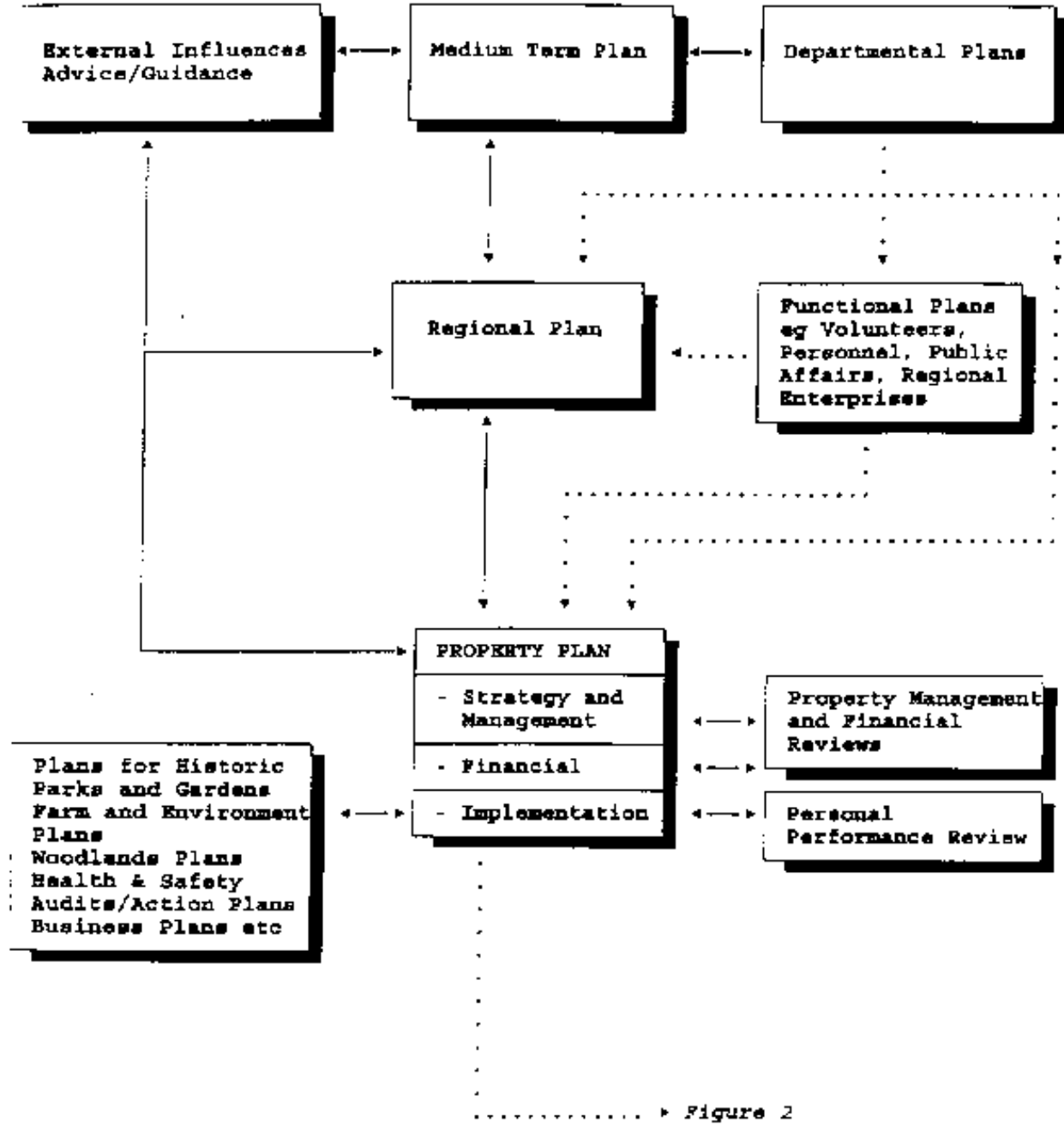The relationship of CMS to the planning process
(See Alexander, M (Ed) 1994 [8])

**** Figure 3 ****
The relation between management planning
and organisational planning in the National Trust

(from The National Trust 1994 [16])

External Influences Advice/Guidance

Medium Term Plan

Departmental Plans

Regional Plan

Functional Plans eg Volunteers, Personnel, Public Affairs, Regional Enterprises

PROPERTY PLAN
- Strategy and Management
- Financial
- Implementation

Property Management and Financial Reviews

Personal Performance Review

Plans for Historic Parks and Gardens Farm and Environment Plans Woodlands Plans Health & Safety Audits/Action Plans Business Plans etc

Figure 2

_____ = Management

. . . . = Function

Table 1   Benefits of CMS

CMS:

•. Saves time

- When a site code is entered the site name appears: when a project code is entered project description appears.

- When similar information (instructions or data) has to be entered for consecutive years it can be entered once and automatically duplicated.

- Automatically generates annual and long- term work programmes.

- Automatically produces annual and monthly work plans for a specified worker for a specific time period along with descriptions of work to be undertaken.

- Generates part-completed project report forms to record work that has actually been done.

- Generates annual and 5-year reports.

- Reports that have to be produced at regular intervals can be generated automatically without hours of collating and typing.

•. Permits new functions

- Allows automated manipulation of data and integration between data sets.

- Facilitates communication within and between sites and organisations

•. Leaves the property manager more time to concentrate on planning and implementing the plan.

Table 2 Proposed elements of the National Trust Regional Information Technology Strategy

- PROPERTY RECORDS (collection, display, analysis of biological, archaeological, garden & other records)

- WORK SCHEDULING (resource estimation, cost estimation, prioritisation plus ledger systems and activity recording)

- PERFORMANCE MEASURING system (visitor numbers, membership recruitment, sale, cash returns)

- CONTENTS INVENTORY (chattels, artworks, vehicles &c)

- BUDGET ADMINISTRATION (project and property based)

- PERSONNEL RECORDS (full and part- time staff including volunteers)

Reference: Coopers & Lybrand Deloitte 1990[9]

Table 3 Two paradigms for IT in and protected area management

Countryside Management System (CMS)	Project Management and Information System (PMIS)
'Bottom up' initiative from grassroots	'Top down' management initiative
Site focus	Organisational focus
Implementation of NCC and similar site/ species management plans	Implementation of IT throughout organisational structure
PC based (originally Advanced Revelation DBMS, now Windows)	Network system (Oracle DBMS)
Single user, single site	Multiuser, multisite
Low investment	High investment
Low opportunity cost	High opportunity cost
In use in several countries, by many organisations	Implementation restricted to The National Trust
Successful - so far	Development curtailed (late 1995)

Bibliographical detail of author

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