

# THE ULSTER CANAL: A COST-BENEFIT ANALYSIS

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*Cost-benefit analysis is a widely used economic policy tool for identifying the efficient supply of public goods. Marion Shiels objectively outlines the estimated costs and benefits of reopening the Ulster Canal, a 'forgotten cultural and heritage jewel'.<sup>1</sup> She identifies the urgent need for investment in the long-overlooked surrounding regions, and points to increased tourism as one of the many benefits associated with this project. With regards to political objectives, a further incentive is the potentially positive role of the rejuvenated canal in promoting greater North-South co-operation.*

## Introduction

*'The practice of conservation must spring from a conviction of what is ethically and aesthetically right, as well as what is economically expedient. A thing is right only when it tends to preserve the integrity, stability, and beauty of the community, and the community includes the soil, waters, fauna, and flora, as well as people'.<sup>2</sup>*

The integration of the Northern and Southern waterway systems has recently been of great interest, largely because the potential economic and social benefits are numerous. The reopening of the Ulster Canal would essentially involve the establishment of a wholly integrated inland waterway system, connecting both North and South. Its reopening would be symbolic in establishing North-South links between both communities. The first stage of this project involves the restoration of the Clones-Erne route. The projections are that it will be completed by 2013.

The Irish canal system, which was once a leader in the transportation of

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<sup>1</sup> Source: <http://www.ulstercanal.org>

<sup>2</sup> Aldo Leopold (1887-1948)

heavy-duty goods, now offers a diverse range of economic and social opportunities to the surrounding areas. The supporters of the reopening have highlighted the benefits yielded by similar projects, namely the Shannon-Erne and Belturbet rejuvenation schemes. The main benefits that are expected from the rebuilding of the canal range from economic prosperity due to increased employment and tourism right through to significant social benefits. The potential social benefits include improved scenery, additional services and a potential increase in the currently dwindling population. However, there have also been groups that contest the economic viability and proposed routes of the project.

This case study will analyse the feasibility of reopening the canal by undertaking a Cost-benefit analysis. Firstly, a brief history of the evolution and demise of the Ulster Canal is presented. The key lobby groups behind the reopening of the canal are examined, with a specific focus on the Inland Waterways Association of Ireland (IWAI). This is a voluntary body that focuses on the restoration, rejuvenation and preservation of the waterway systems throughout Ireland. Following this, the potential economic and social benefits of the Ulster Canal are discussed. The town of Clones is focused on, which is planned to be the hub location within the first stage of development. In conjunction with the interviews undertaken with local partnership groups as part of this case study, the potential benefits to this small border town are examined. A review of similar projects which have recently been undertaken questions whether the benefits attained in these projects can be applied to the Ulster Canal case. Finally, a concise and holistic Cost-benefit analysis of the project is given.

## **The Evolution of the Ulster Canal**

The Ulster Canal opened in 1841. It was 92 km in length and stretched from Lough Neagh through an array of towns and villages including: Moy, Milltown, Wattlebridge, Monaghan, Smithbrough and Clones, eventually joining the Shannon-Erne navigation system. The primary purpose of the canal was commercial exploitation and the transportation of heavy-duty goods. However, with the rise of rail and road as transport alternatives, coupled with the inadequate water supply and small locks, the commercial viability of the canal declined in the 1900s. Since its closure in 1931 the canal has fallen into disrepair.

However, it has been widely recognised that the canal could be of significant economic, cultural and recreational benefit to society. Since the 1998 Good Friday Agreement, a number of feasibility studies have been undertaken regarding the viability of reopening the canal (IWAI, 2006). These studies have

found that the proposed costs would reach £90 million. Initially in the first stage, the Irish Government would fund the full capital cost. Operating costs thereafter would be split between North and South:

‘Reopening of the canal would constitute a large engineering project, which would provide significant inherent benefits in the areas of tourism and economic development. Its strategic value would lie in its contribution to rural development in a disadvantaged area of the border between Northern Ireland and the Republic of Ireland and in its key linkages within Irelands existing 1000 km inland waterway network’ (Brady and Mc Cartan, 2005: 4).

Historically the Ulster Canal played a significant role in the economic stability of the towns and villages that surrounded it. However, modes of transport have evolved considerably since the nineteenth century; consequently, we would expect the reopening of the canal to encompass more diverse economic functions. These potential economic and social benefits will be highlighted throughout the course of this essay.

The IWAI has been the key lobby group involved in the rebuilding and rejuvenation of waterways projects throughout Ireland (e.g. the Shannon-Erne project), and has been a leader in bringing forward the proposals for reopening the canal.

## **Cost-benefit Analysis**

The Cost-benefit analysis (CBA) focuses on the region of Clones town and the six miles either side of the Clones-Erne Canal. The economy in these surrounding areas predominately relies on agricultural and regional activities. The tourism industry is extremely primitive and largely underdeveloped. Therefore there are significant grounds for additional development within these regions. The large economic gap that exists between these regions and the rest of the Republic and Northern Ireland could amplify if innovative projects such as the reopening of the canal are not undertaken.

## **Explaining Cost-benefit Analysis: A Macro-Economic Policy Tool**

‘Cost-benefit analysis is the most important technique for project appraisal in the public sector. In classical microeconomic theory

the market system leads to maximum efficiency: producers minimise costs, society maximises output, consumers maximise satisfaction and any redistribution of output could not increase one person's satisfaction without reducing that of another' (Mulreany, 2002: 1).

CBA is extremely useful in the analysis of any capital intensive project as a method of measuring the legitimacy of proposed expenditures to expected outcomes. Welfare economics examines the effects of externalities and spillover effects on society. Any CBA must endeavour to include costs and benefits that are not priced by the market system. In order for a project to be implemented, the benefits must be greater than the costs involved. This method of evaluation is particularly important when one attempts to examine the effects of the Ulster Canal on society as a whole.

With projects like the reopening of the canal, monetary gain can be extracted from a wide variety of opportunities such as: boat hire, increased tourism, the renting of docking areas and other recreational activities. From a social welfare perspective it may be extremely difficult to fully measure the effects of the reopening of the canal on the surrounding regions. On closer examination, it is apparent that the majority of the border towns, such as Clones, have suffered economic and social deterioration over the past forty years. Consequently, investment decisions are highly significant for these areas.

However, it must be recognised that both sides of the border have implemented differing methods in the appraisal of capital projects. Capital projects seeking UK Government funding must comply with 'Green Book' guidelines, while those seeking funding from the Republic must follow the Department of Finance Guidelines.<sup>3</sup>

## **The Costs of Reopening the Canal**

Georgi (1973: 18-19) has defined project costs as: 'the value of goods and services that are required to establish, maintain and operate a project'. Capital costs are comprised of land acquisition, construction, and incidental/replacement costs. In relation to construction costs, it was decided that the most efficient route

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<sup>3</sup> The differences associated with the two measures relate to the discount rates. The 'Green Book' indicates the use of a 6% discount rate, whereas the Dept. of Finance indicates a 5% discount rate. In addition the inclusions of wider economic and social benefits are not permitted under the 'Green Book' guidelines.

would be to incorporate more river usage, thus bypassing a number of locks that could be transformed into heritage attractions. A study conducted by ESB International and Ferguson McIlveen LLP (2005) estimated the cost of restoration in 2006 prices at £110m capital costs with additional £15m non-capital costs. Another study carried out by Brady and McCartan (2005) also accounts for operational and maintenance costs that would amount to £800,000 per annum.

These figures are broadly in line with other canal rejuvenation projects that have been undertaken in recent years; for example, the Shannon-Erne project had capital expenditure of over £100m and the restoration of the Scottish Lowland Canals in the UK had capital expenditure of £84.5m.

There are also significant costs associated with the employment of canal rangers and personnel to maintain and manage the canal. These costs would be divided between the North and South depending on the proportion of the canal in both areas.

## **The Benefits of Reopening the Canal**

The benefits of a proposed project, as defined by Georgi (1973: 19): ‘comprise of all the positive effects, less the negative effects, resulting from the realisation of the project regardless of whom they fall to’. Studies in relation to canal investments have highlighted the central benefits that lie within the economic and social boundaries. The economic benefits include increased employment, new market opportunities, increased tourism, and improved cross-border/cross-community business interactions. The social benefits relate to recreational opportunities, scenic beauty and improved environmental impacts on the district.

‘The correction of market prices to reflect social rather than market costs and benefits involves the use of shadow prices. McKean lists four ways in which these corrections can be made and the shadow prices derived’ (Barrett, 1982: 31).

The four ways in which correction can be made are through: linear pricing, market prices for similar items, governmental choices and the adjustment of market prices to reflect considerations not reflected in these market prices. Consequently, these measures shall be incorporated into the CBA.

### **Economic Benefits**

The economic potential of this region is enormous. The project could open the floodgates for rural and entrepreneurial development in an area that suffers from economic ‘fatigue’ and a small tourism industry.

#### **Employment:**

The areas surrounding the canal are heavily reliant on agricultural and rural industries. With the considerable decline of these industries in other parts of the country, communities in the border regions are experiencing severe economic pressure. The development of the canal offers extensive employment opportunities through a wide variety of industries, including the construction of the canal itself. In a survey undertaken by the IAWI, which questioned 101 businesses along the canal, 40% of employers felt that the reopening of the canal would lead them to hiring new staff. The general consensus that emerged was that considerable support for the reopening exists, with many feeling that the benefits attributed to it outweigh any economic costs.

In terms of the Clones harbour, there are ample possibilities to fully exploit the opportunities available. It has been considered that an investment in a marine area would be of great economic significance as there are no such amenities in close proximity along the Erne and Shannon-Erne Canals. Thus there is a potential market opportunity for the provision of amenities and services for the people utilising the marina.<sup>4</sup>

Other prospects for economic development includes development of accommodation and hospitality facilities, increased provision for leisure activities, housing development, and business opportunities in the form of land and water based activities.

#### **Increased Tourism:**

There has been substantial growth in the tourism industry throughout Ireland since the beginning of the Celtic Tiger and this trend is expected to continue. There is huge potential to improve the ailing tourism industry that exists along the canal’s banks. Inland waterway systems offer the opportunity to promote walking, cycling, canoeing and canal trips along the newly interconnected waterways systems. Inland waterways and the associated recreational activities are a potential tourist attraction. With the success of the Shannon-Erne Waterway in providing and promoting a successful tourism promotion plan, the

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<sup>4</sup> The average cost per annum for boats in marinas range from £2000-£3000. Thus if there are 30 boats per marina, the total return in investment is £60,000 per annum. Thus it seems that this is an extremely attractive investment.

future for the Ulster Canal looks bright.

Indeed, in an audit of tourism undertaken for the Monaghan region, it was found that there are considerable economic benefits to be availed of in relation to tourism. It was proposed that the development of wetland in the surround areas, water tourism and the establishment of walking and cycling routes would all boost tourism. The Monaghan region has long been considered a leader in fishing activities, and the reopening of the canal provides the opportunity to advance this industry further. In a study undertaken by the IAWI, it was found that the potential direct expenditure by tourists is estimated to lie between £2.6m-£3.2m per annum. If one allows for the multiplier affect, this rise to £3.1m-£4m per annum.

#### Revenue From Boating:

The fleets along the Shannon and Erne have been expanding steadily in recent years. Both the hire and private boating sectors have become increasingly popular. Hence, the revenue that could be expected from these fleets is enormous due to the expenditure in local areas, and the potential revenue that could be extracted from locks and harbor usage.<sup>5</sup>

#### **Social Benefits**

The social benefits which could be extracted from such an investment project expand well beyond the regions in the immediate vicinity of the canal:

‘A social valuation is clearly important because of the principal role which recreation plays in canal usage vis-à-vis commercial freight operations. Such a valuation is important in deciding the likely future role of canals for recreation purposes, and whether such national environmental and historical assets ought to be maintained’ (Willis and Garrod, 1991: 512).

#### Regeneration Benefits:

Throughout Ireland and the UK commercial recreation is substantial and includes a diverse range of activities such as: boat hire, fishing, walking and cycling. While there are no direct costs associated with these activities, there are unquestionably numerous benefits. Several methods have been developed to measure the value of these benefits:

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<sup>5</sup> The average cost to cross a lock is £1.50 per lock. The Clones-Erne Canal would have 2-3 locks, thus it would be expected that the majority of revenue would be extracted from other canal supporting activities.

‘The travel-cost-method (TCM), which measures the willingness to pay, consumer surplus and utility, by the link between environmental assets and markets for related private goods using recreational trip expenditures as a proxy for willingness to pay in demand estimation’ (Willis and Garrod, 1991: 513).

The potential social benefits that could be extracted from the reopening of the canal also extend to variety of environmental and cultural aspects.

#### Community Benefits:

The areas surrounding the canal have predominantly declining and ageing populations. With significantly higher levels of unemployment in comparison to other regions in Ireland, they have been left behind regarding investment. The reopening of the canal provides a window of opportunity in which cross-border investments may be exploited and a sense of entrepreneurial hunger can become instilled in the region. Many of the towns located along the canal severely lack the provision of services yet have extensive development potential. The reopening of the canal could provide a cohesive force to bring the community together and promote cross-border trade.

#### Environmental and Heritage Benefits:

There are also many other social benefits which could be extracted, namely the increased aesthetic value of the region. It may also enhance the local environment by improving irrigation. The project is particularly important from a heritage point of view, as the canal re-establishes a link with the past and reflects a rural Ireland from the nineteenth century.

The canal systems throughout Ireland have proven to be extremely environmentally friendly. Canals feature very low on the list of pollutants in Ireland. Over the last decade, boats that travel along the canal have been forced to install holding tanks and pumping stations have been installed along canal routes. This reduces the amount of effluent being dumped into the canals themselves.

The restoration of the canal is essentially a cross-border investment. There are hopes that it will act as a catalyst in promoting investment both sides of the border which would be extremely beneficial for the community as a whole.

## Past Experiences

There have been numerous restorations of inland waterway systems in recent years. In the UK it is estimated that over 2 billion has been invested in such renewal projects. The economic and social benefits attributed to these are considerable.

In Ireland, the most successful and influential of these recent investments lies within the Shannon-Erne system. This was completed in 1994 and has greatly influenced the debate surrounding the reopening of the Ulster Canal. There was no CBA undertaken prior to the construction of the Shannon-Erne route. However, there has been an ex post analysis undertaken. The general consensus is that the project has exceeded all expectations.

Ballinamore is a small town border town located in Leitrim and shares similar characteristics with the town of Clones. It has benefited significantly from the economic spin-off provided by the Shannon-Erne waterway. It has developed a high quality marina, which provides an ideal stopping area along the canal. Its success lies in its excellent facilities that encourages tourist to stay. It has also developed a wide variety of cycle, walking and boating amenities, which have helped strengthen economic activity. There is no reason why the success story of Ballinamore cannot be replicated in towns such as Clones. In many ways the redevelopment of the Ulster Canal could use the experience of the Shannon-Erne project as a benchmark. Thus, if one is to take Ballinamore as a prime example of the benefits that could might accrue from the redevelopment of the Ulster Canal, the future looks bright for areas along the canal.

## Summary of CBA

The principle aim of a Cost-benefit analysis is to gain a greater insight into the potential economic and social benefits that could be achieved through capital investment projects. Under the proposed rebuilding of the Ulster Canal, the general consensus emerging from the feasibility studies and analysis of past canal investments, namely the Shannon-Erne route, is that a rejuvenated Ulster Canal would be of significant economic and social benefit. It is anticipated that the revenues generated through locks and additional canal services will be substantial, and that the expected return on investment to be above the industry average. The total cost of ownership is expected to be met on a yearly basis.

These expectations are based on a number of contributing factors. Firstly, the success of the Shannon-Erne route proved to be influential in the decision to rebuild the Ulster Canal. The situation of the Clones harbour is ideal as there are

a limited number of harbours along the northern end of the Shannon-Erne route. Hence, there is significant potential for economic gains. Secondly, the traffic along the Shannon-Erne and surrounding routes has increased in recent years and is expected to do so for the foreseeable future. This is as a direct result of users transferring from the Grand Canal routes to the Western routes. Overall, the Clones hub has a wide range of aspects in its favour.

It is expected that the regulation of the canal with regards to the development and expansion of the surrounding areas will lie with the local governments. Within the Monaghan region, town planner Paul Clifford has confirmed that the areas surround the Clones region will be developed in a way that maximises the utility and efficiency of the canal for its users. All marketing for the canal will be undertaken by Waterways Ireland. Hence it is expected that the Monaghan region will be effectively promoted, ensuring the success of the project. Despite there being no expectation for commercial activities along the canal, there does seem to be sufficient recreational demand to justify the reopening of the canal within the Monaghan region.

## **Conclusion**

The reopening of the Shannon-Erne waterway in the early 1990's, which linked the Northern and Southern waterway systems for the first time, ignited interest in the reopening of the Ulster Canal. Initially, the restoration would create a canal that stretches from Middletown to Clones, a region that is currently economically and socially disadvantaged.

It has been highlighted that there are considerable economic and social benefits attributable to these areas with the reopening of the Ulster Canal. The area in question has been devoid of any significant investment in recent decades and is in need of sizeable expenditure in order to tackle deteriorating population levels and to regenerate faltering communities. As already discussed within the CBA, the potential benefits from such a project significantly outweigh the associated costs. Therefore, this CBA finds itself in strong agreement with the decision to reopen the Ulster Canal, and would hope that it offers a window of opportunity to border towns like Clones.

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