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RECREATIONAL ASPECTS OF SHOREZONE DEVELOPMENT: A CONCEPTUAL DISCUSSION OF MANAGEMENT AND PROVISION

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RECREATIONAL ASPECTS OF SHOREZONE DEVELOPMENT: A CONCEPTUAL DISCUSSION OF MANAGEMENT AND PROVISION

by

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AVANT - PROPOS

La zone littorale du Canada est confrontée à une série imposante de problèmes qui devront être résolus si les Canadiens veulent bénéficier au maximum des ressources existantes. La grande majorité de la population vit dans cette zone littorale qui supporte le gros des pressions environnementales de l'occupation humaine alors que sa fragilité la rend peu apte à subir les assuats du développement.

L'une des ressources principales de la zone littorale est la haute qualité des loisirs de plein air qu'elle peut offrir. Cependant, les effets négatifs de l'exploitation des ressources de cette région ne frappent pas seulement la population urbaine qui est la première à profiter des installations recréatives, mais aussi les résidants de cette zone.

La présente étude offre un cadre théorique qui permet de placer ce développement dans le cadre régional et de mesurer la nature et l'envergure de ses impacts prévisibles. Une telle perspective devrait enrichir la compréhension des problèmes inhérents au développement des loisirs dans la zone littorale.

Le Directeur générale des terres,

R. J. McCormack.

FORWARD

Canada's shorezone faces an imposing array of problems which must be resolved if Canadians are to draw maximum benefit from its resources. The vast majority of the population live in the shorezone. They place the environmental strains of their occupance squarely on the zone which, because of its fragility, is often least able to withstand the impact of development.

One of the main resources of the shorezone is its ability to provide high quality outdoor recreation experience. The negative effects of the development of shorezone resources, however, do not accrue only to the urban populations who benefit the most from the establishment of recreation facilities, but also to the permanent residents of the shorezone itself.

This paper presents a theoretical framework which allows one to place development in the regional context and to identify the nature and geographic range of its probable impacts. By doing so it should lead to a deeper understanding of the problems inherent in the recreational development of the shorezone.

R.J. McCormack
Director General
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RESUME

Le développement des loisirs dans la zone littorale a souvent des impacts déplorables du point de vue environnemental et social. La présente étude examine les idées qui sous-tendent cette forme de développement et propose un nouveau cadre théorique dans lequel peuvent être placés les projets afin d'identifier les impacts et d'en mesurer leur envergure.

ABSTRACT

Recreation developments in the shorezone have often had very undesirable impacts when viewed from the environmental and social points of view. This paper reviews the theoretical underpinnings of such developments and proposes a novel theoretical framework in which particular proposals may be placed in order to help identify the impacts they would cause and the expected spatial extent of these impacts.

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Peter Harrison

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I. INTRODUCTION

1. The Shorezone

Ever since the invention of the bathing machine, and even before, shorezones have been the destination of ardent recreationers. Stimulated by various motives including social conformity, whole nations have been overtaken by the continued desire to "get away from it all" and spend some time at the beach. The Victorians were experts at this particular ordeal. Entire towns owe their existence to the summer influx of Victorian gentility and still others owe their recent decline to the fact that the "gentry", albeit a much enlarged group, now waters itself elsewhere.

Changes in preference are written into the history of coastal recreation with a remarkable precision. The cool waters and mellow sunshine of Britain's southern coast are now passé for many inhabitants of the isle - Ibiza, the Côte d'Azur and the Adriatic are "in". The many watering places along the St. Lawrence are less preferable than the charms of Montego Bay, and the beaches of Florida entice many Canadians. Paris in the summer is a ghost town whose inhabitants may be found near any beach - especially in the south of France - Paris being left to the "tourists". But, these preferences themselves are somewhat bizarre. It is odd, for example, that many recreationists "get away from it all" simply by crowding into coastal towns and camp-

sites at a density higher than the one they are willing to tolerate in their city of origin. It is strange how two rooms of a hotel or a one-room tent will suffice a family for its summer and possibly winter vacation when their suburban home is felt to be "cramped". The lengthy lines in front of ice-cream stands and public facilities are an institution which would normally only be acceptable in war-time (1).

The individual willing to deprive himself during the rest of the year in order to be able to afford his family such recreational delights is a hardy individual indeed. But he is growing in number and in importance. Increased real income in most sectors of society combined with increased mobility have given the impetus to such forms of "recreation" which decades of Victorian elegance failed to do. Recreation has been democratised (2).

It is obvious, however, that one is discussing the process of "tourism". Yet the most intense recreation experience of many an individual is during the few weeks (summer or winter) when he/she plays the role of tourist. Only with great difficulty can the process of the recreational development of coastal areas be separated from the pressure of the provision of tourist facilities. Indeed, the two go hand in hand.

2. Canada's Coast

It is still the fortunate case in Canada that few coastal areas suffer the summer influx of visitors experienced in warmer climes. English Bay in Vancouver can, on a favourable day, be somewhat crowded. But it is not a Waikiki. The islands off Toronto attract many urban recreationists during summer time - but do not have the mien of a typical Long Island beach. It is still possible to find many completely deserted ocean beaches on Vancouver Island and along the coast of Gaspé - not to mention the numerous undeveloped lake beaches throughout the country. It is true that many Canadians partake in the high density summer/winter months exodus to the sunny eldorados to the south or mingle happily in the summer crowds at European beauty spots (much to the detriment of the balance of payments). But, the situation at home remains less pressurised and the possibility of "getting away from it all" still exists (in the true sense) to a larger degree than in many nations.

This is not to say that the coastal areas of Canada are not subject to very heavy development pressures. In fact the opposite is true. Since the coastal area (salt-water or fresh-water) provides a number of potential recreation activities which is superior to many other types of environment, the demand for cottage lots, parks, public access points, beaches, boating

facilities and the like is of enormous proportions. Certain provinces have taken the initiative of controlling the land subdivision process (as in British Columbia) (3) and/or a strict control of non-resident ownership - especially of waterfront land (as in Prince Edward Island) (4). Such controls are fuelled by a growing concern that the development process will result in the ruination of rural coastlines and that local residents will be prevented from enjoying their immediate environment. It is a concern which is shared by many provincial and local governments any by increasingly worried citizens.

3. Coastal Development

It seems relevant therefore to pose the question - what are the elements of the process of development of coastal recreation facilities, and in what way do they affect local communities? This particular question is taken as the basis of the organisation of the following paper. The aim is not to look at the proximate causes of tourism/recreation, but rather at the impact on coastal areas, and more particularly on small non-industrial or rural communities, of recreation developments actively sollicited by the community or "imposed" by decisions made by senior levels of government.

The advent of recreation activities in a local area can be

of any coastal area may be identified. This simple categorisation is used to suggest that coastal use is typified by a high potential for "negative" linkages or spillovers between user groups. Section IV concentrates on identifying the process of spillover and differentiating it from the process of redistribution of value derived from the coastal area. The concepts of spillover and redistribution then provide the basis for defining different conflict situations which may arise in the recreational development process as a result of the goods structure in a particular coastal area.

The concepts presented in sections II - IV provide a framework whose dimensions are of a general order: the various elements may be applied to the situations faced by any of a series of different user or interest groups. Following the discussion presented above, it is felt that a group which merits much more attention than it is normally given, is the one formed by small communities affected by coastal recreational developments. Consequently section V of this paper outlines certain conditions under which recreation development would (and would not) lead to community development. The conceptual framework of sections II - IV is then considered from the community point of view.

The Conclusion to the paper (section VI) concentrates on

perceived in many different ways. Some feel they will result in an increase in the local "economic base", whereas others see them as another example of non-residents preempting the value of local amenities. Presumably there is some logic behind the development process which makes it understandable and, possibly, controllable, despite such widely differing views. An attempt will be made in the following pages to provide such a logic by considering those phenomena which are common to the coastal development process rather than the specific details of an individual case.

In attempting to define what makes the coastal development process any different from other potential development processes elsewhere, and what distinguishes recreational activities from other coastal uses, three major themes will be developed. The first (section II) concentrates on the concept of the economic linkage structure of regional economies, and the variation in possible control strategies which these linkages imply. It is concluded that positive linkages within and between coastal activities are probably less than would be the case in other types of regional economy, and there are few (if any) key sectors which can provide the basis for resource use control. The second theme concerns the structuring of the coastal region in terms of the types of goods in existence (section III). A typology of goods structure is presented, within which the "development path"

presenting a series of questions which have arisen throughout the presentation. Answers to these questions may help to make the recreation development of coastal areas a smoother and less biased process.

4. FOOTNOTES (Numbers in parentheses refer to the Bibliography at the end of the paper).

(1) The dynamic aspects and impacts of this form of tourism are discussed in Cassou-Mounat (36) and Coppock (51).

(2) The rising importance of the recreation sector is extremely well documented as are the various reasons which underlie such growth. See for example: Bondurant and Wright (19), Cicchetti and Davidson (42), Cicchetti and Seneca (43), David (63), and Harrop (95).

(3) For a discussion of land and water use pressures in the Strait of Georgia region see Barker (11).

(4) The problems of shoreline access in Prince Edward Island are discussed in detail in Albert (3).

II. THE COASTAL AREA AS A REGIONAL ECONOMY

The coastal area, however defined, may be conceived of as being similar to almost any other regional economy (1). It is composed of a set of economic actors who use the region's resources in their personal production/consumption process. The results of this production/consumption may remain within the region or, alternatively, may be "exported" outside the region and other goods and services which help the production/consumption process to take place may likewise be "imported" (2). It is obvious that the spatial definition of the area in question automatically defines the "importing-exporting" process (3). But what of the actual location requirements of the various economic actors, and how strong is their relationship with the exterior?

1. Location Requirements of Economic Actors

An economic actor who decides to locate on the coast may do so for a series of reasons. First of all there are those activities which have an absolute requirement of shoreline location, for without it they simply would not exist. Shellfishing and certain types of aquaculture have such an absolute requirement, as do boat-launching and loading-unloading facilities. But for certain other activiites a coastal location is purely gratuitous and does not reflect the inherent require-

ments of the activity itself. They have no apparent reason for occupying a coastal site.

Recreation activities can be divided into two such categories on the basis of their location requirements. Access to the water for boating, water-skiing, and the like, requires the installation of shoreline facilities whose location requirements vis-à-vis the coast are quite fixed. Cottages, it could be argued, have no intrinsic requirement for shoreline location, as is suggested by the fact that many cottages are built and their occupiers are perfectly happy at a distance from the shore. However, since many individuals view the aquatic recreation experience as a composite good it is frequently impossible to consider the location requirements of cottages in such a clear-cut manner. Since immediate access to the water from a cottage is seen to be more desirable than contending with the problem of seeking access from a non-waterfront lot, many individuals are willing to pay a premium for direct coastal location. Large differences in price between waterfront lots and back-lots are witness to this phenomenon (4).

At any given point in time the structure of the use of a coastal area is the result of many location decisions taken in the past. For the purposes of future development and its control it may well be worth assessing which of these decisions are now

inert or obsolete, and which have value for the development process.

2. Structural Relationships Between Economic Actors

Given the location of existing coastal uses, the question may be asked - what are the relationships between these uses, and how do they affect the evolution of the coastal area? Two major structural elements can be identified as being of relevance to this question:

(i) the level of diversification of the economic structure of the area,

and (ii) the strength of the linkages in existence between the economic actors.

Regions which have a concentration of activity in very few economic sectors tend to be tied directly to the vagaries of economic change experienced by these sectors. Diversification of the structure of the economy is seen as a solution to this problem because the probability of seasonal variations and/or structural crises is thereby distributed more equally throughout the economy (5). The problems of regional specialisation are well-

known, and some of the more interesting examples occur in the coastal area. Communities such as the outports of Newfoundland know well the problems arising from the lack of economic opportunities not connected to the fishing industry. Boat-building centres in Nova Scotia are aware of the dangers of sudden collapse which arise because of strong economic competition from elsewhere (6). It is interesting, however, that many such communities consider the development of "tourism and recreation facilities" as a potential solution to their hardship. A coastal area dominated by recreation activities is, however, another example of an undiversified economy. Seasonal fluctuations are endemic and the spending patterns of the tourist/recreationist may be highly variable and dependent on conditions elsewhere. Except in special cases it is difficult to see how recreation development by itself would help to reduce the traditional economic problem of coastal areas. And thus communities considering a concentration of effort in the recreation sector may be wise to combine the development of recreation activities with other and different uses of the shoreline (7). This point is even clearer when the substantive relationships between economic actors in the coastal area are considered

The strength of linkages between economic actors in a regional economy is frequently seen as being an important indicator of how the region will develop and how it can transform

the opportunities which it faces into realistic and reliable programmes (8). These linkages are usually in the form of economic transactions as reflected in sales-purchases patterns, (9) but they can also be in the form of the "flow of wealth" as will be seen later. Except in major coastal cities, most coastal activities tend to have very poorly developed linkages between each other. The locations of suppliers and purchasers tend to be in other regions to landward, and the sources of certain raw materials and resources are seaward. The net result is that economic linkages are stronger across the boundaries of the area than they are within it, and the economy itself can be defined as an open economy (10). This means that if one coastal activity increases its level of output or production there will be very little increase incited in the economic output of other nearby activities because they are not linked in a substantive way. In short, any local multiplier effect stimulated by one activity in the coastal area will be very limited (11).

Recreation activities are no exception to the above broad generalisation. Most of the participants in recreation activities are probably not local residents, and furthermore their purchases of goods and equipment are frequently made completely outside the area. Linkages between these activities are slight and linkages with resident activities are not much stronger. The occasional purchase of food, beverages, gasoline

etc.....in the local area can be more than outweighed by the purchase of high value goods such as boats, fishing tackle, etc... from commercial establishments elsewhere. However, one major "purchase" which does exist is the possible payment of property taxes (however small) into local coffers, and the consumption of locally provided goods.

A linkage which is of importance as far as recreation activities are concerned is the "flow of wealth" to the individuals who are recreating in the area. The value which they derive from recreating is not necessarily proportional to their contribution to the public expense involved in their activity, and their existence preempts alternative uses of their location. There is thus an opportunity-cost involved in each location decision and this may result in a net redistribution of wealth to the recreationist (12). It is a linkage in his favour. The type of linkage implied in a "flow of wealth" is referred to later as being a process of redistribution upon which important conflict situations may be based. It simply means that one individual or group of individuals can benefit at the expense of others. This raises major problems of equity in the management process.

3. Conclusion

Any particular coastal area may have an economy which is more

or less open than others, and not all cases will be as wide-open as suggested above. Nevertheless, it would be true to say that from the point of view of economic structure an important distinguishing element of the coastal area is its structural openness and its lack of internal linkages.

This statement becomes important, as will be seen later, when policy instruments and strategies are considered - because there is no key sector on which effort can be concentrated in the hope that other linked sectors will follow suit. Attention must necessarily be paid to all activities in the coastal area.

The openness of the regional economy of the coastal area militates against the possibility of balanced economic development based on recreation activities - unlike the situation in many non-coastal areas.

4. FOOTNOTES

(1) Many definitions of "regional economy" exist. Various views are presented in Richardson (163) and the concept of regional economic structural change is discussed in Fox and Schachter (76).

(2) The notion of regional "imports" and "exports" underlies the formulation of economic base theory as presented in Tiebout (186). Economic base models are frequently used in the assessment of economic impact.

(3) A definition of the coastal zone is not presented here, even though such a definition is of crucial importance. See, Albert and Harrison (4), Commission on Marine Sciences (49, 50), Ketchum (115), and Kressler and Yanggen (126).

(4) Price is obviously not the only important variable which could be considered. Furthermore variations in the price of land (especially recreation land) reflect more than on-water or off-water location. See von Boventer (22) for a discussion of land prices and spatial structure in "tourist location". The importance of property values is also analysed in David (62), Hallberg (85), Hoyt (106), Richey (164) and Smith (176), as are the effects of site characteristics on

recreation behaviour in Hecock (100) and the process of site selection in McClennan and Medrich (138).

(5) The question of the size of units involved in diversification is an important one. "Unbalanced growth" theories such as growth pole theory suggest the importance of one or several large sectors in the stimulation of the economy of a region. See Hale (84) and Thomas (184). For an application of this theory to recreation development see Harper (88).

(6) This is a problem of inertia whereby existing structures are more related to past economic conditions than they are to those of the present.

(7) This is not necessarily a suggestion that massive industrialisation of the coastline should take place. It is rather an expression of concern over the ability of recreation activities to act as effective economic stimulants, especially in rural areas. See: Canadian Council on Rural Development (34), and Kalter (113).

(8) The concept of linkage analysis in the coastal area is applied in Hite and Laurent (103).

(9) A major form of sales-purchases models is Input-Output

analysis. For a general discussion of the model see Richardson (163). See also Hite and Laurent (104), and Leontief (128). This model is used to find the impact of industrial development on the coastal economy in Collin et. al. (48). The economic base model (footnote 2) is combined with in Input-Output model in order to assess recreational impact on small communities (the subject of Chapter 5 below) in Harrison (94).

(10) An open economy is one which relies to a large extent on the exterior of the region for both its purchases and sales. Thus, definition of the region to be considered is an important process. A change in the areal "stance" may alter dramatically the results of any analysis performed. See: Cicchetti et. al. (44) and Harrison (93).

(11) The multiplier concept is important in the definition of regional costs and gains resulting from resource development. See Krutilla (124).

(12) This is a general question of equity. In the case of the siting of public facilities see Mumphrey (148). The question of who gains from and who pays for recreation activities is also an equity consideration. See: Burt (31), Darling (61), Mansfield (134), and Pope (158).

III TYPES OF RESOURCES IN THE COASTAL AREA

The development of coastal areas is directly related to the important fact that the coastline is the interface between highly different regimes of resource allocation. The land is more typically a private good belonging to specific proprietors, whereas the water is a common property belonging to all. In order to protect the land owners from damage by the water body, and also with the objective of providing access to the water, extensive public construction is typical of the coastal area. Because of the importance of this differentiation in the structure of property rights the following sections will concentrate on assessing how their nature can affect coastal area recreation facility provision, management, and development (1).

1. Private Goods

Private goods are those entities owned and used by an individual or group of individuals for their own private consumption without any advantage "spilling over" to other individuals (2). In the case of such a good it is possible to exclude others from its use and to exert a high degree of proprietory control (3).

The land component of the coastal area up to the high-water

mark of the water body (depending on the province) and the buildings on this land are the elements of the area which are closest to being private goods. An individual cottage-owner can, within the limits of the law, exclude all others from his property and reserve it for his own exclusive use (4). Should he tire of its site or situation, or should his neighbours become unruly, he can sell his property and move elsewhere. In other words his property right is marketable, and its value is a function of the quantity and quality of other such rights for sale at the same time (5).

Other goods are likewise private, such as power boats, dune buggies, fishing tackle etc..... but their "consumption" or use is not solely restricted to the land owned by the individual. In many instances the individual may not own land, but by using public campsites or beaches he may thus be able to reap the value of his private property by using public property. It seems useful, therefore, to distinguish between private property in the form of land and buildings on the one hand, and on the other hand those types of property (or auxiliary goods) which require public property in the form of tracks, beaches, water, etc.... in order to function. In this way an important distinction can be made between land-owners (resident and non-resident), who employ both forms of private property, and visitors or tourists who only use the latter.

2. Common Property

The water component of the coastal area is a common property resource by its very nature, and this fact is normally recognised by statute. No one individual controls the right to use the water, and all may use it if they so choose (6). Since in principle no-one is excluded from the consumption process, the water body is not a resource which will be directly allocated by a "market" system. Indeed it is a resource which has traditionally been considered to be "free". The net result can be a tendency to "overconsume" it, with a consequent reduction in its quality. This incipient tragedy of the commons (7) gives rise to a reduction in the consumption possibilities for all individuals since consumption by one can automatically reduce consumption by another (8).

Although access to common property may be difficult to control in principle, such access is frequently not possible without the intermediary of the auxiliary private goods mentioned previously. Thus sailing in coastal waters is approximately free, but the purchase (or hire) and upkeep of a sailboat can be extremely expensive. Other than the small fee for permits, sports salmon fishing is available to most individuals on a low cost basis - providing they can afford the rods, reels, lines and boats necessary in order to be able to fish. It is interesting

therefore that the most intensive and extensive recreational value to be derived from a collectively owned resource is only possible through ownership of what are essentially luxury items. Private goods are frequently necessary for realising the value of common propoerty. Furthermore, the use of common property normally implies extremely high "entry costs" or "start-up costs" which exclude many groups from the resource use process.

3. Public Goods

Because access to their use is difficult to control and thus the costs of providing the good cannot be easily recuperated, certain important goods or resources are not provided by the private sector (private market). Other similar goods are so expensive to construct or maintain because of high investment and running costs that user costs would be exhorbitantly high should the goods be provided by the private sector (9). As a result, government institutions tend to act as providers of these collective or public goods, even if their production is performed under contract by private companies (10). In this way it is possible for the goods to exist and for the cost of their provision and upkeep to be covered from the community purse. This process frequently involves an inherent subsidy to the user of the goods which is not covered by the user charges which he pays (11).

The coastal area abounds with publicly provided goods ranging from navigation aids and controls, through storm walls and dykes for the protection of the land resource, to the dredging of channels to facilitate access. It is reasonable that these goods should be provided in the public sector since it is unlikely that a single individual would be able to finance and control such projects. (Certain coastal industries do indeed have their own private docks jetties and containment walls - as do private marinas - but the proportion of such facilities provided by the public sector is high). Take for example a riparian cottager whose property suffers from periodic inundations. If he constructs storm walls around his property their protective effect is greatly reduced if his neighbours do not similarly protect their property (12). Even if agreement is reached between a group of such riparian owners as to the construction required, their efforts would undoubtedly be more efficacious as a bloc of opinion presented to government agencies than as a "maître d'ouvrage" per se. Furthermore the design and construction of barrier walls is frequently strictly controlled by government agencies and private construction is not allowed. The problem for the riparian owner is thus to convince the respective agencies that action and expenditure are necessary in his area.

Recreation activities are heavily dependent on publicly provided goods and services. This is especially true in coastal

areas. Camping sites and certain beach facilities are provided by the private sector, but the importance of publicly owned and controlled parks, camp-sites, and beaches is self evident. Boat launching ramps and marina facilities unattached to public parks are likewise of importance to many recreationists, as are the fish stocks introduced into the aquatic system from government fish farms. Without these publicly provided goods the use of private auxilary goods would be rather difficult.

Public provision is also complemented by certain private goods, especially land, which are under public ownership. Provincial and federal crown lands would come under this category. In the case of crown lands, government bodies frequently act as proprietors in much the same way as private individuals do - they buy, sell, dispose of and lease the land in question (13). Even though crown land is publicly owned, as opposed to publicly provided, the onus still lies upon governments to manage the land in the public interest. Frequently, however, this management involves the secession of certain rights (e.g. concerning the forest) to very specific interest groups such as the forest products industry. The ordinary member of the "general public" is unable to avail himself of this type of direct use of the public domain. It would seem that in present day sophisticated economies the only way in which publicly owned land may be effectively used by the "general public" is by way of recreation

activities. This statement is felt to be an extremely important one, but unfortunately a discussion of its implications are beyond the scope of this report.

4. The Mixture of Goods in Coastal Areas: a Typology

The three broad categories of goods cited above can serve initially as an important means of classifying coastal areas and their different management problems. Various combinations of types of goods are possible at any given point in time, and the development of a coastal area through time may involve its movement between categories.

Figure 1 presents a simple typology of goods according to their definition as common property, private, or publicly provided goods, and distinguishes between land, water, and the use of auxiliary goods as elements of the coastal system. Land, and its development, may come under any of the three ownership regimes, whereas the water body and its control are non-private. Auxiliary goods are more usually privately owned even though, as noted above, their intrinsic value in use can only be realised by the use of other non-private elements of the coastal area. The structuring of Figure 1 tends to suggest a simple variable scale of combinations of ownership and of elements. This scale is by no means absolute or all-inclusive, but in its simplicity it

suggests that development potential and management problems in each type of area are variable.

	OWNERSHIP		
	PRIVATE	COMMON PROPERTY	PUBLICLY PROVIDED
LAND	*COTTAGE SITES;*	*BEACHES; NON-LEASED CROWN LAND;*	*PARKS; PICNIC AREAS; ROADS; OTHER SERVICES;*
WATER	*PRIVATE WATER LEASES;*	*WATER DEPENDENT SPECIES;*	*DYKES; GROYNES; SEA-WALLS; FISH STOCKS; JETTIES;*
AUXILIARY GOODS	*COTTAGES; MOTOR VEHICLES; RECREATION EQUIPMENT;*		

Figure I TYPES OF GOODS IN THE COASTAL AREA

The question is - how does one locate a particular coastal area within this classification? If it can be assumed that a pertinent variable can be found (such as annual expenditures or acreage of land used), then the proportion of total activity according to ownership types can also be distinguished. Since it has already been suggested that there is a strong relationship between elements and ownership, such information would also give some idea of the relative importance of the elements of the coastal system. Figure 2 represents a hypothetical situation of this sort and is not based on actual figures. Nevertheless it suggests a set of possible situations. At the point (B) all three ownership types are equally important in relative terms, whereas movement in direction 1 involves a preponderance of privately owned goods. Movement in direction 2 reflects an increased importance of publicly provided goods, and direction 3 shows situations where common property is predominant. The apexes of the triangle are identified by letter (A and C). Point (B) corresponds to a "mixed" situation, and can be associated with the process of intensive land-based recreation development. These associations are presented in Figure 3.

Each of the three axes of Figures 2 and 3 present enormous difficulties of measurement (14), and because of this the directions 1, 2, and 3 are considered as representing tendencies in a certain direction rather than an accurate assessment of

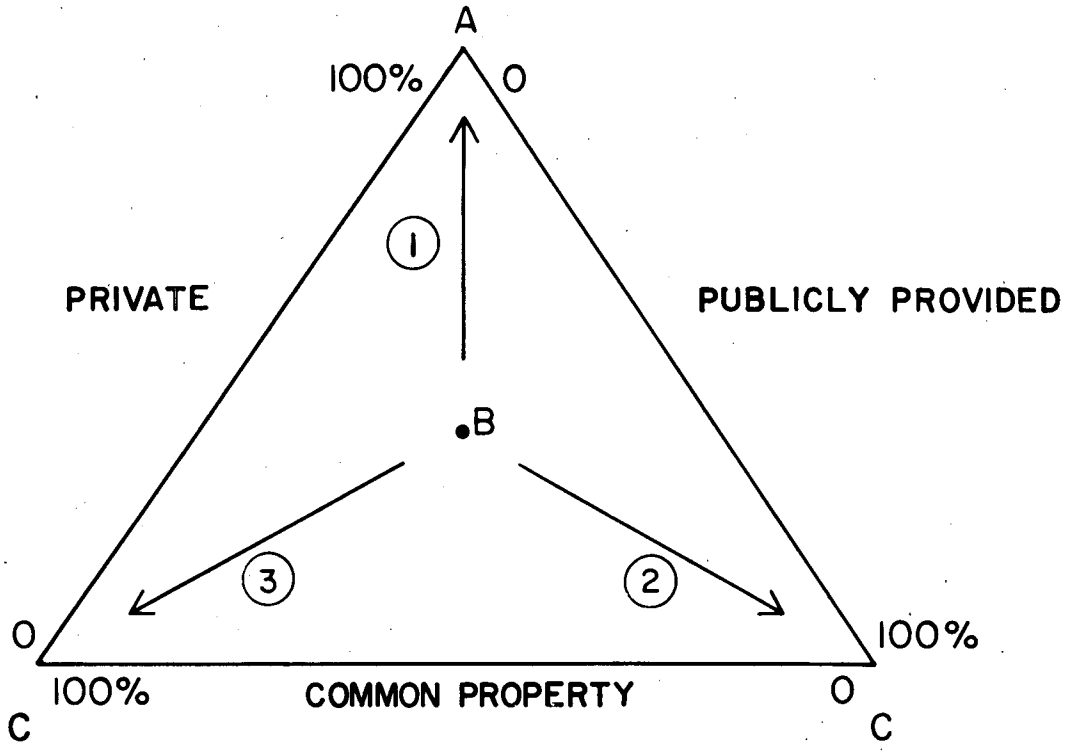

Figure 2 RECREATION OWNERSHIP STRUCTURE

actual relationships. The scale of each axis is purely relative and thus expresses the degree of variation of each element from a "norm" such as point (B). In order to clarify the pertinence of this classificatory system, examples of each "direction" will be given in turn (Figure 4).

(i) Direction 1. No coastal recreation area is composed entirely of private goods. Nevertheless there are certain parts of Canada where riparian land is almost entirely privately owned. Few parks and few public access points mean that both common property and publicly provided goods benefit a small number of potential recreationers. In other words most of the benefits which can be derived from the coastal area accrue to the riparian property owners.

For example, much of the coastline of Nova Scotia is sub-divided into private lots and is perhaps typical of direction 1 (15). In many localities public beach access is extremely scarce - if not non-existent. A similar situation in Prince Edward Island gave rise to the recent Supreme Court decision on foreign ownership of land. The concern was that the private control of benefits from the coastal area (in particular) would accrue to non-residents and thus deprive residents of ready access (16).

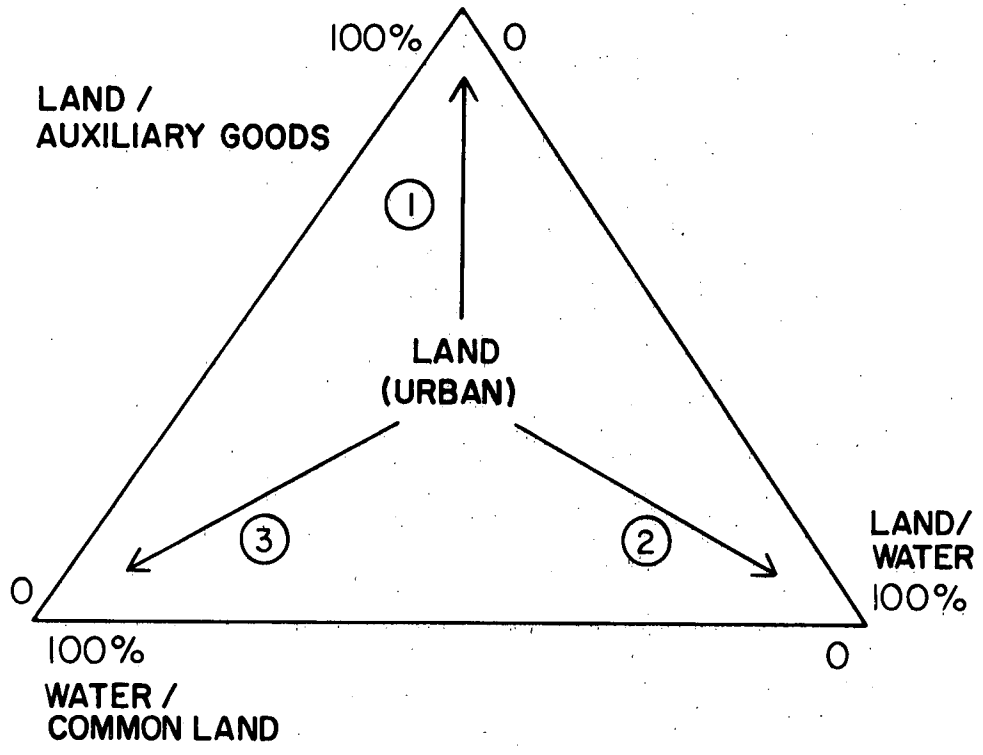

Figure 3 RECREATION ELEMENT STRUCTURE

Coastal areas typical of direction 1 tend to be found in regions where development of land ownership rights has been going on for a long time, where the pressure of recent continuing urbanization is low, and where land was subdivided before the conception of an extensive parks policy (federal or provincial). The management of such coastal areas for recreation purposes may be the most simple in that a control of riparian owners and their activities will result in the control of much of the economic activity in the area. The provision of recreation facilities, however, poses different and more important problems. Any movement away from the position of the area in Figure 4 would involve the creation of public access to commonly owned beaches (e.g. by the use of easements) and would mean the choice of publicly provided recreation facilities which could reduce the private control of benefits accruing from the use of non-private goods. Land assembly for these purposes would prove to be expensive and would undoubtedly cause a great number of conflict situations with existing riparian owners. And these conflicts would necessarily have to be taken into account in policy formulation.

(ii) Direction 2. This type of goods combination is less reliant on private property except for the use of auxiliary goods. Publicly provided parks and publicly maintained beaches typify the use structure of the coastal area. In this instance

benefits accrue to all users of the non-private facilities , and these users may be local residents or not.

The recently formed Pacific Rim National Park on Vancouver Island's west coast portrays such qualities. Facilities in the park are publicly provided, as is access to the park, and private ownership of land is frozen. Indeed, many land owners have had to relocate in Tofino or Ucluelet - or even elsewhere. The ocean remains a common property in the strictest sense of the term and no one is excluded from deriving advantage from recreating in the coastal area.

The problems of managing this type of coastal area are those common to parks management and public land management in general. The problems of provision, however, are of more interest to the present discussion. Movement in direction 2 involves large unitary coastal uses (as opposed to a mix of uses) which entirely exclude other possible uses. As noted above, advantages are derived by all users - but what of the disadvantages? Such unitary uses frequently place great strain on the financial resources of local communities without adequately reimbursing them. Such is the argument that could be applied to Tofino and Ucluelet and also to the small communities near the proposed Thousand Islands park near Gananoque. This important point will be developed more extensively in section V below.

(iii) Direction 3. This direction is largely typified by undeveloped areas where most land is crown land, there is little leasing, and publicly provided goods are few. In some senses this could mean those areas which are "unadopted wilderness". Lake areas in the northern parts of most provinces, the shore of Newfoundland and Labrador, and the coastline of northern British Columbia are of this type.

The management of undeveloped shorelines presents problems common to most wilderness areas, and the provision of facilities forms part of the continuing debate as to what constitutes a "wilderness". It is evident that auxiliary goods such as boats, canoes, camping equipment, and even airplanes are necessary for individuals to be able to derive recreational benefit from such an area. If "wilderness" is desired - especially in the form of wildlife refuges, then few facilities are desirable and strict control of the use of auxiliary goods is necessary. Such a strategy obviously differs from that involved in directions 1 and 2, where the problem is frequently that of catering for the use of auxiliary goods.

(iv) Point (B). The zone around point (B) in Figures 2 through 4 suggests a certain balance between types of goods ownership and provision, and even a certain complexity of structure. It is felt that this situation is typical of urban

and periurban shorelines where private residences, industry, public wharves and constructions, and common access to beaches exist in close proximity. The urban shorelines of Vancouver and Metropolitan Toronto show such characteristics. The Suburban shorelines probably have a tendency to move in direction 1 and the periurban in directions 2 and 3. The provision and management of coastal recreation facilities in such areas have characteristics similar to each of the three directions discussed above. Land assembly for parks is both expensive and difficult to perform, and access to commonly owned beaches may be a critical problem. Similarly the preservation of certain "wilderness" areas such as deltaic marshlands from urban encroachment (e.g. the southern mainland of British Columbia) is comparable to the difficulties encountered in direction 3. Massive public presence (direction 2) may likewise pose extensive economic and political conflicts - especially in situations of complex institutional structures and responsibilities.

5. Transition, Conflict, and the Development Process

Assuming that a particular coastal area has been located in the typology presented above, any new recreational development - whether it be a series of cottage subdivisions or a coastal park - will effectively alter the balance of goods and move the area to another position in Figures 2 through 4. This transition pro-

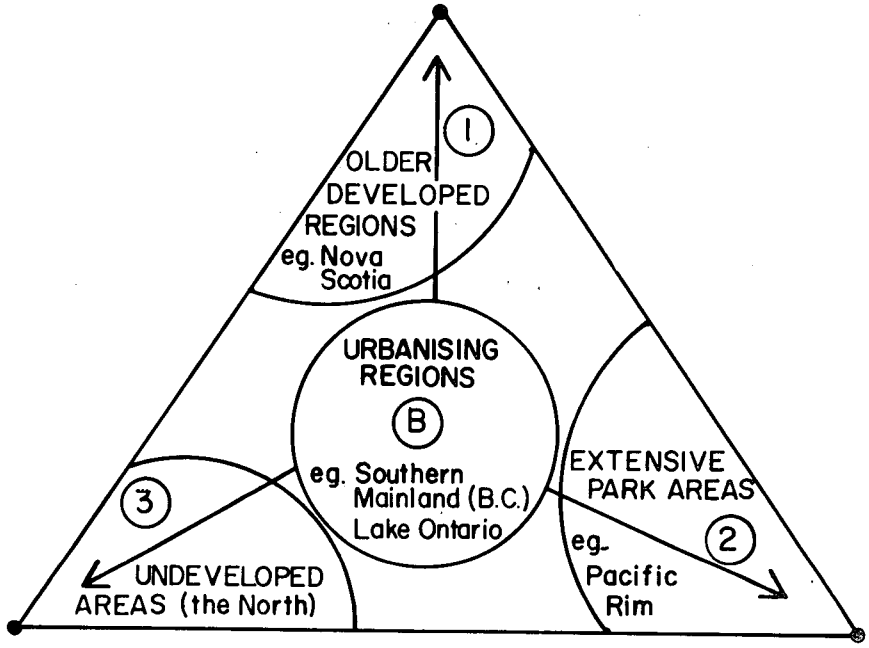

Figure 4 TYPOLOGY OF COASTAL AREAS : EXAMPLES

cess of structural change may well be part of the management and provision strategies foreseen for the area in question, but it poses a series of problems which may not have been taken into account. A movement from direction 1 towards direction 3, for example, could result in riparian owners and local municipalities being "up in arms". Similarly a movement from direction 3 towards direction 1 could incense interest groups desirous of preserving "wilderness" areas in their virgin state. In short, any movement within the structure diagram could give rise to extensive and important conflict situations. This point is evident in that such movements can involve the redistribution of recreation benefits derived from publicly provided and commonly owned goods and an increasing control of the ownership and use of certain private goods. The probability of conflict situations arising is seen to be some hypothetical function of the degree of structural change brought about by recreational development (17). This type of relationship is suggested in Figure 5 where conflict probability is always positive and is increasingly proportional to the degree of structural change. The form of this relationship is intuitively reasonable in that a massive leap in the development process (A) will probably give rise to much greater negative reaction (B) than will small marginal changes such as (C - D) (18).

The actors involved in the conflict process will obviously

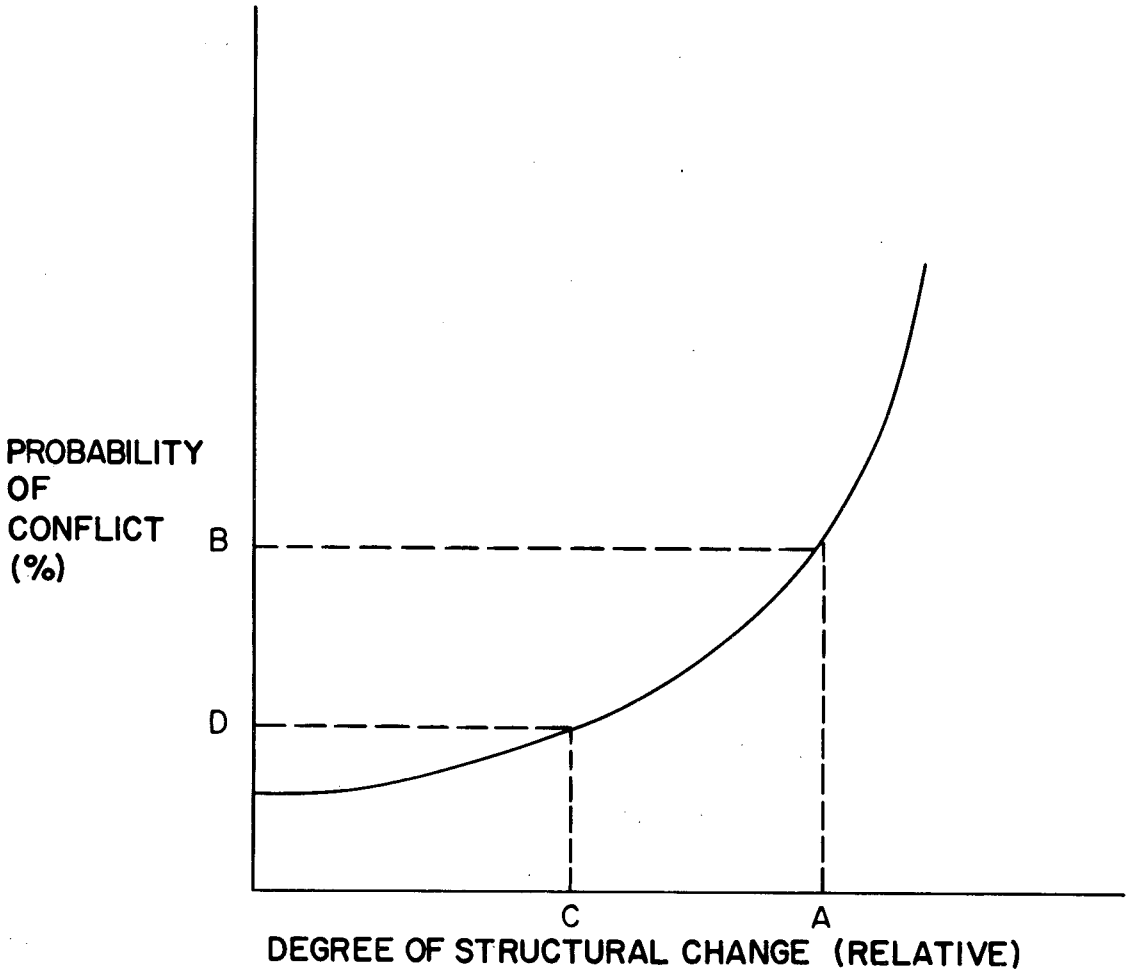

Figure 5 THE PROBABILITY OF CONFLICT: A HYPOTHETICAL SITUATION

be different according to the original structure (original position in Figures 3 - 5) and the eventual structure (final position in Figures 3 - 5) of the coastal recreation area. This leads to the suggestion that:

(i) conflict levels;

and (ii) actors in conflict situations;

are predictable entities. Furthermore they are elements of the development process which must necessarily be taken into account if management and provision functions are to be effective.

The existence of conflict in the development process suggests that there are indeed linkages between economic actors in the coastal area despite the arguments presented in section II above. They are, however, negative linkages and they arise because of the process of "spillover" and "the redistribution of benefits". The following section will thus develop a discussion of the role of such factors in the coastal development process.

6. Conclusion

The major conclusions to be derived from the above discussion are several. First, the recreational use of coastal areas may be distinguished according to the relative proportions of

different goods in existence within the area. This structural typology suggests that structural changes in the types of goods within the coastal area can give rise to important redistributions of advantages derived from the recreation experience. Further, the pattern of conflicts arising from the recreational development process is predictably related to the degree of structural change which takes place. And finally, each possible direction of structure and of structural change poses widely different problems and potentials for the provision and management of recreational facilities.

7. FOOTNOTES

(1) Property rights, and differences in them, are seen as being the basis of the economic allocation process. Literature on the subject is reviewed in Furobotn & Pejovich (77) and the concept of property rights is reviewed and expanded upon in Alchian and Demsetz (6), and Demsetz (68). The role of property differences and their effects on public investment decisions is discussed in de Alessi (7) and the general role of property rights in Ostrom (152).

(2) It is difficult to conceive of a "private good" in the strictest sense since complete exclusion of others from the consumption process is impossible. See: Cheung (38). The distinction between public and private goods is made in Davis and Whinston (66), Evans (72), and the difficulty of precise definition is underlined in Head and Shoup (99).

(3) See: Dales (60).

(4) This is also true of land leased from various government agencies (e.g. Crown land used for cottage development). In this sense leasing is a very important type of proprietory right whereby publicly owned resources are transformed into privately consumed goods.

(5) Property rights provide the basis for exchange, but also provide the necessity for enforcement. Inability to enforce or control a property right reduces the benefit which the owner of a good may derive from his own property. See: Demsetz (67).

(6) See: Crutchfield (55), Gordon (81), Haveman (98), and Plourde (157).

(7) Hardin (87) and Crowe (54).

(8) Some commentators suggest that this situation arises purely and simply because of a "diffusion" of the property right. See: Alchian and Allen (5) and Cheung (38).

(9) It is important to note that the notion of public goods or collective goods relates to the nature of these goods and not to the sector which controls them. Thus some public goods are privately owned or provided. For a discussion of the concept of public good see: Bohm (18), Ellickson (71), Evans (72), Head and Shoup (99), Malinvaud (132) and Olson (150). On collective goods see: Auster and Silver (9).

(10) The difference between provision and production of collective goods is frequently forgotten. The area of demand for

publicly provided services may not correspond to a larger area necessary for the attainment of economies of scale in production. However, small communities may contract with other larger communities and/or with the private sector for certain services. This possibility reduces the need for large government and can give to small government some of the advantages it would normally lack. See: Aronson and Schwarts (8), Hirsch (101, 102), Miller and Tab (139), Ohls and Wales (149), Tiebout (185), and Warren (190). The "public choice" approach is discussed in Buchanan and Tullock (30) and applied to water resources management in Ostrom and Ostrom (153) and to coastal zone management in Bish et. al. (16), Craine (53), and Warren et. al. (191).

(11) This is frequently the case in the recreation sector where surrogate prices are difficult if not impossible to define. In many instances the cost of facility provision may be greater than the returns from user fees. The basic problem is one of defining a reasonable evaluation of the recreation experience: on which topic see: Pearse (156), Tapeiro (181) and Wennergren (195, 196).

(12) This is the problem of arriving at a collective agreement within or without the political forum. See: Hart (96), Kasperson (114), and Ostrom (152).

(13) In footnote 10 above the distinction was suggested between public provision and production of collective goods. Here the difference being underlined is between public provision and public ownership of the good provided. In the case of undeveloped crown lands the good already exists and may be provided to various consumer groups without a complete transfer of property rights - as in the case of leasing.

(14) These axes are obviously composites of several underlying variables. Measurement of each variable may be possible, but the way in which groups of variables act is presumably much more complex.

(15) See: Albert (3), Black (17), Institute for Public Affairs (108), Johnson et. al. (111), and Pross (160).

(16) This case pitted arguments of the Province of Prince Edward Island against those of the Government of Canada (among others). The latter claimed that discrimination on the basis of residence in controlling the amount of land (and especially shoreland) an individual could buy was tantamount to setting "citizenship requirements". The definition of citizenship status is a federal prerogative. Prince Edward Island, however, won its case.

See: Supreme Court of Canada, Richard Alan Morgan and Alan Jacobson vs. Attorney General, PEI. File no. 13-360. To

be published.

(17) Conflict has been variously defined, as has the difference between conflict and competition. See: Ackoff and Sisson (1), Boulding (20), Buchanan and Tullock (30), Davis (64), Schelling (168). The role of conflict in recreation is increasingly recognized (Agassiz Centre (2), and Kuehn (26)) as is conflict between regions (Isard (109)) and over the location of economic activities (Mumphrey et. al. (147) and Wolpert (197). Conflict in coastal development is discussed in Clark (39) and Harrison (89).

(18) The measurement of conflict and the definition of the point at which ordinary situations become conflict are elements which have yet to be defined. For an attempt at measuring conflict development see Harrison, (90).

IV ECONOMIC SPILLOVER, REDISTRIBUTION AND THE DEVELOPMENT PROCESS

Common property resources, such as the water component of the coastal area, and certain publicly-provided goods, suffer from the inherent difficulty that their consumption and use is frequently difficult to control effectively. Unconstrained access to these resources allows the possibility of one group of consumers reducing the advantage derived from the resources by another group. This reduction of value comprises the general problem referred to here as economic spillover (1). Solutions to such spillovers may necessitate government intervention in the use and consumption of the resources. But this in itself can create a further set of problems. By crystallising a certain pattern of use the public sector may, either by buying land or freezing development, effectively redistribute the value to be derived from the resource. Such, for example, would be the case when the "needs of the general public" are placed before those of local communities - a transferral of benefits to the former may be unavoidable. This type of process is referred to here as the general problem of redistribution (2). While it is recognised that spillover effects are a form of redistribution, one of the purposes of the following section is to isolate certain differences between the two concepts which help in understanding the development process.

At this point it is useful to note that the process of conflict development, the existence of spillover effects and the difficulty of avoiding unwanted redistribution are elements common to many types of recreational management (3). Coastal areas differ from other non-coastal areas in that the particular combination of these elements is significantly different. Land management and water management may be effective for land and water problems treated separately. If it is accepted that both the physical and economic systems of the coastal zone are not simply an addition of land problems and water problems, then the management of coastal recreation areas becomes a composite entity different from other recreation areas (4).

1. Spillovers

When the consumption to a good is not controlled completely by one individual or group of individuals it is possible that over-consumption will lead to discomfort - and even to destruction of the good. Thus, environmental degradation of the coastal area (land, water and air) can be traced to the effective diffusion of the control over the consumption of the component goods. As, for example, can the problem of crowding, noise, and general disturbance in certain park areas which are intensively used.

Although such "economic spillovers", which by definition are "unsolicited" (5), can be identified in many aspects of the economy and in all regions, the structure of goods in the coastal area is such that spillovers are entirely unavoidable. Since these spillovers (in negative form only) constitute a reduction of value to their receptor, they are one of the more important linkages in the regional economy.

Normally an economic linkage entails the transferral of monetary resources in exchange for a good or service rendered. Purchases/sales linkages are of this kind. The type of linkage being talked about here, however, is somewhat different. It reflects a non-monetary transaction which the receiver of the linkage cannot avoid, and which has the result of reducing the benefit which the receiver can derive from the resource in question. Since it has already been suggested that monetary linkages of a positive kind are at the best very feeble in the coastal area, negative spillover-type linkages are frequently the most important if not the only linkage in existence in the coastal area. As such they pose an important problem for the management of development.

In order for a spillover to exist, it is quite obvious that someone, somewhere, must generate it. And that someone else must receive it. Two elements of the spillover situation are thus immediately identifiable - the generator and the receptor of the effect (6). If one makes the simplifying assumption that all economic activities occur at one given point then a third important element is ignored - the way in which the spillover effect is transmitted bewteen generator and receptor. Relaxation of such an assumption immediately places great importance on the medium whereby the spillover effect is transmitted, and leads to the important conclusion that spillovers are of necessity a form

of spatial cost (7).

The land, water, and air components of the coastal area can themselves act directly as transmission agents (as in the case of water or air pollution or of "visual nuisance") but auxiliary goods (e.g. power-boats, snowmobiles etc...) can also act as agents of transmission. Thus the locating of a park in an otherwise privately developed part of a coastline may increase the "nuisance" (spillover) to existing riparians because of the beach noise, power-boat noise and pollution, and the increased probability of trespass. These can act as an effective reduction of consumption value accruing to existing riparians and could, ultimately, lead to conflict situations.

Spillover effects are obviously not infinite in their spatial extent and therefore the impact zone of a given activity must be a function of certain specific variables. The type of development, density of existing coastal uses, and the density of proposed activities are of importance, but so also is the use-structure of the surrounding coastal area. Thus a park development in an area which is typified by direction 2 in Figures 2 through 4 would give rise to fewer problems of the nature being discussed here than would a similar development in direction 1. Similarly a public marina development in direction 2 would cause less concern and friction than any development in direction 3. An important variable in the generation of spillovers and in

their spatial extent is thus the existing structure of goods in the coastal area.

2. Spatial Conflict

The precise point at which a spillover becomes a conflict (i.e. when individuals take action against the activity causing - or threatening to cause - the spillover) is indeed difficult to determine (8). As suggested in Figure 6 a particular activity (X) such as a shoreline park may, over time, increase its level of activity. This may involve an increase in the number of visitors or an increase in the number who make a noise and generally create a nuisance. After a certain point (A) activities surrounding the park, such as private cottages (Y), may be somewhat disturbed by the increased use of the park and thus suffer the brunt of a spillover effect as shown in the negative axis of Figure 6. At a certain point in time (B) the level of activity is such that the spillover effect on (Y) at (OD) reaches a threshold value beyond which (Y) takes action to reduce what he considers (or they consider) has now become a conflict (9). This analysis helps in defining a conflict as an increasing spillover effect which has reached a threshold level, but the critical question is - at what level of activity such as (OC) and at what point in time (B) does this threshold occur? Several variables would seem to be of help in predicting

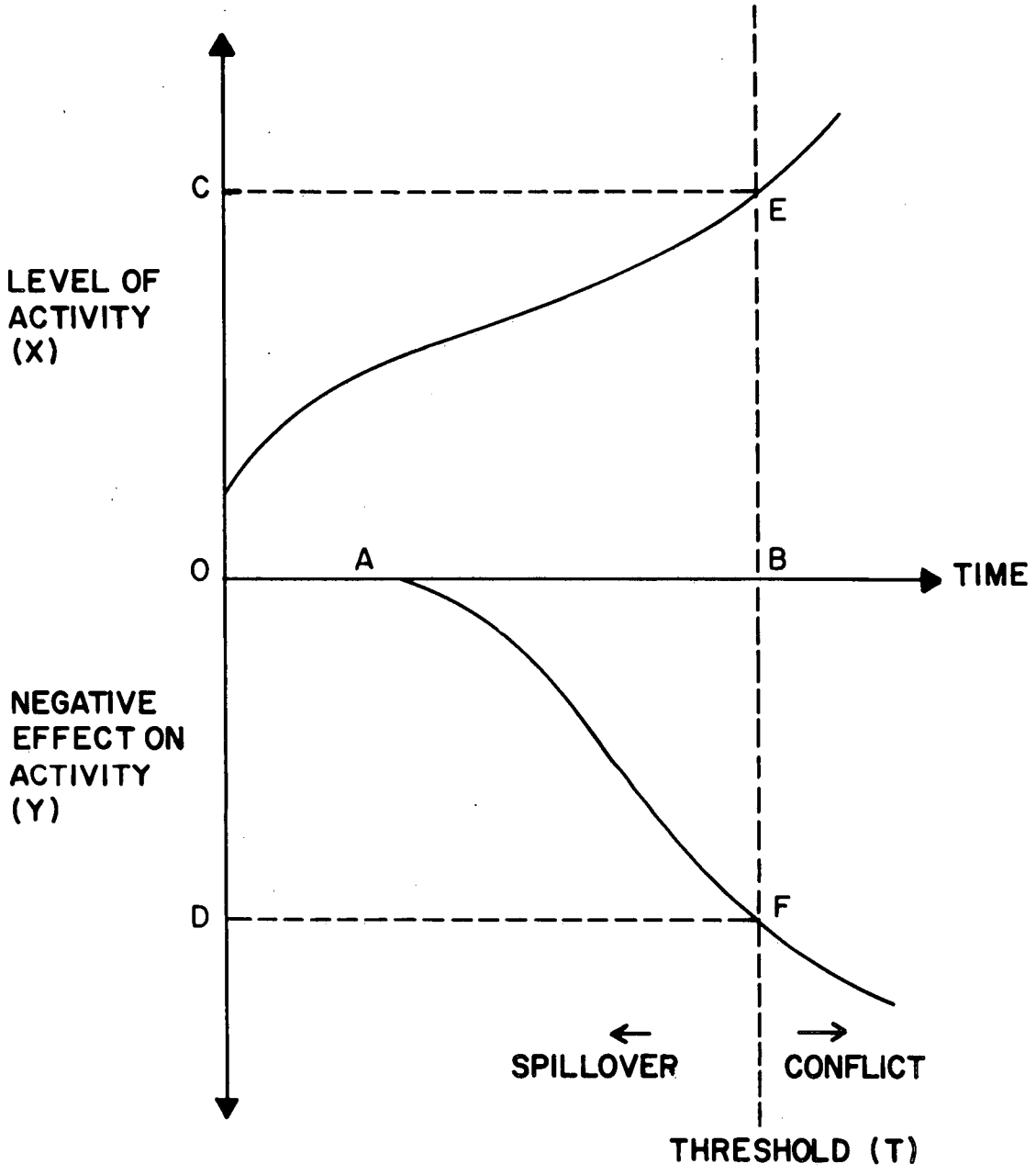

Figure 6 THE THRESHOLD OF SPILLOVER CONFLICT

the threshold in terms of quantity and time, and these would include:

(i) the type of activity represented by (X);

(ii) the rate of increase in the density and spread of (X) or of its use;

(iii) the type of activities (Y) which surround (X);

(iv) the rate of increase in the importance of (Y) and its history of conflict formation.

One thing is certain, and that is that conflicts undoubtedly parallel the spillover situations from which they arise. And as has been seen earlier, the latter are finite in space if not in time. With increasing distance from the source of a conflict, the probability of activities becoming involved in the situation declines as a function of both (i) the level of the conflict at the origin, and (ii) the types of activity surrounding the con-

flict generator, and (iii) the sensitivity of the receptors.

Knowledge of the existing conditions of a given conflict situation, including the spatial mobility of the medium which transmits the original spillover effect, can give rise to the definiton of conflict zones. These zones would very simply include all areas within a given range of probability of conflict. Under the assumption that this probability declines with distance from the generator of the spillover effect these zones would be finite. Figure 7A shows such zones, with the inclusion of the threshold value in probability terms. Areas within the threshold line are those considered to be most susceptible to conflict generation. A change in the underlying conditions of conflict or of the threshold value could give rise to a spread of the probability system as shown in Figure 7B. Isolation of the evolution of the threshold zone is presented in Figure 7C. The generator of conflict may be highly mobile, however, and several conflicts may intersect each other spatially. Thus Figure 7D presents one mobile generator whose zone of influence is the area (A). This zone intersects those of two other generators (areas B and C) and in so doing a spatial overlap of conflict zones is attained. Where all three zones intersect the problem of managing and resolving conflicts is obviously greater than in an area where only one conflict prevails. This spatial ordering is seen as being of potential use in the management process

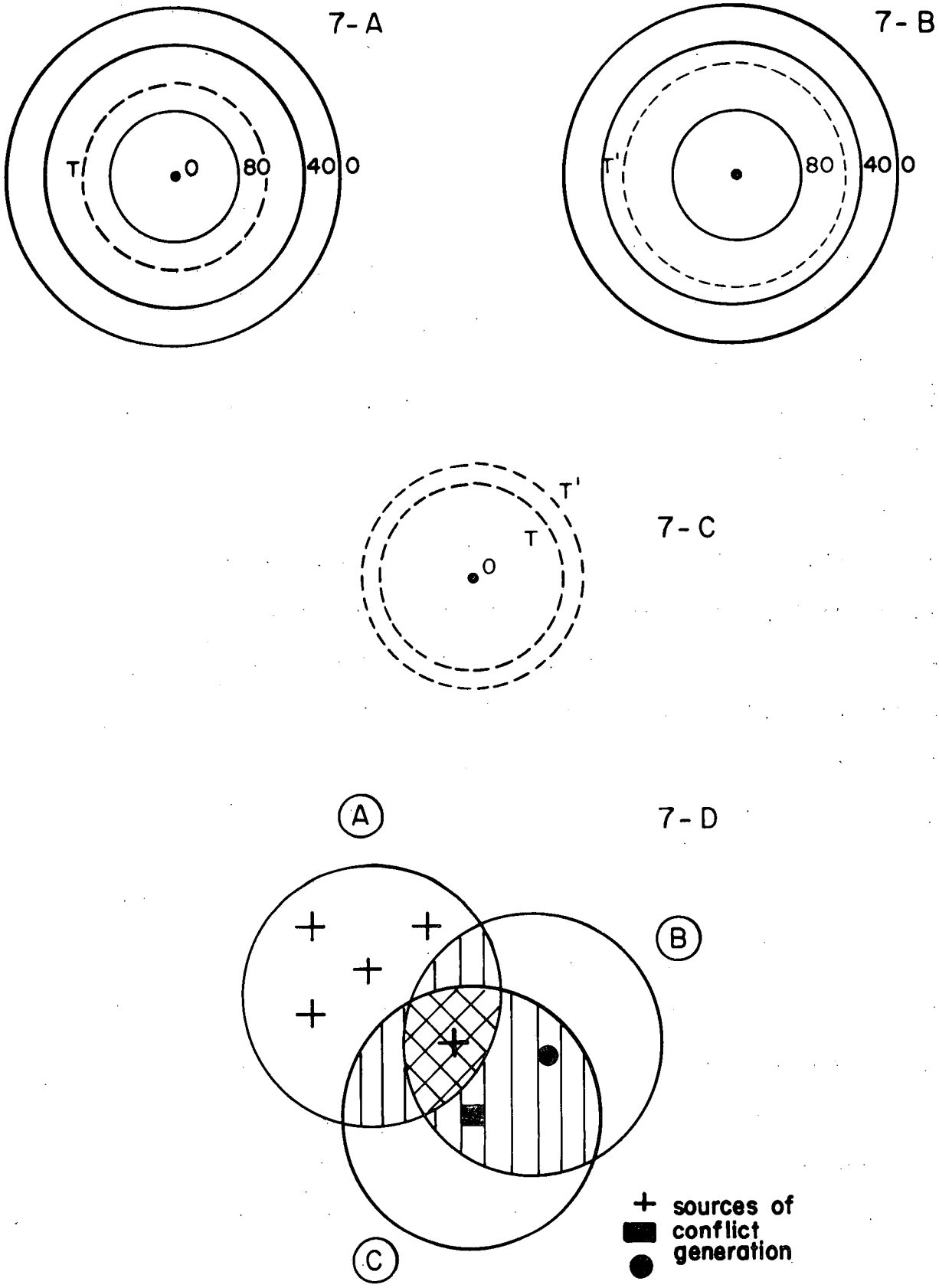

Figure 7 CONFLICT: PROBABILITY ZONES AND SPATIAL THRESHOLDS

since it focuses attention on those spatial units in great need of a conflict resolution process. Thus limited resources committed to the problem could be used and directed more effectively than if the entire area were to be "managed" in an equal manner.

3. Redistribution of Advantage

The above discussion of conflict relies directly on the notion of spillover. And the latter in turn is seen as being a function of the diffusion of property rights - especially in common property and public good situations (10). Conflict may, however, arise from other situations in which private goods and auxiliary private goods play a greater role. Spillover conflict involves a definite redistribution of value derived from the recreation experience but requires the transmission of this effect via some form of medium. A similar redistribution of value may take place in a purely pecuniary sense without the intervention of a spatial medium (11). Thus the subdivision of a previously wilderness area into cottage lots can effectively reduce the value in use of the area to existing users (including non-humans) and increase it for newcomers. The closing of previously public beaches because of extensive land development may similarly cause a redistribution of benefit.

At what point in the redistribution process does conflict over values occur? A simple situation where there are two alternative recreation uses (X) and (Y) will suffice to explain possible solutions to this question. As recreation value accrues to (X), then (Y) may be seen as suffering a decrease in value because of the non-spillover redistribution which has taken place. This process is shown in Figure 8 which is similar in form to Figure 6 presented previously except that the definition of the axes is different (as is the intercept value of each of the function lines) and the functions are independent of each other since they depend directly on the nature of each of the activities involved.

Thus new recreational development (X) may take place at a given level of importance (A) which will increase the value flowing to (X) by (OB). However, the displaced activity (Y) may have a level of operation (C) which results in a decrease in received value of (OD) because of this process of redistribution. Assuming that there is an identifiable threshold value beyond which (Y) will activate a conflict situation, this can be shown as (T) in Figure (8). Notice that this threshold is independent of the absolute value increase to (X) of (OB), unlike the threshold of spillover conflict shown in Figure 6 which is directly related to the level of activity of (X).

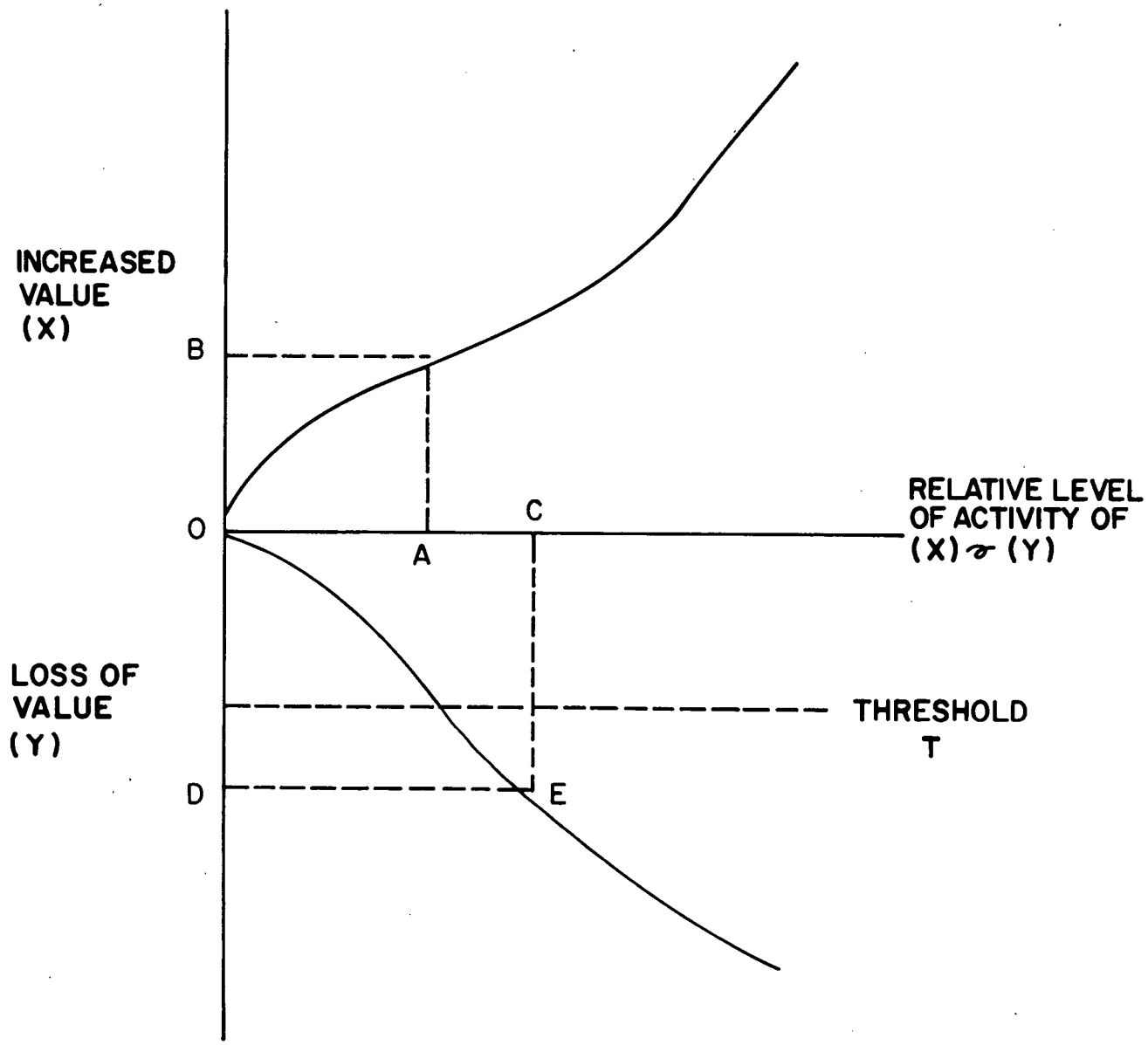

Figure 8 THE THRESHOLD OF REDISTRIBUTION CONFLICT

Such "redistribution conflicts" are undoubtedly difficult to calibrate, but their existence is undeniable. Many small coastal communities have experienced a high level of value loss following the supposedly beneficial recreational development of proximate coastal areas - and this is not necessarily paralleled by a similar increase in value to the new activity. It must be said, however, that it is entirely possible for (OB) in Figure 8 to be much larger than (OD) as when a public park redistributes benefits to a larger group of people. What is important however, is the point at which (OD) passes (T), and as has been noted this is unrelated to increasing value to the new activity (X). For example the expropriation of property from ten riparian owners (Y) may redistribute the value in use of the coast to many thousands of users (X) of an eventual park. Nevertheless the loss to the original owners may be greater than (T) and thus their protests could be exceedingly vociferous.

Since no direct medium of transmission is involved in re-distribution conflicts it is difficult to conceive how they would be spatial in nature. They are more accurately described as pecuniary conflicts and as such can have a direct spatial effect or impact without in fact being spatial themselves. This fact also serves to distinguish them from spillover conflict (12).

4. Complex Conflicts

It is evident that a given recreational development can move the structure of a coastal region in any of the several directions suggested in section III above. The conflicts which result could be simple spillover conflicts (involving a certain amount of redistribution) or purely redistribution conflicts - or ultimately a combination of both. Identifying which type of conflict might arise (or is in existence) is important since reactions to it can be variable. Thus a spillover conflict would typically be resolved by attempts at controlling the spillover effect by regulation. In this way conflict probability would be reduced.

Redistribution conflicts pose different problems of "economic justice" and are more effectively solved not by controls of the spatial impact of the generator but rather by some form of transfer payment (cash or land) to the economic actors whose use value has been reduced. This type of balancing mechanism or policy instrument is much more unusual than rules, regulations and control over the use patterns which arise, and may be seen as a form of policy objective worthy of further discussion (13).

Complex conflicts may arise when both spillover and distribution conflicts occur simultaneously. Solutions to this type of conflict are presumably to be found in the judicious application

of various combinations of regulatory activity and transfer payments. Complexity can be increased, however, by the existence of chain conflicts which occur when an individual economic actor is party to several related conflicts at the same time. Thus an indidivual may be (X) in one conflict (Figures 6 and 8), (Y) in another, and (X) in yet another. This means that in complex conflicts there is the problem of identifying the parameters of the conflict situation, and especially the different actors party to each conflict and their relative role in each. It is a problem for which there are few easy solutions.

5. Conclusion

The above section has presented resource use conflicts of the type generated by recreational activities in coastal areas as falling into two distinct categories:

(i) conflicts arising from spillover effects;

and (ii) conflicts arising from the redistribution of use value between different user groups.

Although the two are not mutually exclusive, a major distinction between them is that the first requires a spatial medium of transmission or a spatially mobile generator and receptor in order for the conflict to arise. The second is more pecuniary in nature and while possibly having an important spatial impact is not of its nature the type of economic element which submits itself immediately to spatial control.

Complex conflicts are those which have strong spillover and redistribution (non-spatial) aspects at the same time. Furthermore chain conflicts may arise when an individual economic actor is party to several conflicts at the same time - and possibly in different capacities. In all cases of conflict it is suggested that a threshold either of spillover or of redistribution has been reached beyond which the particular external effect situation is no longer acceptable to the receptor. Spillover thresholds may be analysed in terms of conflict probability zones but redistribution thresholds are more pecuniary in nature. The precise value of thresholds is undoubtedly highly variable, and yet it is possible to consider it as a direct function of certain specific variables as outlined above.

6. FOOTNOTES

(1) The concept of externality is presented in Mishan (141, 142) and in Cho (40), Davis and Whinston (66), Dussansky and Kalman (70), Evans (72), Flamant (74), Lord and Warner (130), Schall (167), and Scitovsky (171). Externalities as types of "disamenity" are discussed in Mishan (143) and the spatial aspects of externality in Harrison (92). Externalities are seen as a form of social cost (Coase (47) and a function of market failure (Bator (12)). Spatial aspects of externalities are discussed in Harrison (92). An extremely readable treatise on environmental pollution as a form of spillover may be found in Dales (59).

(2) Redistributive effects of environmental control and management are discussed in Bourguignat (21).

(3) The example of neighbourhood parks is presented in Weicher and Zerbst (194).

(4) This point is underlined more fully in Sewell (174).

(5) The condition that such effects be unsolicited is a sine qua non of the theory of externality. See: Mishan (142).

(6) Generators, receptors, and media involved in the transmission of external effects are discussed in greater detail in Harrison (92).

(7) This statement has obvious implications for various aspects of location theory. Inclusion of spillover notions (of various types) in location analysis may be found in Austin et. al. (10) and Mumphrey et. al. (146).

(8) See footnote 18, Chapter 3.

(9) The concept of threshold was originally proposed by Professor Malisz of the Polish Academy of Sciences. It is developed in Koslowski and Hughes (122, 123) and Malisz (133). The content of this section of the report was discussed with Professor Malisz and his comments are gratefully acknowledged. In recent years threshold analysis has been applied by Malisz in selected places along the Yugoslav coast. The report of these studies is unfortunately not available.

(10) See: Cheung (38).

V THE LOCAL IMPACT OF COASTAL RECREATION DEVELOPMENT

In the preceding pages many concepts have been presented regarding the economic nature of coastal areas, and how these can affect the process of the management and provision of coastal recreation facilities. The objective of the following section is to pull together these various concepts and consider how they can affect one particular set of economic actors. Chosen for discussion is the hypothetical case of an existing coastal community in or near which major recreational development is foreseen. What impact will the latter have on the community and its members - and to what extent will coastal use conflicts arise? In other words the discusssion will attempt to consider recreational activities as a potential source of economic growth in the community, and to balance this potential against some of the important costs involved. The aim is not to propose a strict benefit-cost analysis, but the notions pertaining to this type of analysis obviously underlie much of the discussion (1).

The problem at hand is a very real one in the domain of recreation. There are several examples of parks (national and provincial) which have been located without apparent concern for the resulting burden on local communities, and there are many more examples of private subdivision of lake and ocean shoreland enacted with little regard for the economic impact they induce.

Furthermore, certain municipalities or regional groups of government bodies actively promote development, and it is not clear that this results in the desired advantage for the region or community. It should be stressed that the following discussion is not a criticism of existing policies, nor is it the presentation of a panacaea for all small communities. It is merely an attempt to raise certain questions concerning development impact. The responses to these questions will obviously vary from case to case as will the total response to all such questions. Posing them may help to clarify and even to reduce bias in the development process, but initially they will help to crystallise elements of a local point of view.

1. Community Costs of Providing Collective Goods

The services rendered by small communities range from garbage collection through fire protection and prevention to the provision of school facilities (2). Not all such services are provided by each and every community and there are frequently wide variations in the quality of provision between communities of similar size. If payment for these services is not directly related to the amount consumed by local residents, sources of revenue such as property taxes and business taxes can be employed in order to cover the cost of providing collective goods - this can also be helped with grants in aid from senior levels of

government (3). Since taxes are related either to population size, or to the state of development of the land within community boundaries (as reflected in millage rates), a development and growth ethic on the part of community leaders is reasonable. As land develops and as population grows, then public coffers will fill more rapidly and more fully.

Sometimes, however, development within community boundaries is difficult to stimulate. For one reason or another it may prove difficult to attract an industrial or commercial establishment, and thus tax revenues may stagnate or extra burdens may be placed on existing residents. Stimulation of the economy in the widest sense (especially providing new sources of employment) can add urgency to the desire to develop, and the recreation sector is seen by some communities as a healthy alternative to the activities they originally desired. Thus recreational development within community control can be a direct source of public income - as can sources such as taxes paid on recreational property. Increased sales by local commerce can also be of advantage to the community via increased business taxes (if they exist).

The probable return from recreation activities can be queried from several points of view. First if there is no business tax then revenues will not increase at a high rate (4).

Even if there is such a tax the possible lack of important sales linkages discussed in section II above could give rise to only a slight rise in revenues. Secondly, the recreation activities might develop outside the boundary of the community and thus returns from property taxes could also be negligible - if not non-existent. Thirdly, increased seasonal employment for local residents may increase returns to individuals in the community (and obviously this can be a point of crucial importance), but this in itself may not give rise to higher returns for the community as a whole. Clearly it is possible for the latter returns to increase, but it is not a de facto result of recreational development. Careful definition of revenue sources and their amounts, as well as their eventual disbursement is thus necessary in order to be able to discern whether or not recreation developments are desirable.

This is especially true when the cost of providing collective goods and services is taken into consideration along with revenue sources. Recreation activities could place a heavy burden on the local community - even in cases where they are outside the jurisdiction of the community. (This problem is akin to the phenomenon of suburban residents placing heavy demands on collective goods provided by central cities, without there being any payment in return).

The increased burden may be viewed in several different ways. First there is the indivisible nature of many collective goods. One fire engine for example can serve ten properties or a hundred, and it is impossible to have "more" or "less" fire engines. After a certain point another fire engine may become necessary because of population growth in a community - and a heavy investment may be required. Or, to put the problem differently the provision of many collective goods involves "thresholds" of fixed cost which are neither continuous functions of population size nor directly relatable to the level of development of a community on a "one for one" basis. This phenomenon is shown in Figure 9. For a population size ranging between (O) and (F) community investment in collective goods equals (OA), and this is indivisible and invariable until (F) is reached. At (F), however, the size of the population has become such that added expenditure on collective goods suddenly jumps to (C). The new cost level (CD) represents a sufficient investment until population level (G) is reached. The general trend of these cost leaps may be decreasingly proportional to population size (the dotted line in Figure 9) because of increasing economies of scale in collective good provision and because of the possibility of increasing the flexibility in use of each new investment (5).

Secondly, one may consider the cost per capita arising from the stepwise situation shown in Figure 9. Figure 10 is derived

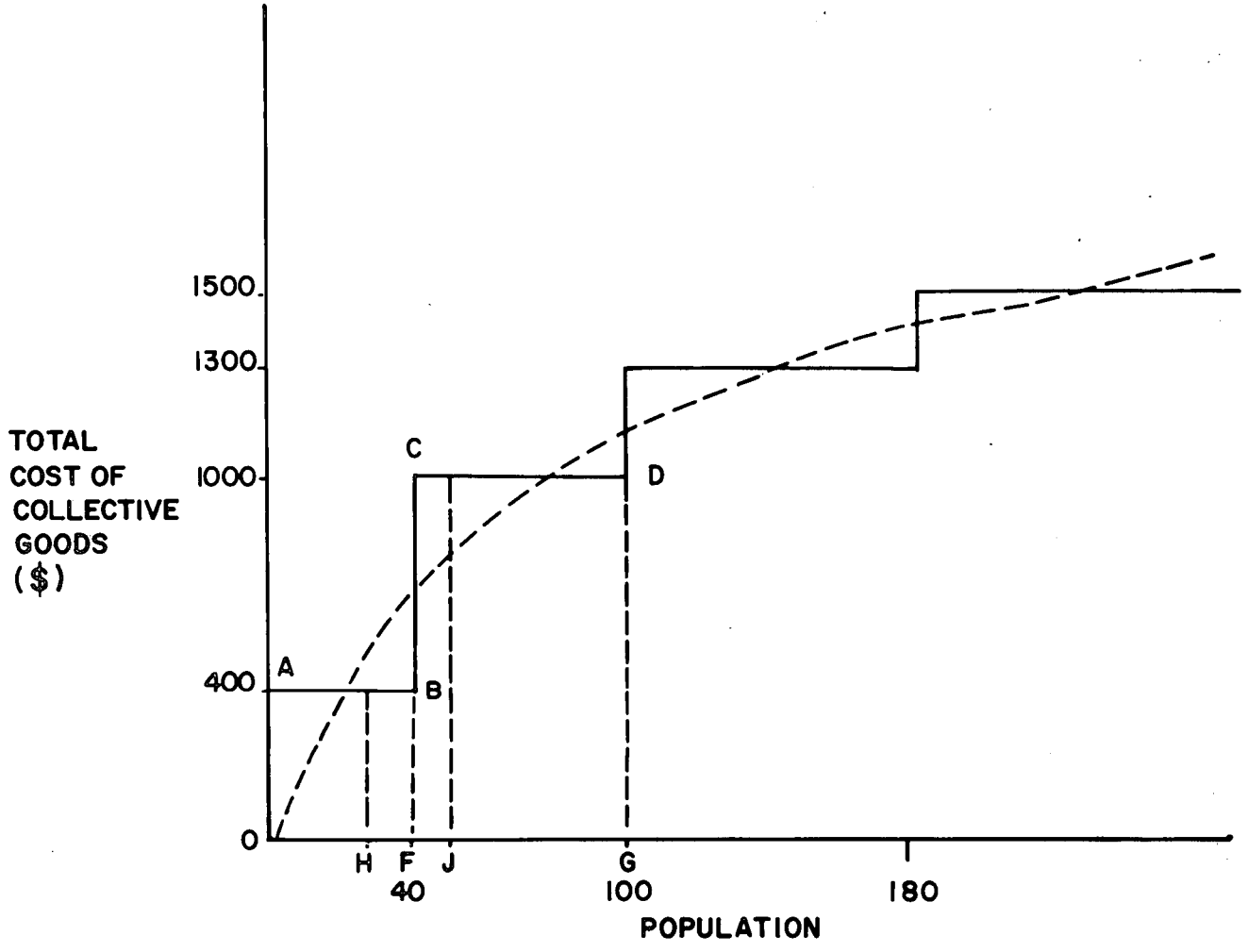

Figure 9 THE PROVISION OF COLLECTIVE GOODS: STEPWISE COST CURVE

directly from the hypothetical values of Figure 9, and shows that at each threshold (F) and (G) the average cost per capita is subject to a massive leap. Depending on the shape of the discontinuous curve of Figure 9 the extent of the leap in per capita costs (Figure 10) can be seen to diminish, as can the absolute level of each section of the average cost curve. The situation described can be of major importance for certain communities. Take for example a situation where the permanent population is (H) (Figures 9 and 10) and where seasonal population increases the effective total to (J). The development which attracted the seasonal population in the first place - a recreational development - could increase total costs and per capita costs by an excessive amount. The burden on the community would be great indeed.

Putting together the cost side of the picture with the returns side, it is possible to define a series of situations ranging from one where advantages to the community will be positive and beneficial, to the other extreme where development could spell hardship.

(i) Situation 1. In this extreme case the community in question is able to command returns on potential recreation developments via different taxes. But it is also on a declining portion of the per capita cost curve (Figure 12) and the new

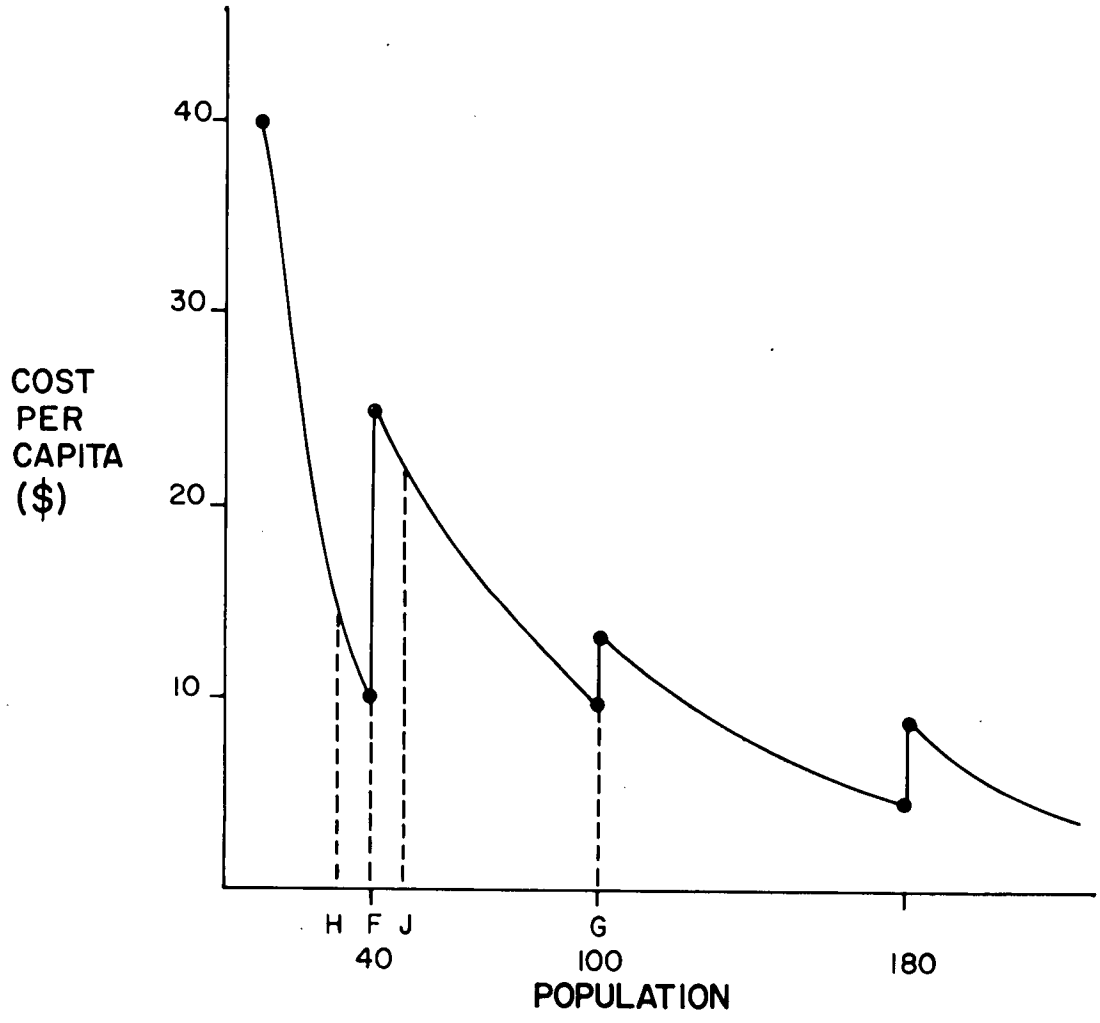

Figure 10 PER CAPITA COST OF COLLECTIVE GOOD PROVISION

developments will not increase population over a threshold value. This is perhaps an enviable situation since returns to the public purse will increase at the same time as there is a decrease in per capita costs of providing collective goods. The net result could be a decrease in taxes to residents or, a more likely proposition, an increase in the quality and frequency of services and/or an increase in services not related to the threshold should these exist. Development in the strictest sense of the term could take place within the entire community as opposed to simple growth.

(ii) Situation 2. Unfortunately the world is not as rosy as situation 1. If a community cannot always recover the costs of goods provision occasioned by the recreation development (by way of taxes) and if the increased effective population results in a threshold leap, then both growth and development could be stymied. The tax burden on residents would increase without any noticable increase in returns. In this extreme case severe hardship could result instead of the hoped for Utopia.

Situations 1 and 2 are, as has been noted, extreme situations and any community in particular may find itself somewhere between the two. Clearly the questions it must ask itself before consciously stimulating recreation development are along the following lines:

(i) at what position is the community on the average cost curve of collective goods provision?

(ii) will development push effective population over a possible cost threshold?

(iii) to what extent will there be real returns from the new activities?

The answers to these questions will help to produce sound decisions on bases other than the "allure" of the recreation sector.

There are instances, however, where the decision to develop a recreation facility is entirely outside the jurisdiction of a local community even though the latter may suffer an impact (6). There are also certain costs (especially spillover effects) which the community might not be in a posiiton to control. It is to these matters that the discussion will now turn.

2. The impact of Development Decisions: Spillovers

A type of conflict which has been isolated as being of importance in coastal areas is that derived from the spatial

impact of spillovers. Elements of the coastal system may act as media of transmission of these effects, or alternatively auxiliary private goods may play this role.

Should a community have taken the decision to stimulate recreation development of its shoreline, it does not necessarily follow that it is in a position to control spillover effects which might arise therefrom. Consequently conflicts may begin to arise over which the community likewise has little control. The net result could be action within the political forum which may have important implications for community managers. Pressure brought to bear by residents because of their "losses" by forced reception of spillover effects may not only relate to spatial limitations in community power, but also to a system of management which makes no provision for spatial conflict. The tendency will therefore be for appeals to senior levels of government - whose involvement in the situation could reduce local autonomy. It seems evident therefore that a consideration of tax returns (as suggested in the previous section) must necessarily be balanced by further consideration of spillover effects and redistribution effects which development could entail as important elements in balancing the equation involved in the decision to stimulate development.

Of importance to a community, in addition to the above situ-

ation, could be one where the decision concerning development is in fact taken elsewhere (e.g. by senior levels of government). A senior government might decide to develop the coastline just outside the area of jurisdiction of the community (e.g. by the installation of a park) but sufficiently close to have important spillover and redistribution effects not balanced by increased tax returns to the community. Increased traffic, noise, possible congestion caused by park users, and the reduction of community access rights could lead to significant conflict with local residents. Since the community has no jurisidction over the particular recreation development it is obvious that it also does not have the power of self-compensation for the reduction in value occasioned by the development. Assuming a simplified spatial distribution of resources, an important elemental strategy on the part of the community would be to convince the senior government to locate the recreation facility at a distance where the threshold probability of conflict is not reached. This would not necessarily reduce the generation of spillover effects - but it would potentially reduce the number affecting the community. Location and benefit realisation are thus inter-related considerations.

3. The Impact of Development Decisions: Redistribution

The second type of conflict which has been identified is

based on the redistribution of benefits which recreation facility development could bring about. From the community point of view this type of problem is directly related to the revenue-expenditure relationships outlined above. Pressure on collective goods consumption could effectively increase the burden on local residents, and the obvious result is a redistribution of wealth from the community to the in-coming recreationists. This is added to by the redistribution which would take place by the pre-empting of access rights commonly pertaining to local residents. Since many of the in-comers may be in higher income brackets than most residents, the redistribution which would take place is perhaps another example of "the poor getting poorer".

In a case where the community has the control over the decision to stimulate development, the possibility of such redistribution would presumably reduce any pressure to promote development. If, however, the community is in situation 1 defined previously then the probability of redistribution taking place is greatly reduced and is composed mostly of the pre-empting of rights.

Where the community does not control the development decision, situations 1 and 2 still apply - but they are not necessarily taken into account by the developer or senior government who takes the decision to develop. Furthermore, since

this type of conflict is not necessarily susceptible to reduction with distance (as in the spillover case) a simple relocation of the proposed development will not be sufficient to solve the problem. It would seem appropriate, therefore, that the developer take into account the situation of the local community and, if necessary, to consider the possibility of making transfer payments to the community to balance out the redistribution taking place.

Not all redistributive effects could be the subject of such a balancing mechanism - especially at the level of individuals - but from the point of view of entire communities the suggestion is more feasible. For example, when a national park is proposed for a coastal area, payments are allowed under existing institutional frameworks to individuals who are expropriated; but no allowance is made for the effect on economic actors just outside the expropriated area, nor for local communities who may suffer. In an era when discussion of "paying a more realistic price" for recreation is quite acceptable, and when different user charges for residents and non-residents of a particular jurisdiction are contemplated, transfer payments to local communities for the redistribution effect they suffer can be seen as another important element of the principle that recreation resource users pay a more realistic price for their consumption (7). Federal- provincial grant systems and provincial-local aid programmes

could be one means of effecting the proposed transfer payment. Guaranteed a continued low level of taxes or at least a control on unwarranted increases, communities involved in conflicts arising from redistribution would be fewer and the number willing to cooperate in major recreation developments not under their jurisdiction would undoubtedly increase.

4. Alternative Points of View

Local communities are not the only economic actors involved in the process of coastal recreation development and control. Federal and provincial governments, private developers, individual citizens and groups of citizens all play an active role. And all may subscribe to widely different points of view - some of which may be irreconcilable. A senior level of government could be in the process of proposing recreation development on the grounds of "the greatest benefit to the largest number of people" and at the same time decreasing the same benefit to residents and to existing communities. Taking into account the variation in points of view would seem to be necessary if rational progress is to be made. At this point it would be normal to call for a consideration of all costs and benefits arising from receation facilities. Since this is rarely possible - and at times undesirable - it would seem more feasible to take into consideration only those relevant costs and benefits which

have a direct effect on the allocation process via spillover and redistribution effects (7). Even though a high level of potential conflict may by in existence, this type of consideration would enable the developer to pre-figure certain "balancing" strategies (e.g. transfer payments) should he decide to proceed with development as planned. An attempt to reduce conflict before it arises could help to smoothen out the vagaries of the development process.

5. Conclusion

The ability of small communities to cope with increased demand for collective goods is highly variable. It is suggested that those communities which can recoup their expenditures via various tax systems, and which are not about to cross a cost threshold in collective good provision, are those which can derive the most community development potential from the promotion of recreation activities. This would need to be balanced by a consideration of the possible spillover costs over which the community has little or no control.

In instances where the community does not control the decision to develop, the minimisation of spillover effects may be arrived at by a simple relocation of the recreation development. The control of redistribution effects may be less easily per-

formed and would require some form of transfer payment to the community to compensate for the increased burden placed on its finances.

The point of view of all economic actors in the coastal area is not necessarily the same. Public authorities would be wise, however, to take into account such variations when contemplating a possible decision to develop. If only because the reduction of conflict and potential conflict is a reflection of the process of the evolution of a civilised society.

6. FOOTNOTES

(1) For discussion of benefit-cost analysis see: Harrison (93), Lewis (129), Prest and Turvey (159), Pyatt and Rogers (161), and Scott and Sewell (172).

(2) See: Hirsch (102).

(3) The impact of property tax assessments on land and water use is discussed in Brewer (24). See also Richey (164).

(4) It is of course possible that land values could increase because of the particular recreation development. This would in turn increase property tax returns either by facilitating increased millage rates or, in the longer run, new tax assessments.

(5) See: Will (198). Capacity constraints similarly exist for recreation facilities. See: Baron and Schechter (14), Fisher and Krutilla (73) and Goldin (80).

(6) In other words the question of jurisdiciton is a critical one. See: Albert and Harrison (3), Bédard (15), MacNeill (131), Pross (160), and Trelease (187).

(7) The payment for recreational facilities and recreation resource use is intimately tied to the question of recreation demand. Confusion seems to exist as to the difference between recreation resource use and recreation resource demand. For discussions of demand see: Brown and Stoevener (27), Carey (35), Cichetti (41), Cicchetti et. al. (43), Clawson (45, 46). Daiute (58), Knetsch (119, 120), Krutilla and Knetsch (125), Seckler (173), Smith (175), Tadros and Kalter (180). Price of course, is not the only variable affecting the level of recreation demand. See: Brewer and Gillespie (25) and Parkes (155).

(8) Double counting is always a danger, and the inclusion of indirect costs and benefits is not always justifiable. See: Prest and Turvey (159).

VI CONCLUSION

The coastal zone incorporates in a more or less limited geographical area most of the problems and potentials of modern society. Although coastal waters are highly productive and varied physical environments, they can also exhibit a certain delicate structure which is easily destroyed (1). Ill-considered development of coastal land or uncontrolled and damaging use of the waterbody can bring about destruction in many different ways ranging from pollution of the water body to over use of public beaches. It is impossible to isolate one particular land use or water use sector as being the prime instigator of such situations. Nevertheless it would be true to say that the recreation sector is becoming more and more involved in the process of coastal use and abuse (2). Whether it be in the form of cottage subdivision or urban marina complexes (3) the recreation sector poses certain problems of management and provision which differentiate it from other economic activities in the coastal region. The purpose of this paper has been to isolate, in a conceptual manner, some of the characteristics of the recreational development of shorelines.

1. Regional Structure

When the coastal zone is considered as a regional economy it

becomes apparent that positive linkages between economic activities in the region may be all but nonexistent. Consequently, definitions of structure must necessarily be viewed differently - especially to the extent that the regional "economy" is dominated by the recreation sector. It has been suggested in this report that the relative importance of the type of goods in existence in a region may be used as a first approximation of a typology of coastal regions in an economic sense. This approach is felt to be both practical and useful in that different mixes of goods pose different problems for the development of the region. Variations in composition of coastal areas in terms of private and auxiliary goods, common properties, and publicly provided or controlled goods underlie many symptomatic problems such as lack of public access, overuse, and even the problem of environmental pollution. Differences in structure may occur at any spatial scale, and strategies of control which are potentially effective differ according to the structure of the region.

Structural change of the coastal economy may take place for any of a series of different reasons. This process of structural change, however, may engender a set of conflicts which are either insoluble or which result in the reduction of use value derived by certain groups. In other words a process of redistribution may take place. Many changes in structure may result from the pressures for development inherent in the economic system. Still

others may arise because of conscious decisions by certain government agencies - as in the case of coastal parks. It would seem useful if such decisions were made in a context of knowledge concerning the extent of structural change which would take place, and an assessment of potential conflicts which could possible result.

Definition of coastal structure along the lines suggested here can be seen as a call for "further research". Actual application of the typology suggested in this report could give rise to important conclusions and implications concerning policy construction at different levels of government.

2. Variations in property rights

The existence of different goods in the coastal region suggests a huge internal variation in property rights. The possibiity of one activity having an unsolicited negative effect on another activity, because of the diffusion of property rights, may be termed a propensity for the existence of externalities. On the assumption that externalities will always exist in one form or another (in the absence of drastic changes in property definition), it may be considered that some level of externality will be reached at some point in time which the aggrieved party may no longer accept. After inter-activity conflict may thus

occur which is distinguishable from the strutural change conflict described above.

This report has distinguished between two different types of inter-activity conflict. The first has been termed "spillover conflict" - that arising from the impact of external effects - and "redistribution conflict" which arises when the consumptive value of a resource is displaced towards groups who are different from the normal recipients. It is argued that the former is by nature a spatial conflict but that the latter only engenders spatially definable results.

The spatial extent of conflicts is important in that the impact of conflict may not coincide with existing jurisdictional structures. The control of conflict may thus be thwarted by institutional inability to deal with spatially dynamic situations.

The definition of conflict is not precise, nor is the identification of the various parties involved in a conflict situation. Clearly an important area for conceptual and practical development is in the measurement and identification of conflict situations. What role do conflicts play in the allocation of coastal resources, and how can this role be identified? To what extent are conflicts solvable, and how does this relate to existing jurisdictional powers? How can conflict be taken into account in

the definition of institutional goals and objectives? It is obviously beyond the scope of this paper to deal with such questions. Suffice it to say that answers to them could contribute to an understanding of the coastal development process.

3. The small community

In attempting to increase the "greater good" of the public at large it is sometimes easy to forget that this could result in a reduction of the good of a particular group of people or a community. This report has concentrated on the impact of recreation development on small communities. Some of the wider effects of recreational development, such as spillover conflict, may be outside the control of small communities. Other impacts may implicate them directly. For example increased returns to the public purse. This is especially true in the absence of a business tax and when the community is faced with a "cost threshold" in its provision of services. In short certain recreation developments may distribute the use of the coastal area to groups of people who use, but do not support, the local public economy. A redistribution conflict can arise which is detrimental to community residents. Clearly simple multipliers of recreation impact are insufficient and must be balanced by an assessment of increased community costs. Redistribution in favour of non-residents may possibly be balanced either by forms

of transfer payment or by greater consideration of residents in the initial planning stages of coastal recreation facilities.

The impact of coastal recreation activities on small community fiscal systems seems to be largely unstudied. Actual cases of impact would be usefully analysed using the framework presented here.

4. Planning and policy

It would be quite normal to conclude this discussion by calling for greater efforts at "comprehensive planning". However, it is not at all clear what this planning would do or how it would go about doing it. First of all, the elements of coastal development are significantly more complex than most management systems have seemingly admitted (4). Secondly, not all elements have been clearly identified in a manner which is controllable (5). Thirdly, the definition of acceptable objectives - and to whom - is still an open question. And finally, it is not clear that existing institutions are in fact incapable of doing the job (6).

Some starting points may be suggested however. Any coastal management or planning agency would be primarily involved in the process of conflict resolution. Thus, identification of the

sources of conflict, levels of conflict, the actors involved in conflict, and the means whereby solutions may be found are necessary pre-requisites of a planning process. This could be argued if the sector of concern is recreation, industry, or agriculture. Whether conflict resolution requires new institutions is an open question. What it does seem to require, however, is the development of new policies of regional economic development of the shoreline.

5. FOOTNOTES

(1) See: Commission on Marine Science, Engineering, and Resources (50), Hite and Stepp (105), and United States Department of Interior (188).

(2) See: David (63), Jaakson (110), Mayer (137), OECD (151), Outdoor Recreation Resource Review Commission (154), State of Washington (179), Washington State University (193). Evidence of the growing importance of recreation activities in conflict situations is discussed in Bish et. al. (16) and Harrison (89, 90, 91).

(3) See: Moss (145).

(4) For an overview (1972) of the various coastal zone and shorelines management programmes in the United States see: Bradley and Armstrong (23). Other discussions concerning the United States may be found in: Bish et. al. (16), Crutchfield (56), Hite and Stepp (105), Rorholm and Lampe (165), Spencer (178), Washington Sea Grant Program (192). The "planning" approach to coastal zone management is discussed in Koppelman (121).

(5) An aspect of coastal area development which is frequently

neglected in management systems is the great spatial variation in phenomena and in development pressures. Some aspects of spatial pressure have been covered in this paper and may also be seen in Harrison (91).

(6) More and more commentators are suggesting that existing institutional structures may be more effective in controlling the shoreline development process than would new "overall planning" agencies. The assumption is that existing jurisdiction and policy can be effectively applied and co-ordinated. See: Johnson et. al. (111), Albert and Harrison (4), Bish et. al. (16), and Warren et. al. (191).

VII GLOSSARY

(Terms are presented in order of appearance in the text).

1. Composite good: a good which is normally consumed in conjunction with another good. Composite goods are frequently inseparable from the good to which their consumption pattern is tied. There is thus a constant "cross elasticity of demand" whereby the consumption of one affects the consumption of the other.

2. Linkage: a relationship between two economic entities which in effect "ties" one to the other. For example sales and purchases represent economic linkages between individuals in that the very act of purchasing or selling consititutes an economic tie. The magnitude of this is obviously the magnitude of the linkage. The destination of a linkage may be termed its "direction", and groups of linkages may be seen to form "linkage sets".

3. Open economy: an economy which has a greater proportion of its linkages with the outside than with itself. In the case of a national economy this would be in the sense of world trade linkages. In the case of a regional economy the relevant linkage set would be with "the rest of the nation".

4. Multiplier effect: the cumulative process whereby one purchase or sale engenders other purchases or sales. In this manner an original $1.00 of expenditure may become several dollars before the effect "dies down". Multipliers are not infinite because at each round of effect a certain proportion of the expenditure flow may be extracted from the system (e.g. by way of savings or taxes). Regional multipliers are the cumulative regional effect of unit increases in such elements as sales to the exterior or non-resident expenditure within the region.

5. Redistribution: the process whereby the value accruing to one individual or one group of individuals is channelled to another individual or group of individuals. The process of redistribution would normally be independent of the control of the "losers" in the situation. If they could control their loss, then it would obviously not exist. Many policies result in redistribution in that it is normally impossible to make one group of individuals better off without making another group in some way worse off.

6. Private good: a good over which one individual has total control such that he, and only he, may consume it for his own advantage. A pure form of private good exists very rarely, and thus one is normally involved in considering

"degrees of privateness" - or levels to which an individual may practice exclusion.

7. Auxiliary good: a form of composite good by way of which consumption of another good becomes possible. For example consumption of water resources in a recreation sense is frequently by use of certain types of "equipment". This equipment is auxiliary to the consumption of the water resource.

8. Common property: goods which by nature and in principle belong to all. No one individual controls consumption and all are allowed to consume. For such goods the marginal cost of procurement approximates zero, and hence overconsumption may be endemic.

9. Public good (collective good): goods to which the producer cannot control access and consumption. Hence it is frequently difficult to recoup costs of production by making consumers pay. Although such goods are not necessarily provided within the public sector, the problems of exclusion and the covering of costs result in a tendency for the public production and/or provision of such goods.

10. External effects (externality): effects (both positive and

negative) whereby the consumption activity of one individual may increase or decrease that of another - without the latter's active soliciting. In a negative sense (frequently referred to as spillover) the reduction of another's advantage may also constitute a problem of redistribution.

11. Conflict: a negative external effect which has reached such a level that the recipient of the effect attempts to do something about his effective loss. This action may take several forms ranging from active complaint to the producer of the effect through to action in the court system - or even war.

12. Threshold: a level of activity of an economic phenomenon beyond which there is a major leap in one of the entities which form the phenomenon. It is a form of "quantum leap" as opposed to a continuous movement along a functional relationship.

13. Transfer payment: a payment made to one particular group using funds derived from all groups - or from another particular group. For example welfare payments represent a form of taxation of all (which increases to a certain point depending upon income) which is then transferred to a specific group of recipients. Many government payments are in the form of transfer payments, but individuals may also be involved in making them - as in the case of a parent who pays the living costs of a dependent who is in college.

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