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# Coastal Zone Management on the Costa del Sol: a Small Business Perspective

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## ABSTRACT



This paper examines some of the Spanish coastal management policies that have relevance for the small business enterprises located on the sea-front. Physical protection of the coast through erosion control programmes and urban planning policies are considered, with special emphasis on the 1988 Shores Act that attempts to treat coastal planning more holistically than has historically been the case. Business awareness and response to the coastal actions are investigated through a survey of 150 small businesses in four localities on the Costa del Sol. Results indicate a lack of universal understanding and approval of management policies and objectives, although significant geographical variations exist in views expressed. Forced relocation of businesses has influenced attitudes, as have perceptions that money has not been effectively spent. However, there is clearly much misunderstanding of work that has been effected, and much might be gained through improved dissemination of information by both local authorities, regional and central government to a business community whose livelihood is very much dependent upon an attractive and well-managed coastal environment.

**ADDITIONAL INDEX WORDS:** *Coastal management practice, user orientated management.*

## INTRODUCTION

Serious concern for the management of the coastal zone in Spain has a very short history. Although attempts to implement a more effective planning process did follow the advent of democratic government in 1975 and brought some order to development on the coast, it was not until 1988 that the Ley de Costas (Shores Act) provided a more holistic context in which coastal development could potentially be managed. Dating from that time, greater controls have existed on coastal development, while parallel actions to safeguard the physical integrity of the coastline have also been implemented using soft engineering techniques that offer a strong contrast with earlier emphases on sea-wall, groyne and breakwater constructions.

Much of the coastal development and coastal protection work has been carried out in recent years on the presumption of commercial benefit, both in the general sense of improving the built environment to attract rather than repel visitors, and in the more particular consideration of investment in coastal protection work. The latter has

often been justified exclusively in benefit-cost terms, although it is questionable that the business community is fully aware of the work carried out largely in its name.

This paper is directed at achieving an insight into the small business community's understanding of coastal management in one of the more urbanised sections of the Spanish Mediterranean coast – the Costa del Sol (Fig. 1). It is less concerned with the rights or wrongs of management than the perceptions of that management, so that the interest here is in discerning whether there are any lessons to be learned by the managers. Views of the business community are sought in terms of both their awareness and their opinions of developments that have occurred. As long-term residents with a vital economic interest in the area, their views might be assumed to be more informed than those of both visitors and residents. However, prior to introducing that investigation, the coastal actions of relevance to the Costa del Sol's settlements and shoreline businesses are briefly examined in order to provide a context for those views.

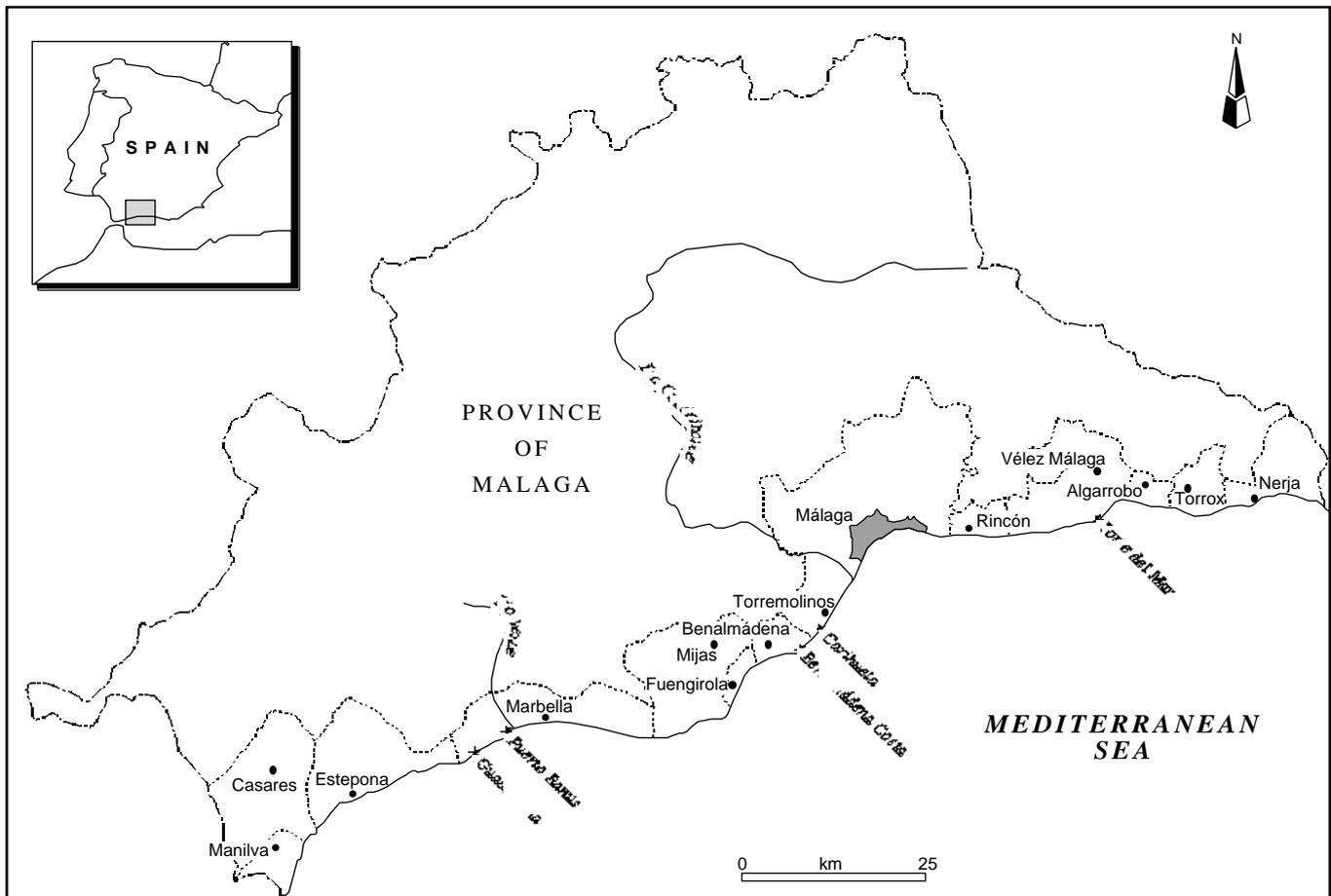


Figure 1. The municipalities of the Costa del Sol

## COASTAL POLICIES IMPACTING ON SHORELINE BUSINESS

### Physical Protection of Coastal Tourism Infrastructure

The demand to protect vulnerable sections of the coast against erosion became more urgent as the economies of the local municipalities changed their focus from agriculture to tourism from the late 1950s. Major commercial and residential concerns were instrumental in the development of measures to defend valuable real estate from marine attack, and the first notable engineering works affecting the growing settlements of the Costa del Sol date to the following decade with the start of promenade constructions. Promenades became important both for their protective and recreational roles, while they also enabled access to the *chiringuitos*, that is the restaurants and bars located on the beach itself.

The nature of the problem to be solved, combined with the technology available at the time, suggested the construction of sea-walls fronting improved promenades as the most feasible and appropriate policy (MALVÁREZ *et al.*, 2000). However, this policy was soon to be questioned as the western Costa del Sol began to experience increasing erosion problem in the 1970s after the configuration of most of the sea-walled promenades in their present form. One of the most serious cases was at Estepona where, following the building in the 1960s of a promenade backing the then extensive beach of La Rada, erosion was such that the beach narrowed and suffered a height reduction, so that the promenade itself was threatened with total destruction (FERNANDEZ RANADA, 1989). In an attempt to solve the problem, groyne fields were constructed by the municipality in 1973 in an attempt to protect the promenade and stabilize the eroding shoreline. However, the process causing the erosion of the beach was not tackled because,

although the groynes were efficient in controlling longshore drift, they failed to stop off-shore directed sediment transport. Thus were introduced hammer-head groynes that were designed to cope with orthogonal as well as longshore movement. Such groynes became a common feature not only at Estepona, but also to the east of Málaga (at Pedregalejo) and later at Benalmádena and Marbella.

Groyne fields have also been deployed in an attempt to minimise erosion and control deposition around the new marinas that have sprung up in abundance along the coast since the 1970s. The largest marina on the Costa del Sol is that at Puerto Banus, where mooring and servicing facilities for 915 boats were provided as well as a shopping centre and other recreational features (EMOISA, 1989). This marina presented a fixed barrier to the predominant littoral drift of sediment from the mouth of the Rio Verde (Fig. 1), and so a field of hammer head groynes was constructed to prevent erosion on the lee-side of the harbour. Pressure from business and other owners of expensive properties located along this portion of the coast prompted a rapid response to concerns of imminent erosion. At the same time, the groynes provided the condominiums close to the marina with permanent beaches.

Other examples of groyne fields associated with marinas and/or the development of promenades for the combined purpose of protection against erosion and containment of beach sand occurred elsewhere along the Costa del Sol, notably at Marbella and Benalmádena. However, despite the large investment, such fields were removed in the 1990s because of their lack of efficacy and a growing problem of sea-water pollution in the artificial embayments. The example of Benalmádena is a case in point. There, hammer-head groynes spaced at 200m intervals and reinforced with large rock and tetrapod armouring were damaged by severe storms in the 1989/90 winter. The inadequate design, mainly caused by poor groyne spacing, contributed to further damage to the sea wall and occasional collapsing of the promenade (CARTER *et al.*, 1991)

A new approach to protection was introduced with the application of beach nourishment. However, as local hydrodynamics are responsible for the achievement of equilibrium profile and planform, the success of beach nourishment in terms of the longevity of the beach and its consequent economic viability is very site specific. Experiences on the Costa del Sol show that the application of beach fill has not been entirely satisfactory partly because of difficulties in solving a fundamental problem of sediment starvation in the coastal system. Inland sources of sediments are constrained by river flows that have been much reduced by dam building, leaving offshore sediment deposits as the only realistic alternative despite the fact that they are not always sufficient or of ideal composition. In the latter case a reasonably resilient beach has been built, but only because the material that was pumped onto the beach

was so coarse or had such a high component of cement that it became highly consolidated. In other cases off-shore material has been excessively shelly, making it unpleasant for recreational purposes. First attempts at Marbella failed partly through use of sands drawn from the mouth of the Guadalhorce (Fig. 1). These sands suffered from uncomfortable encrustation in the upper levels, and thus provided an abrasive surface for recreational use. In Marbella's case, the beach also failed the durability test as it was subjected to sub-surface erosion. In contrast, sediments utilised for nourishment of Málaga's beach were of ideal characteristics, although it was still prone to sand loss due to the effects of recurrent storms after beach fill.

In summary, none of the protective methods applied to the Costa del Sol has been an unqualified success, so that it would be surprising if local opinion was to consistently favour either the older hard structures or soft protection, despite engineers' preference for the latter at present.

### Urban Planning and the Coast

Protection work carried out by MOPU (Ministry of Public Works and Urbanisation) was undertaken under the 1969 Ley de Costas (Shores Act). However, unlike its 1988 successor, there was little concern in that legislation for urban planning apart from installations such as promenades that fulfilled a joint recreational and protective function. Rather, the landward side of the shoreline has seen relatively little effective control upon its development until the last 25 years. The political context prior to 1975 was one where wide latitude was given to private enterprise in efforts to promote economic growth. Consequently the business sector faced few insurmountable obstacles to building development despite the existence of planning regulations deriving from the 1956 Ley del Suelo y Ordenación Urbana (Land and Urban Planning Act) (WYNN, 1984; NAYLON 1986). Uncontrolled market forces generally prevailed to the neglect of integrated planning procedures or cognizance of environmental parameters. The inevitable expression of such a *laissez faire* approach along the Mediterranean coast was one of unrestrained development from Catalonia in the North-East) to the Costa del Sol in the South-West (MORRIS and DICKINSON, 1987; POLLARD and DOMÍNGUEZ RODRÍGUEZ, 1993 and 1995). Whereas the resulting high rise hotel and apartment blocks that typified many a sea-front cityscape might cause no more than aesthetic offence, failures in the provision of promenades, means of access to beaches, proper traffic circulation and parking facilities, parks and garden facilities, and sewage systems, offered more objective cause for concern for visitor and resident alike.

New political and administrative structures introduced following Franco's death in 1975 were mirrored in changes in the planning legislation. The principal instrument was the *Reforma de la Ley del Suelo y Ordenación Urbana* (Revised Land and Urban Planning Act) with its requirement of each municipality to produce a *Plan General de Ordenación Urbana*. (It was the case that the previous 1956 legislation had also demanded similar Plans, but the response of many Town Halls was slow to the point of non-compliance in some instances.

Plans produced following the *Reforma* did give some consideration to environmental conservation as well as for improvements in the social and economic infrastructure, while the application of the three land planning categories of 'urban', 'urbanisable', and 'non-urbanisable' was more firmly established. However, these plans were necessarily constrained by the haphazard urban development that was already in situ. Moreover, the continuation of the planning mentality that emphasised growth against other criteria, also played a part in restricting the scope of change on the ground (MORRIS and DICKINSON, 1987). Thus it was that continuous promenades were lacking in many resorts until the 1990s (including the most popular resort of Torremolinos), as were other open spaces in the form of parks and gardens. More positively, many public services were nonetheless provided with more expedition, and a fully integrated sewage system was provided through an intercept line along the coast by the end of the 1980s.

### The Coast as a Planning Entity

In no respect did either of the 1956 and 1975 Acts recognise the coast as a zone with any special requirements. An important segment of building work specific to the coast concerned defence and marina work noted above. It was from the Ministry responsible for such operations - the *Ministerio de Obras Públicas y Transportes* (Ministry of Public Works and Transport), successor to MOPU - that moves came to introduce a more integrated approach to coastal planning taking account simultaneously of growing concerns for environmental protection and conservation.

The primary rôle was played by MOPT's *Dirección General de Puertos y Costas* (Directorate for Ports and Coasts). It identified three fundamental requirements in respect of the coastal management, viz.

- Its physical protection
- The recovery of public property
- Legislation for, and management of, that property through registration of ownership; recognition of rights and concessions; and imposition of penalties upon defaulters

Programmes were introduced in 1982 to establish a legislative framework to empower the *Administración de*

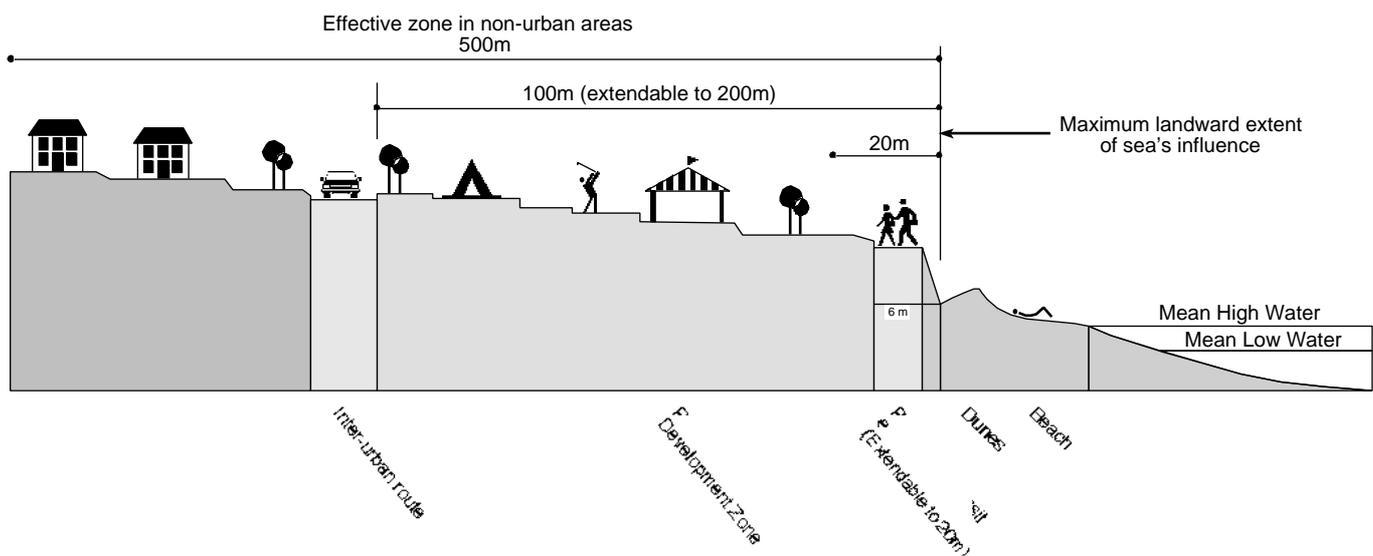


Figure 2. Zones distinguished by the *Ley de Costas* (Shores Act)  
Source: MOPT (1991)

Costas (Coastal Authority) to integrate services, and to significantly increase investment. There was little resistance to the increase of spending particularly when it came to coastal protection work. Clear advantages, particularly for the business community, were seen to sea-wall and breakwater construction, even though the broader implications for their impact on marine dynamics might not have been appreciated. In contrast, it was a different matter when it came to discussing new regulations impacting on business operations. The Jefatura de Costas (Office for Coastal Affairs) began lobbying councils and other interested parties from that date, but acceptance of need to act was either extremely slow or non-existent, failure to proceed being excused on technical or legal grounds (MOPU, 1988). Some progress with beach management was achieved by the late 1980s, especially in regularising commercial services offered on the foreshore. However, the real leap forward was not made until 1988 with the passing of the new Ley de Costas (Shores Act) and the linked Plan de Costas (Coastal Plan) 1993-1997, which strengthened the whole enterprise of coastal defence and environmental protection and improvement.

The Shores Act and the Coastal Plan provided the legal powers to the authorities to protect the public coastal zone while underpinning the huge expansion in investment in public works on beach regeneration, promenades and sea-front rehabilitation, and access provision. Much of implementation of physical aspects of the programme including restoration work was in the hands of MOPT which was charged with the twin objectives of guaranteeing public access, and safeguarding the physical and scenic integrity of, *inter alia*, beaches, dunes, wetlands, and cliffs.

The Shores Act was both a corrective and preventative measure, establishing new rights and obligations in respect of use of the public domain and its immediate hinterland, and ensuring that any future development of virgin areas, (or redevelopment within already urbanised areas), would conform to a more rational and sensitive system of land use.

It recognises a number of zones (Fig. 2), but principally those of:

- a) In-shore and territorial waters
- b) Shore/Beach

Both these zones are public (maritime) property or state territory.

- c) Zona de Servidumbre de Protección (Zone in which a protective easement applies, i.e. a "buffer zone"). This extends 100 m (possibly extending to 200 m) back from shoreline. A paved pedestrian promenade covers the first 20m of shore; otherwise it consists of a "green area" (which can include some leisure uses e.g. camping, golf)

- d) Zona de Influencia en Suelos no Urbanos (Non-urban zone of influence) that extends up to 500m inland.

These last two zones are considered private property.

Various clauses apply restrictions and prohibitions to each of the zones. Of particular relevance is the restriction on residential building, roads (apart from for access), extractive activity, overhead power-lines, and advertising publicity. Moreover, commercial beach services are restricted up to 20m from shore. Of course, along large stretches of the Spanish coast, including much of the Costa del Sol from Nerja in the east to Estepona in the west, building already exists to the shoreline. Where such building rights already exist, owners can continue subject to the 20m easement. Beyond the 20m zone, the Act does not apply to land urbanised prior to 29/7/88 provided that constructions were legally built, in which case acquired rights were to be respected for period of any lease, even though no building extensions were to be allowed. However, where buildings were illegally built, they are subject to removal unless it is possible to show they are in the public interest, in which case they can be legalised in retrospect. In view of the early uncontrolled development that characterizes this coast, this legislation is clearly a source of concern for business proprietors in the immediate vicinity of the coastline, and a potential source of dispute with the responsible authorities be they national, regional or local.

The division of responsibility between those three levels also lends itself to possible confusion for those affected by the legislation. Under the Act, different responsibilities attend each level of government from Madrid through the Regions to the Municipalities (MOPU, 1989). Central government's concerns, (apart from the legislation itself), are those of delimitation of the public domain at the coast, acquisition of land to include within the public domain, management including authorisation of access rights and granting of concessions for construction works, protection and policing, and the carrying out of public works for protection, defence, conservation and use of the public domain. The last mentioned includes the creation and regeneration of beaches, a major issue on the Costa del Sol since the 1990s, which has been conducted by MOPT or its predecessor MOPU.

The Regional authorities (Comunidades Autónomas) are responsible for overseeing territorial and coastal planning, some port operations, waste disposal at sea and the production of various reports detailing matters of boundary delimitation, access rights and compulsory purchase orders.

At the local level, the Town Halls provide a broad range of services. They act as public informants regarding the boundaries of the public domain. They deal with applications, authorisations, and concessions for primarily commercial users of the public domain. They oversee life-

saving and public safety, and they provide the services in respect of the cleaning, hygiene, and security of beaches and public bathing areas. This broad remit, much of which impinges directly on the business community, may sometimes influence it to assume that all coastal actions whether for better or worse can be laid at the door of the Town Halls.

### Impacts upon the Chiringuitos

Changes in the law, and perhaps more importantly in the mindset of local planners, have had profound implications for business operations in the immediate vicinity of the coast and, indeed, effects began to be felt even before the Shores Act became a legal instrument. Whereas the Shores Act presented no immediate threat to those legally established within the new buffer zone, apart from a possible compromising of redevelopment or extension work, illegal buildings came in for close scrutiny both following the passing of the Act and immediately preceding its passing.

On the Costa del Sol, the principal disputed constructions were the restaurants and snack bars known as chiringuitos, although other establishments from fishermen's huts to parasol and lounge hiring points also dotted the foreshore. Official objections were based upon the restrictions on the beach area available to the public, the reduction in aesthetic or scenic amenity, and the vital health consideration of burying of rubbish and sewage effluent in the sand (MOPU, 1988). Furthermore, it was appreciated that there was an impact upon the seasonal profile of beach and thus an

interference with erosion processes.

The situation on the Costa del Sol in 1987 typified prevailing conditions in respect of these establishments. There were to be found over 600 constructions of which the main group was the chiringuito (Table 1). These were distributed between the municipalities approximately in line with the strength of the tourist trade, so that Torremolinos exhibited by far the largest number, although the citizens of Málaga provided a substantial home-based clientèle for that municipality's chiringuitos. Many had been built illegally and only 15 operated with concessions granted by MOPU more than ten years previously. The remainder were nominally authorised annually through the Town Halls and should have been removed at the end of the season: however, this was avoided on the grounds of the unsuitability of the building materials.

Discussions of the approach to be taken were held under the auspices of the Dirección General de Costas (Coastal Directorate) and a report was issued that defined suitable establishments for the beach, their sympathetic adaptation to the local environment and building style, and beach zoning for commercial and non-commercial uses. Implementation of recommendations was to be effected through the local Servicio de Costas (Coastal Service) in collaboration with Town Halls, the source of some confusion of responsibility and antagonism towards both parties from the business community. Demolition, relocation and rebuilding of chiringuitos on the Costa del Sol was controlled by the Demarcación de Costas de Málaga (Málaga Coastal Office) either directly or through the municipalities. One-quarter were removed altogether

Table 1. Distribution of Beach Constructions on the Costa del Sol, 1987

Municipality	Beach Establishments			
	Chiringuitos	Fishing Huts	Other Huts	Miscellaneous
Manilva	10	0	0	2
Estepona	26	0	0	2
Marbella	47	0	0	14
Mijas	17	0	2	2
Fuengirola	43	3	5	11
Benalmádena	17	5	6	5
Torremolinos	85	0	33	3
Málaga	53	3	2	0
Rincón	22	23	2	2
Velez Málaga	39	21	20	3
Algarrobo	2	0	2	2
Torrox	21	2	8	2
Nerja	13	33	15	3
<b>TOTAL</b>	<b>395</b>	<b>90</b>	<b>95</b>	<b>51</b>

Source: MOPU (1988)

while a further 40 per cent were relocated off the beach, and the remainder converted to prefabricated, sectional constructions could be easily removed. The costs, including removal of foundations and protective walls, sand levelling and aeration, and general cleaning amounted to the substantial total of 105 million pesetas, but did involve the clearing of 100,000 sq. m. of beach.

In the circumstances it was not surprising that some resistance arose with demonstrations, threats and physical resistance requiring police action. Rather less controversial was the zoning of beaches through a required alternation of open and commercially exploited zones, and restricting areas for beach loungers/sunshades/parasols to the vicinity of the promenade and at least 15m back from high tide mark (MOPU, 1988). Disputes were handled by the Town Halls which led to some accusations of unfairness and corruption, but work was largely completed over the two years 1987/8 and thus the problem was virtually resolved prior to the Shores Act being put in place.

#### Business Awareness and Response to the Coastal Actions

The business community inhabiting the coastal margin is a very diverse one in terms of precise location of premises, types of operation, sizes of business and ownership structures. Those directly affected by the legislation of the Shores Act are located either on the beach itself or on the immediate coastal hinterland of the promenade, marina or other access points. Businesses in these locations include both major international and national companies operating large-scale hotel and apartment blocks, as well as small-scale restaurants, bars and other tourist services selling souvenirs or hiring beach and sailing equipment. Whereas the former are largely subject to external ownership, the latter are in almost all cases owner-operated. It is the views, then, of this group of local entrepreneurs that have been sought in this section of the study.

Views were ascertained through a sample survey of 150 of those operating at a number of sea-front locations along the Costa del Sol (Fig. 1). Five locations were selected for study to allow for potential variation in influence of local municipalities, variations in the level of tourist activity, and differing physical conditions. The highest level of urbanisation occurs in the Western Costa del Sol to the west of the city of Málaga: four of the sites relate to municipalities in that section of the coast, viz. Guadalmina and Puerto Banús in the municipality of Marbella, Benalmádena (Benalmádena municipality) and Carihuela (Torremolinos municipality). The final site is Torre del Mar on the Eastern Costa del Sol in Vélez Málaga municipality). All sites with the exception of Guadalmina have witnessed the substantial development of tourism industries, although that at Puerto Banús with its prestigious marina, is particularly geared towards the most affluent end of the market. Of the 150 businesses surveyed, the smallest

number (15) was located in the least commercialised site of Guadalmina, 35 were found in Puerto Banús, 25 each in Benalmádena and Torremolinos, and 50 in Torre del Mar.

### Survey Results and Discussion

Given the significance of the Shores Act to the regulation of coastal development, and the direct impact it has had on a number of commercial activities, it is revealing to note the extent to which knowledge of it has permeated the small business community. In the circumstances it is perhaps surprising that awareness is limited to no more than half the respondents (Table 2). Awareness rates are highest among the chiringuito operators, but even within this group

Table 2. Awareness of the Ley de Costas.

Business	Aware (%)	Unaware (%)	Total (%)
Restaurants and Bars	49 (56.3)	38 (43.7)	87 (100)
Chiringuitos	14 (63.6)	8 (36.4)	22 (100)
Shops & Other Services	11 (26.8)	30 (73.2)	41 (100)
All Businesses	74 (49.3)	76 (50.7)	150 (100)

some appear to be oblivious to the legislation. Restaurant and bar owners providing facilities along the sea front display marginally less knowledge even though their operations could come within the ambit of the Act, while its coastal protection aspects are of considerable relevance to both the physical security of many coastal premises and the tourism environment in general. Least awareness is shown by the remaining businesses who are rather less affected by the Act by virtue of their location back from the immediate sea front in many cases, and type of operation which is sometimes less tourism dominated.

Of those that knew of the Act, responses were evenly divided between those that saw it as in any way beneficial, and those who saw it solely in a negative light. Most 'benefits' were, however, far from precisely defined, being expressed rather as "improving the situation" or "things are better". "Making provision for the future" was the most explicit positive statement. The restaurant, bar and chiringuito owners tended to be most opposed to the law. 'Drawbacks' more strongly enunciated and dwelt particularly on a perception that the application of the law was inequitable or unjust. Other adverse considerations involved opposition to planning restrictions and the bureaucracy necessary to comply with the regulations, although a complaint about the use of cheap sand for beach regeneration betrayed a lack of knowledge concerning the scope of the legislation.

Some spatial variation occurred within the responses (Table 3), with predominantly favourable reactions in Puerto Banús and Torremolinos, whereas Benalmádena,

Torre del Mar and Guadalmina were generally negatively disposed to the law. The unfairness argument was most forcibly put in Benalmádena and Torre del Mar, while the "imposition of restrictions" was especially resented at the latter.

Table 3. Benefits and Drawbacks of the Ley de Costas

Location	Benefits		Drawbacks		"Approval Rating" Benefit (%) -Drawback (%)
	No*	%**	No*	%**	
Guadalmina	4	44	5	56	-12%
Puerto Banús	8	80	3	30	50%
Benalmádena	4	24	9	53	-29%
Torremolinos	7	54	2	15	39%
Torre del Mar	7	28	12	48	-20%
All Locations	30	41	31	42	-1%

\* No. refers to the number of respondents who responded positively in any way to the Ley. \*\* Percentage figure refers to proportion of those who knew of the Ley de Costas

Despite the opinions expressed in respect of the Act, only six of the respondents considered its application to have had an impact on their business. In contrast, over forty argued to the contrary. Respondents' understanding of coastal management issues as they affect tourism and the general business environment is rather interpreted through the actions of the Town Halls and the Public Works ministry, i.e. those that play a conspicuous rôle in implementing policy. In response to a question concerning their impressions of the principal coastal problem affecting the Costa del Sol, and who was responsible for the problem, views were quite diverse (Table 4).

Problems disaggregate into those of a general nature that may or may not be manifested in a coastal context, and

those that relate specifically to the beach and sea-front. The former comprise corruption, lack of tourism, building and infrastructure, cleanliness, crime and the failure of planning, while the latter relate to the quality of the beach itself, the promenade, and access to (and parking near) the sea-front. The municipality, as often as not personified as the mayor, is generally seen as the source of responsibility for the problem, although there is confusion over the source of beach problems in that MOPU is considered to bear equal responsibility with the municipality.

The problems noted are not necessarily common throughout the Costa del Sol. Indeed, almost half of the respondents at Puerto Banús failed to identify any problem, and a further third of Torremolinos' respondents did likewise. This may well reflect the high level of commercial activity and general positive ambience in the case of Puerto Banús, while Torremolinos has seen many improvements in recent years with the completion of its promenade, introduction of beach cleansing procedures and improved sewage treatment, all of which impact positively on the sea-front environment. There were, in fact, no businessmen in the Torremolinos sample who commented negatively on the beach, in contrast to those of Torre del Mar who contributed over 70 per cent of that group. Some dissatisfaction was also shown at Guadalmina and Benalmádena.

The underlying reasons for such responses seem to relate to the characteristics of the beaches, some of which have been subject to re-nourishment. Opinions of different aspects of beach quality are indicated in Table 5 and are also represented diagrammatically in Figure 3. Overall, beach mean scores show positive response to majority of features (scores being higher than the "adequate" level of 3.0). However, there are two notable exceptions in two of the principal physical aspects of the beach, namely sand colour (2.7) and sand quality (2.5).

Table 4. Perceived coastal planning problems and responsibilities

Problem	All	Municipio	Junta	MOPU	Others*
Beach	25	11	1	10	3
Corruption	10	8		1	1
Lack of Tourism	10	9	1		
Building work, Infrastructure	9	8	1		
Cleanliness	7	2			5
Access and Parking	6	6			
Paseo (promenade)	5	3	2		
Crime	5	4			1
Planning and related failures	5	3		1	1
Water Quality	4	3		1	
No specific problem identified	21	13		5	3
<b>TOTAL</b>	<b>107</b>	<b>70</b>	<b>5</b>	<b>18</b>	<b>14</b>

\* Tourists, Businessmen

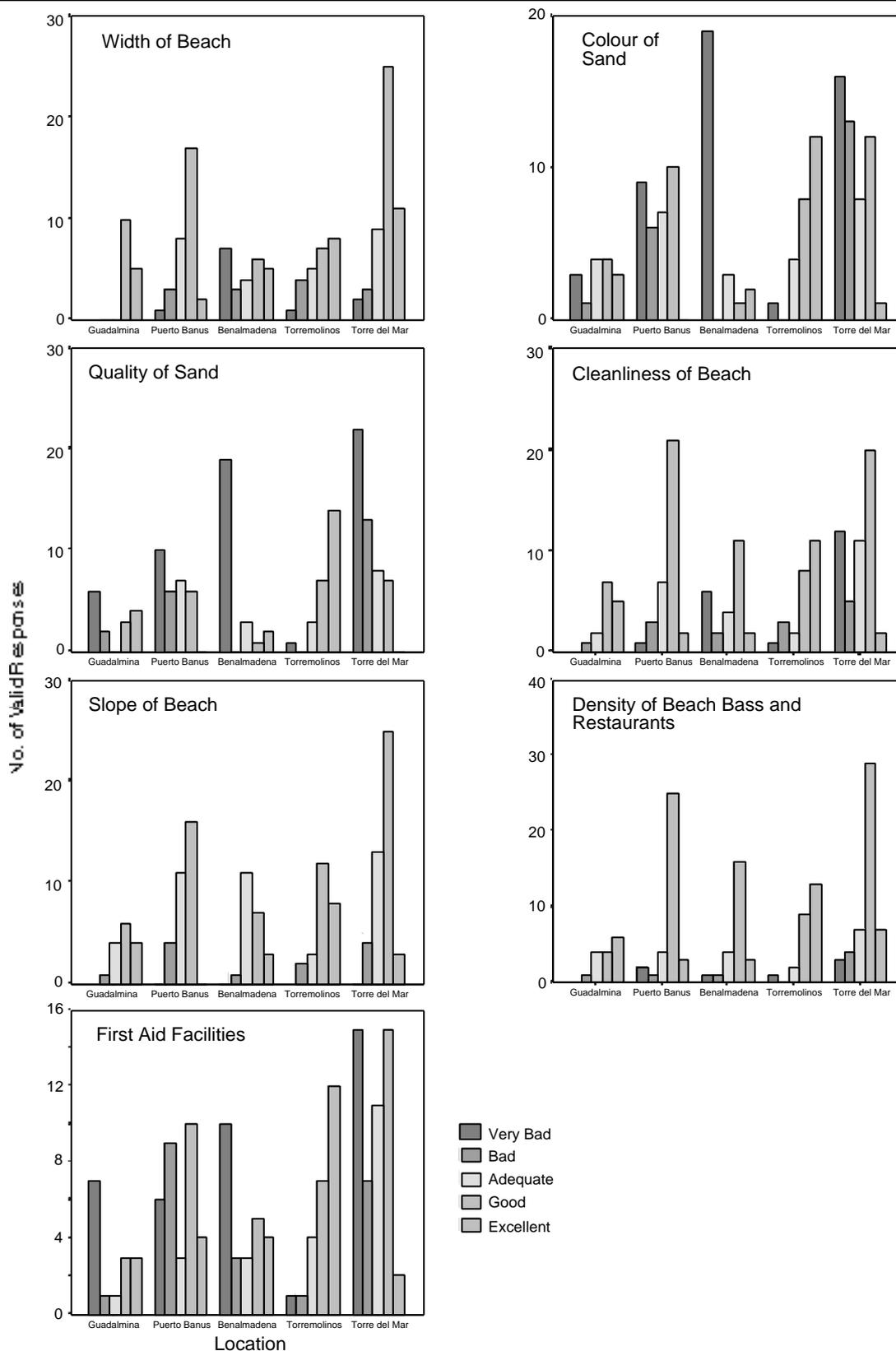


Figure 3. Aspects of beach quality: Opinions of respondents.

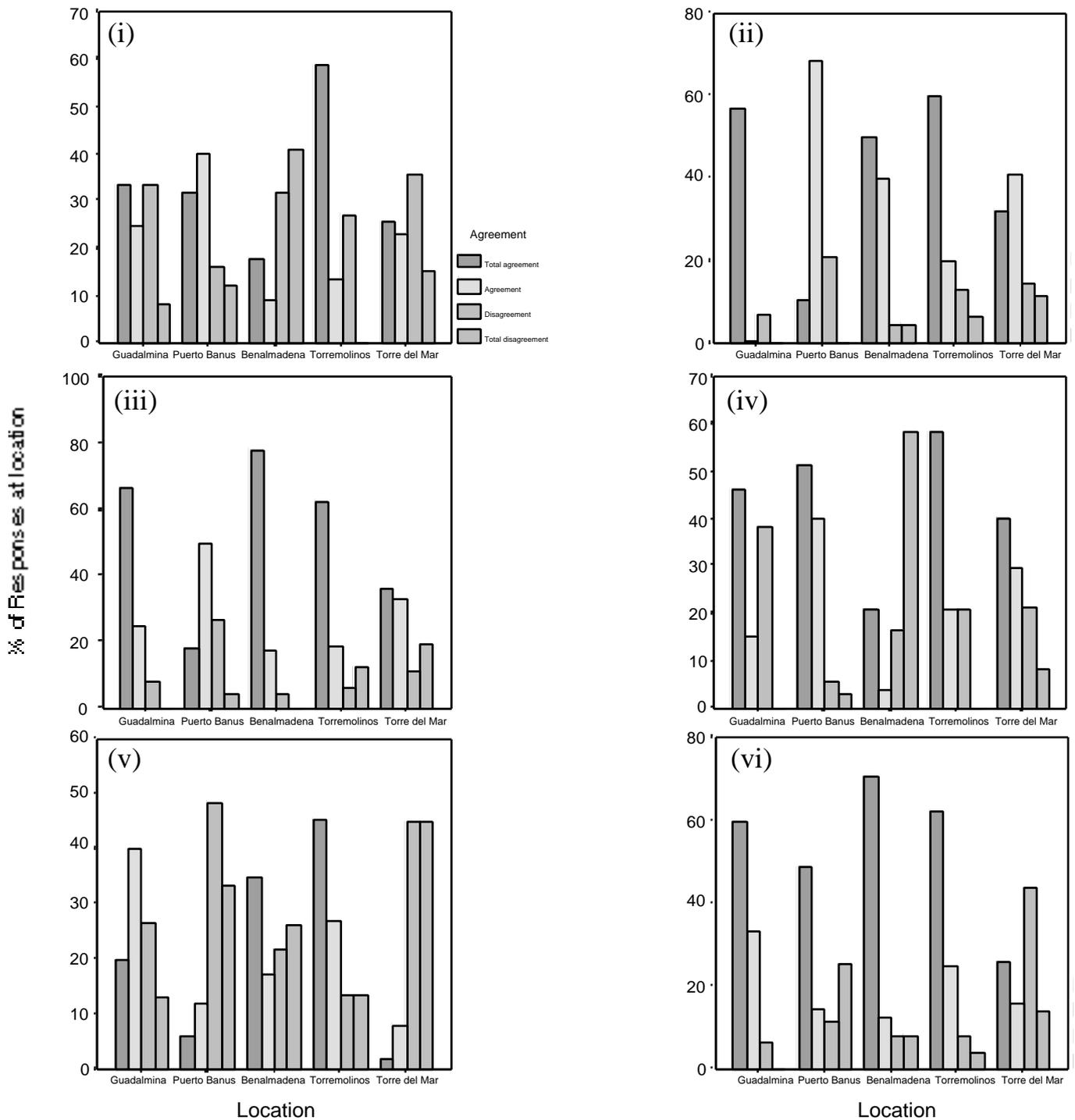


Figure 4. Aspects of coastal work: Opinions of respondents.

Table 5. Mean scores\* for beach quality at each location.

Beach Characteristic	All Locations	Guadalmina	Puerto Banús	Benalmádena	Torremolinos	Torre del Mar
Width of beach	3.6	4.3	3.5	3.0	3.7	3.8
Colour of sand	2.7	3.2	2.6	1.7	4.2	2.4
Quality of sand	2.5	2.8	2.3	1.7	4.3	2.0
Cleanliness of beach	3.4	4.1	3.6	3.0	4.0	2.9
Slope of beach	3.5	3.9	3.3	3.2	4.0	3.3
Density of bars, restaurants	3.8	4.0	3.7	3.8	4.3	3.7
First Aid facilities	2.9	2.6	2.9	2.6	4.1	2.6
<b>Mean of the Means</b>	<b>3.2</b>	<b>3.5</b>	<b>3.1</b>	<b>2.7</b>	<b>4.1</b>	<b>3.0</b>

\* The mean score is derived from the scale 1 = very bad, 2 = bad, 3 = adequate, 4 = good, and 5 = excellent

These scores are not consistent across all locations, with least satisfaction displayed in Benalmádena in respect of all aspects of beach quality (overall mean = 2.7) and greatest in Torremolinos (4.1). The relatively less patronised beach at Guadalmina also receives a respectable average score (3.5). The strong contrast in scores for Benalmádena and Torremolinos is particularly interesting in that the scores refer to adjacent beaches, although separated by a marina and falling under two different jurisdictions. Scores are lower at Benalmádena for all aspects, but markedly so in terms of colour and quality of sand. Both beaches have been re-nourished, but different sources of sand were used in the process, the coarser, darker and higher cementation factor sands used in Benalmádena leading to the differential response.

Attitudes to beach re-nourishment in comparison to other methods of coastal protection or sand retention do vary significantly. Very few respondents view sea-walls as a preferable method of protection (Table 6). Groyne constructions, particularly of the hammer-head type, are especially favoured, although there is a substantial group who appreciate the benefits of the beach itself as a protective instrument. It is notable, however, that over one-third had no opinion of what should be done, while seven considered nothing was necessary.

Table 6. Preferences for Coastal Protection.

Protection Method Favoured	No. of Respondents	% of Respondents
A very wide beach	24	16.0
A sea-wall	3	2.0
Longitudinal groynes	24	16.0
Hammer-head groynes	44	29.3
No preference expressed	48	32.0
Nothing necessary	7	4.7

If the question of the relative benefits of beach re-nourishment and more traditional forms of protection is approached from a different angle, then the lack of strong support for re-nourishment is confirmed (Table 7; Figs. 4(ii), 4(iii)). Although some individuals disagreed, the general balance of responses to statements "My business would be better protected if there were a groyne or sea-wall" and "A sea-wall is better than filling the beach with sand" generally show support not only for groynes, but also for sea-walls despite limited mention when asked directly about preferences. The highest levels of agreement are found in Benalmádena, Torremolinos and Guadalmina and probably reflect a range of considerations. Dissatisfaction with the whole beach nourishment process in Benalmádena is clearly relevant, although the rapidity of erosion of "new" sand at the other sites also play a part.

As far as the general statements regarding coastal work are concerned, there is some equivocation over benefits brought by MOPU (Table 7; Fig. 4 (i)). As MOPU is the main contractor in respect of beach regeneration it is not surprising that the approval rating in Benalmádena is so low in comparison with Torremolinos. Benalmádena respondents also react far more negatively than those from other communities in respect of the building of the promenade (Fig. 4 (iv)), probably due to long-standing dissatisfaction with the constant failure of the building work to withstand the elements. Access to the beach is seen as the least problematic aspect overall (Fig. 4 (v)), although it is the most serious in a relative sense in Torremolinos, which is the resort that suffers most from its history of early development in effectively a planning vacuum. In contrast Torre del Mar on the eastern Costa del Sol has opened up to development (not too successfully according to many of those questioned) in the past 20 years, and has free-flowing traffic movement along the sea-front as well as good parking facilities (Fig. 4 (vi)). All in all, though, there is no

Table 7. Mean scores in respect of coastal work along the Costa del Sol.

Statement	All Locations	Guadalmina	Puerto Banús	Benal-mádena	Torre-molinos	Torre del Mar
MOPU has improved the conditions on the coast in the last few years	2.3	2.2	2.1	3.0	1.7	2.4
My business would be better protected if there were a groyne or sea-wall	1.9	1.5	2.1	1.7	1.7	2.1
A sea-wall is better than filling the beach with sand	1.8	1.4	2.2	1.3	1.7	2.1
The Town Hall has done a good job with the promenade	2.0	1.9	1.6	3.1	1.6	2.0
Access to the beach is difficult	2.3	3.1	2.4	2.0	3.3	2.8
It is necessary to provide parking facilities close to the beach	2.0	1.5	2.1	1.5	1.5	2.5

\*The mean score is derived from the scale 1 = totally agree, 2 = agree, 3 = disagree, and 4 = totally disagree

consistency of view regarding the work done and the benefits achieved, while considerable dissatisfaction remains over prevailing conditions.

In an effort to sum up the development that has occurred, respondents were asked whether they considered the money well spent on public works on the coast. The results are shown in Figure 5. Support is far from universal, the majority being opposed, although there are clear views one way or the other in each of the different localities largely for reasons noted earlier.

**Conclusion**

The past twenty years have seen some significant developments in planning procedures affecting all parts of Spain. In particular, the appearance of explicit consideration for the needs of the coastal environment represents a focus that many would argue was urgently needed in the aftermath of a quarter century of rapid and often uncontrolled urbanisation. Even though previous development seriously constrains opportunities to implement major environmental improvements in built-up areas, there has been substantial investment in specific projects such as promenade construction and the rationalisation of beach services that have both literally and figuratively smoothed many of the rough edges of many Spanish Mediterranean resorts. Furthermore, the investment in coastal protection measures has been enormous, although both this investment, and other changes on the coast do not seem to have been fully accepted or understood by the small business community. Evidence from the Costa del Sol indicates a lack of awareness of the Shores Act and its objectives. There is, moreover, less than wholehearted approval for the work done and strong opposition in locations where the policy of beach re-nourishment has led to criticism of the quality of the sands themselves. Crucially, despite the justification of the investment in benefit-cost terms, the majority of the businesses surveyed did not consider the expenditure as providing value for money.

These responses were not, however, universal. Strong approval for a whole range of developments was notable in Torremolinos, a resort that had been particularly marred by the failures of earlier policies, and also one which had experienced the ravages of storm damage along its sea-front

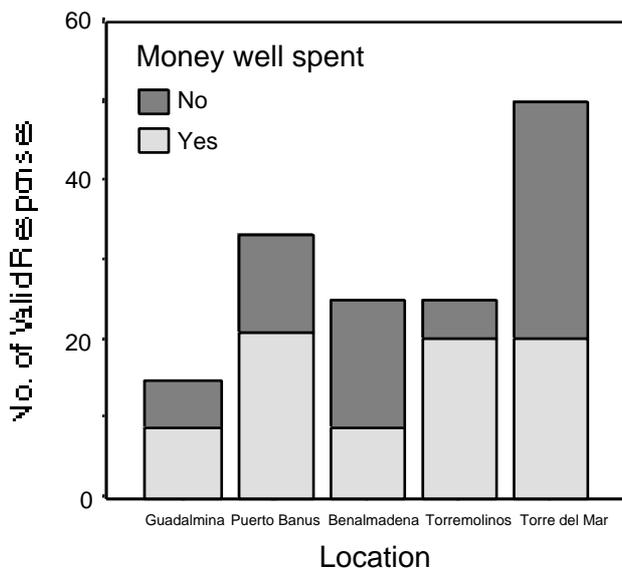


Figure 5. Opinions of coastal public works investments.

in the autumn and winter of 1989/90. Promenade building, beach nourishment (with sand that did not invite unfavourable comment) and a general campaign to tidy both town and beach accompanied by measures to improve security, evoked a positive response. Similarly, at Puerto Banús where the business community is very much dependent on the projection of a quality image, the balance of opinion is in favour of the expenditure on coastal public works. In comparison, a much more negative reaction emanated from both Torre del Mar and Benalmádena. At the former views are perhaps strongly influenced by the relatively low level of tourism on this section of the Costa for which politicians are held responsible, although complaints over the quality of the sand echo the views of the Benalmádena respondents.

It is inevitable that there will be some opposition from a business community that has experienced such a dramatic change in the planning framework. The imposition of controls in place of a generally free-wheeling environment will create some resentment, and none more so where businesses located on the sands (the chiringuitos) are forced to move or to operate under much more stringent regulations. Neither is the business community the most sensitive to natural environmental considerations, especially if it believes public money, derived in part from taxation on their activities, is invested in coastal work for which it does not perceive a direct benefit. And, if there have been particular problems – as with sand quality – then these tend to confirm or strengthen prejudices. However, it is clear that the businesses surveyed are very dependent on the visitor trade. Tourism is the life-blood of the Costa del Sol which, in an era of increasing globalisation of travel, is very much dependent upon maintaining an attractive image vis-à-vis alternative resort destinations. In this context the continual safeguarding and up-grading of the coast, in which coastal protection work will play a constant part, is a vital element of planning for a more sustainable future. It is therefore essential to gain the understanding of that section of the community that stands most to gain from an attractive, effective and secure environment. Coastal planning has undoubtedly undergone a revolution in design and now offers a framework within which real progress might be made. However, implementation is constrained by long-standing attitudes to regulation that will be difficult to shift, and will only be reinforced if money is miss-spent. On the other hand, part of the opposition seems to be due to a lack of awareness of what is being done, and of misunderstanding of the various coastal protection measures that are put in place. On top of this, it is not always clear who is responsible for the development or protective work undertaken in what is a complicated system of delegated authority. Thus, there is much to be gained through improved dissemination of information by both

local authorities, regional and central government to the affected communities, and particularly so the business element whose livelihood is most at stake.

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