

Integrated management and adaptation strategies for Cork Harbour, Ireland ^[1]

This case describes the steps taken towards achieving more balanced management of Cork Harbour, through the establishment of a strategic alliance (couplet) between the local authority and multidisciplinary academic experts. This innovative partnership resulted in the adoption of an Integrated Management Strategy. A stakeholder group – Harbour Management Focus Group (HMFG) – comprising statutory and non-statutory organisations was established to implement the management strategy. Subsequent to this exercise, the couplet again worked with the HMFG to investigate risks associated with climate change; this process culminated in the preparation of an Adaptation Strategy for Cork Harbour, focusing on flood management by 2030.

Case Study Description

Challenges:

To orientate the elaboration of the climate change Adaptation Strategies for the Cork Harbour an Issues Workshop was held in Cork under the EU-funded IMCORE project in May 2009. The key issue identified in relation to climate change was the increased flooding due to changes in precipitation patterns, storm patterns and sea level rise, and the related impacts. Historically, flooding has had negative social and economic implications, especially for residents and business owners in vulnerable areas of the City Centre. As a result, flood risk management came to dominate discussions of adaptation to both current conditions and future climate change. Cork City's low-lying location and geographical position within the River Lee's Catchment area means that the central business district of the City and the towns within the Harbour are at risk of flooding. Agricultural areas located upstream on the River Lee Catchment Area are also at increased risk of flooding due to more frequent intense rain events. There are a significant number of key economic assets such as port facilities, electrical and water services, road and rail transportation links, and significant employment areas, as well as loss of habitat and biodiversity, cultural and heritage sites and population centres adjoining coastal areas of the harbour, which are at increased risk of flooding from higher sea levels and changes in precipitation and storm patterns.

Whilst flooding is the primary consideration, other expected changes, such as changes in storm patterns and meteorological conditions, would have obvious effects on maritime activities of the Cork Harbour including recreational and Port activities.

Objectives:

Develop an ICZM framework and a local climate change adaptation strategy for Cork Harbour through the establishment of a strategic partnership (couplet) between the local authority and multidisciplinary academic experts (strengthening links between science and policy making at the local level) and through stakeholders' participation.

Solutions:

Cork Harbour is a large natural harbour located on the southern coast of Ireland and exerts a considerable influence on the City of Cork. The topography of the landscape is gently undulating, with a mixed coastline consisting of built infrastructure, shallow cliffs, intertidal mudflats, reed beds, shingle and rocky foreshores. The area is particularly important for birdlife and is designated as both a Ramsar wetland site and a Special Protection Area for birds. The Harbour provides a natural public amenity; natural assets enjoyed by local

communities include an attractive coastline, and is also a location with a rich maritime heritage. Because of the geographic scope and sheltered nature of Cork Harbour it has a long tradition of recreational boating, including sailing, fishing and power boating. The physical geography of the Harbour on the south coast of Ireland provides a strategic location for the Port of Cork situated in close proximity to the main shipping line to northern Europe. Port operations are distributed throughout the Harbour, from a city centre location to the ferry terminal at Ringaskiddy. The presence of gas fields offshore from Cork Harbour has resulted in the location of many exploration companies in the Harbour over the last 30 years. Moreover, Cork Harbour is a hub for pharmaceutical industries.

This case describes the steps taken towards achieving more balanced management of a multi-use environment such as Cork Harbour. It includes the integration of risk associated with climate change, through the establishment of a strategic alliance (couplet) between the local authority and multidisciplinary academic experts (Coastal and Marine Research Centre - CMRC, University College Cork and Cork County Council). This innovative relationship resulted in the adoption of an Integrated Management Strategy for Cork Harbour (COREPOINT, 2008) set up with the consensus of stakeholders and a strengthened link between science and policy at the local level. The implementation of this Strategy was then progressed again through INTERREG IVB NWE under Innovative Management for Europe's Changing Coastal Resource (IMCORE) project, which had a more pronounced focus on climate change adaptation (and the addition of National Maritime College of Ireland, NMCI, joining the couplet).

The main objective of the approach was to move towards the establishment of an ICZM framework strategy for the Harbour and better integration of science-based knowledge in the planning and management regime, strengthening the link between science and policy. This was to be done with stakeholder participation and consensus. These goals were to be achieved in a mid-term timescale (3-5 years).

Using the stakeholder partnership formed to develop the integrated coastal management strategy for the Harbour, a process to develop a Climate Change Adaptation Strategy for the Harbour and its vicinity was initiated under the IMCORE project. This involved participatory processes similar to those used in developing the Integrated Management Strategy, coupled with the use of scenarios to help visualise various options for the Harbour area under different climate change circumstances. The primary impact of concern to most stakeholders was flooding and a visualisation model was developed to present this to stakeholders. The process culminated in the preparation of an Adaptation Strategy for Cork Harbour, focusing on the desired future for flood management to 2030. The Strategy identifies actions and activities (and related delivery period and responsibility) in various fields, for example:

- Political, including the actions: Robust decision making processes and structures to be instituted, Planning to have a longer term, strategic focus;
- Economic, including the actions: Critical infrastructure to become flood resilient, Business and residents of Cork to have continued access to flood insurance provision;
- Social, including the action: Society to have a proactive involvement in building resilience to, and effectively coping with, flood events;
- Technological, including the actions: Timely and accurate prediction of flood magnitude and extent, Early warning system to be instituted that would alert Cork citizens and businesses of likelihood of flooding;
- Legal, including the actions: Integration of planning processes to ensure coherent flood management responses, Systems of monitoring and evaluation of policy performance to be instituted and acted upon;
- Environmental, including the actions: Environmental management to be informed by system approaches, Ecosystem no longer managed using a designed area approach, Flood water buffering potential of natural and built environment maximised.

The content of the adaptation strategy will be reflected in forthcoming local authority planning policy, as a result of climate change adaptation becoming a legal responsibility of local authorities under new legislation.

Importance and relevance of the adaptation:

Case developed and implemented and partially funded as a CCA measure.

Additional Details

Stakeholder engagement:

A Harbour Management Focus Group (HMFG) was established to help implement the Integrated Management Strategy for Cork Harbour. The HMFG is made up of representatives from key statutory and non-statutory bodies involved in the day-to-day management of the Harbour including chambers of commerce, local authorities, port companies and development agencies. Two academic institutions, the National Maritime College of Ireland and University College Cork (CMRC), are also represented. There is involvement of national government departments (Department of Agriculture, Food & the Marine; Department of Environment, Community & Local Government) as well as the Environmental Protection Agency, Industrial Development Agency, Irish Naval Service, Fáilte Ireland and the National Parks and Wildlife Service. The strategy was developed following consultation with stakeholders from Cork Harbour during a series of workshops, interviews and public meetings.

Stakeholder engagement in the context of understanding climate change impacts was undertaken as part of the IMCORE project; in May 2009 an Issues Workshop was held in Cork. This aimed to identify and discuss the local issues associated with climate change. Flood management (to 2030) emerged as the most important issue in the Cork Harbour area. An exploratory scenario workshop was then conducted in April 2010 to identify the drivers of change affecting this issue. Subsequent to this, IMCORE staff used the data gathered to develop four exploratory scenario narratives. These four narratives were presented to the HMFG for discussion and validation which culminated in the development of a “fifth scenario” narrative outlining a desired future for flood management in Cork Harbour to 2030. It is these actions that form the basis of an adaptive management strategy for Cork Harbour to climate change.

Success and limiting factors:

Both the Integrated Management Strategy and the Adaptation Strategy for Cork Harbour have been agreed by multiple stakeholders in the Harbour area. The former has influenced how the resource value and development considerations of the Harbour are communicated in the latest iteration of statutory spatial planning and development documents, and initiated a more in depth analysis to the planning needs of the Harbour, since undertaken by the local authority. The process has developed institutional capacity in adaptation planning and strategy development, and has fostered greater levels of information sharing across agencies and organisations to better inform activities targeted at coastal management and climate adaptation.

Lack of available time and a limited legal local authority remit for the marine environment together along with the absence of a national policy for coastal management affected the progress of the ICZM process in the initial stages of the Harbour Integrated Management Strategy. During the course of development of the Harbour Adaptation Strategy, the same key stakeholders were involved in the process but at the time they had little or no remit for climate change or its impacts. Possibly as a result, their understanding of the topic was not as strong as for other areas (e.g. spatial planning, coastal management), however, all participants realised that climate change might have implications for their area of work in the future.

Budget, funding and additional benefits:

The Integrated Management Strategy and the Adaptation Strategy for Cork Harbour have been developed through a voluntary process, co-ordinated through funding provided through the COREPOINT and IMCORE projects.

Legal aspects:

Generally, the management of Cork Harbour is characterised by a sectoral approach, with a strong land/marine divide. The Integrated Management Strategy does not have a statutory (legal) basis but rather is based on a voluntary partnership between key statutory agencies and local stakeholders who focus their attention on the Harbour as a whole and deliver a set of agreed actions to enhance the future management of the coastal zone. Stakeholders participating in the Harbour Management Focus Group benefit from the opportunity to share information and scope out collaboration to pursue areas of mutual interest.

Climate change adaptation, arguably, had stronger drivers in both law and policy than ICZM and consequently it was somewhat 'easier' to get buy-in to the process. It was also widely anticipated that climate change adaptation would become a responsibility of local authorities once new legislation had been enacted. This presented the local authority concerned, Cork County Council, with a unique opportunity to be involved in the development of such a strategy, with a tailored methodology, from the outset. Whilst the strategy prepared under IMCORE covers only the Cork Harbour area and is non-statutory, it does go some way towards preparing and developing the capacity of the local authority personnel for their future regulatory role in elaborating adaptation plans.

Implementation time:

Depending on the specific activity identified by the adaptation strategy, i.e.: 1-2 years, 2-5 years, 6-10 years, 11-20 years.

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Websites:

<http://www.coastaladaptation.eu> [3]

<http://corepoint.ucc.ie/> [4]

Sources:

COREPOINT and IMCORE projects

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