

Bettina Graham, #10611287

UNIVERSITY OF TECHNOLOGY SYDNEY  
FACULTY OF BUSINESS  
SCHOOL OF SPORT, LEISURE AND TOURISM

**BRÚ NA BÓINNE – A SUSTAINABILITY STUDY**

By

**BETTINA GRAHAM**

Report to

**DR. DAVID BEIRMAN**

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## 1. Introduction

‘It’s hardly surprising that the authorities have been unable to resist the temptation to open the place up as a heritage money-spinner: as you approach the tomb, a roadside protest placard announces: “Newgrange to close after 5000 years. Disneygrange opening soon.” (Greenwood & Hawkins 1997)’.

Heritage tourism in Ireland has been increasing over recent years, with a 5.23% increase in 2006 (OPW 2007a). It is imperative to keep the balance between satisfying the tourists’ expectations and simultaneously sustaining the actual heritage site.

This essay will examine the World Heritage Site of Brú na Bóinne in County Meath, Ireland, with regard to its stakeholders and some aspects of environmental and social sustainability. It is hoped that this paper can highlight the complexity of the sustainability issues with regard to a World Heritage Site.

Due to the fragmented heritage management system in Ireland, the author experienced difficulty in obtaining information regarding this heritage site. There is no centralised website available. The research conducted bases its findings on the Brú na Bóinne Development Plan 2000, the Meath County Council Development Plan 2007-2013 and information available on the internet.

## 2. Sustainability Definition

Before looking into the issues of sustainability relating to a tourist attraction and its development, an understanding of the meaning of sustainability is required.

Bord Fáilte’s draft development plan 1993-1997 acknowledges the limitations to the growth of heritage sites, the importance of the conservation of the authentic

base rather than the packaging. Furthermore it supports the intrinsic importance of the attraction itself rather than facilities designed around them. It strives to obtain higher returns in the industry through quality rather than numbers (Meldon in Kockel 1994).

Sustainability means ‘economically viable, but does not destroy the resources on which the future of tourism will depend, notably the physical environment, and the social fabric of the host community’ (Swarbrooke 1999 cited by Ritchie & Crouch 2003).

Sustainable development is defined as ‘a policy for continued economic and social development without detriment to the environment and the natural resources on the quality of which continued human activity and further development depend’ (Commission of the European Communities 1992, cited by Meldon in Kockel 1994).

It can therefore be concluded that sustainability for a tourist attraction concerns the development and exploitation of the natural and/or built resource(s) without destroying the site for future generations while respecting and implementing the stakeholders’ inputs and values.

### 3. Brú na Bóinne

Brú na Bóinne, meaning ‘mansion on the Boyne’ is the name given to the visitor centre that provides access to the Newgrange and Knowth neolithic passage tombs (Duffy 2006). These tombs have been built around 3250BC, 500 years before the Pyramids of Egypt and 1000 years before Stonehenge. They are therefore the oldest existing building in the world (Clarke, Walfare and Fairly 1980). Discovered by accident in 1699 by the then landowner Mr. Campbell, Newgrange was excavated and restored by Professor O’Kelly between 1962-1975 on behalf of and financially

supported by Bórd Fáilte (Kearns 2005). The Knowth passage tomb was discovered in 1967/68 by Professor George Eogan. The latter shows continuous human activity, dating further back than Newgrange until the Middle Ages (Duffy 2006). This tomb is not accessible to the public. In 1993 the area was listed as a World Heritage Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO 2007). The entire site comprises 93 recorded monuments (Meath County Council 2007a). The new visitor centre, Brú na Bóinne, was opened in 1997 just South of the tombs on the far side of the river Boyne and is now the only entrance to the Knowth and Newgrange tombs.

It is believed that Newgrange is built as a burial site as well as an astronomic calendar (Kearns 2005). At the winter solstice on the 21st of December each year (and a few days either side of this date), the rays of the rising morning sun fall through a small opening in the roof box of the mound illuminating the burial chamber situated 19m inside the tomb (Fox 2007) for about 17 minutes (Kearns 2005).

Facilities at the visitor centre include a tourist information office, audio-visual presentations of Newgrange and the Boyne Valley, a gift shop, a wheelchair accessible replica of the Newgrange tomb (Duchas 2002), leaflets in seven languages, a tearoom with seating for 110 visitors, car and bus parking and toilets (Heritage Ireland 2007).

#### 4. Stakeholders

Stakeholders form an important part of a tourist attraction. When managing a world heritage site, different organisations' and individuals' needs must be considered as they experience the consequences of any action taken or not taken (Hall and McArthur 1998). Furthermore, the heritage site itself has to fulfill obligations and respect local and international laws.

The following table shows some of the stakeholders involved in the Newgrange Heritage Site:

Table 1: Stakeholders

Stakeholder	Function
National Heritage Council of Ireland	Established in 1988. Moved to the Department of Arts, Culture and the Gaeltacht in 1993. In the Heritage Act of 1995, its aim is to propose ‘policies and priorities for the identification, protection, preservation and enhancement of the national heritage’ (Misiura 2006, p.50). It focuses on the promotion of interest, education, knowledge and pride in the national heritage and allocates monies for heritage work (National Heritage Council 2007).
Ministry of the Environment, Heritage and Local Government	Owens the heritage sites. Subdivisions inter-alia: NPWS (National Parks and Wildlife Services) in charge of natural heritage sites; OPW (Office of Public Works) in charge of built sites; ENFO (Information on the Environment) in charge of environmental issues and promotion.
Meath County Council	Legal protection in the Record of Monuments and Places (RMP) of County Meath (1998). Environmental issues, housing and industry. Income from tourists.
UNESCO	Imposing laws for international recognition of world heritage site and world heritage landscape.
IDA (Industrial Development Agency)	Sustainable exploitation of area and attracting foreign businesses.
Heritage Ireland	Purely promotional on behalf of NPWS and OPW.
Tourism Ireland	National and international marketing.
Travel agents, tour operators	National and international marketing.

Suppliers (hotels, transport, restaurants)	Facilitating tourists' requirements.
Researchers	Continued research into, for example, the structure, geology and mythology.
Brú na Bóinne Staff	Promotion, income.
Schools/universities	Heritage knowledge and education, research.
Local community	Employment, income because of proximity to site, heritage feeling and education.
Domestic and international visitors	Experience, education.

Source: adapted and expanded from Hall and McArthur 1998

Two governmental departments play an important part regarding the management and therefore sustainability of Newgrange: the Ministry of the Environment, Heritage and Local Government which owns the site, including its managing body the OPW, and Meath County Council. Meath County Council establishes the Meath County Development Plan 2007-2013 comprising many council aspects including sustainability for Newgrange. The OPW develops the Brú na Bóinne Management Plan 2002 with regard to sustainability.

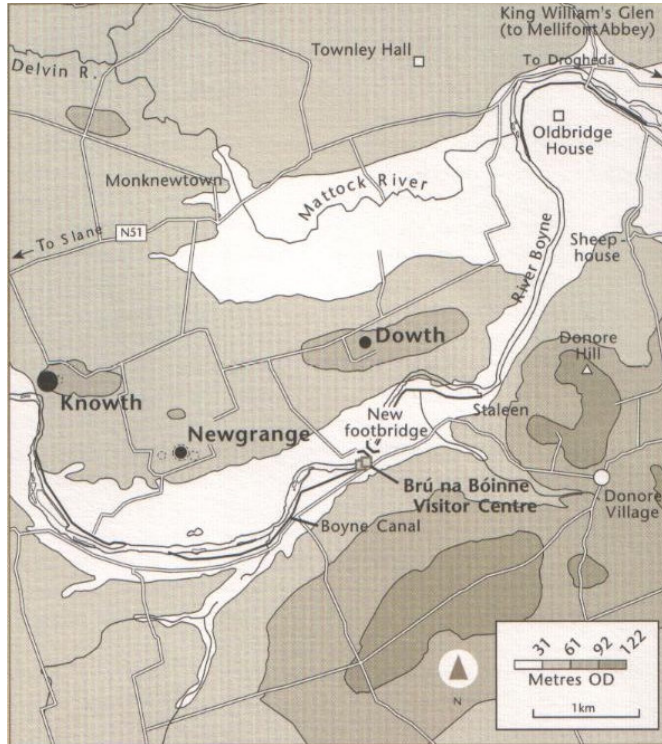
## 5. Environmental sustainability

### 5.1. Location

#### 5.1.1. Geographic Environment

Brú na Bóinne is situated on the south side on the lower plains of the Boyne River Valley, what is known as the Bend of the Boyne (Duffy 2006). The River Boyne runs in a West-Easterly direction for 112km before flowing into the Irish Sea (Wikipedia 2007). The large passage tombs of Newgrange, Knowth and Dowth are situated on higher ground overlooking the valley on the North side (Meath County Council 2007a).

Figure 1: Brú na Bóinne Map



Source: OPW 2007b

The county has a strong farming tradition (Wikipedia 2007) spanning more than 6000 years (Duffy 2006).

Meath County Council recognizes the sensitivity as well as the international importance of the Brú na Bóinne landscape and the threats endangering its survival (see Appendix A). The Council therefore establishes the Boyne Valley Integrated Management Plan for the protection of the site and the Meath County Development Plan. Two of the heritage policies include the ‘protection of the physical landscape and visual character of the County’ and ‘the protection of the historic and archeological landscapes of the County’ (Meath County Council 2007a, pp.432-343).

The design of the visitor centre reflects the care that has been taken to blend in with the landscape not impeding on any views or standing out (Fox 2007).



### 5.1.2. Demographic Environment

The Irish population in 2006 is 4.123.000, nearly 25% (1.150.000 people) of whom live in County Dublin and 161.500 people live in County Meath (CSO 2007). Navan, County Meath's capital city, has an urban population of 34.000 (Industrial Development Agency IDA 2007).

Although Meath has over centuries developed an agricultural economy, modern international companies like Europe Assistance and Generali Group have been attracted to the area due to attractive government tax laws for foreign investors (IDA 2007). Other industries include quarrying, mining and horse breeding.

### 5.2. Housing

Meath County Council is devoted to upkeep the rural image and character and recognises the importance of the housing aspect. It will not permit individual housing to anyone except locals around Brú na Bóinne who are full time employees in the agricultural sector. Furthermore, it will only allow small works on existing housing and encourages the reuse of existing historic buildings preserving the essential characteristics of individual settlements (Meath County Council 2007a).

The results of a SWOT analysis (see Appendix B) show an interest in the further development of tourism accommodation and other facilities.

### 5.3. Access

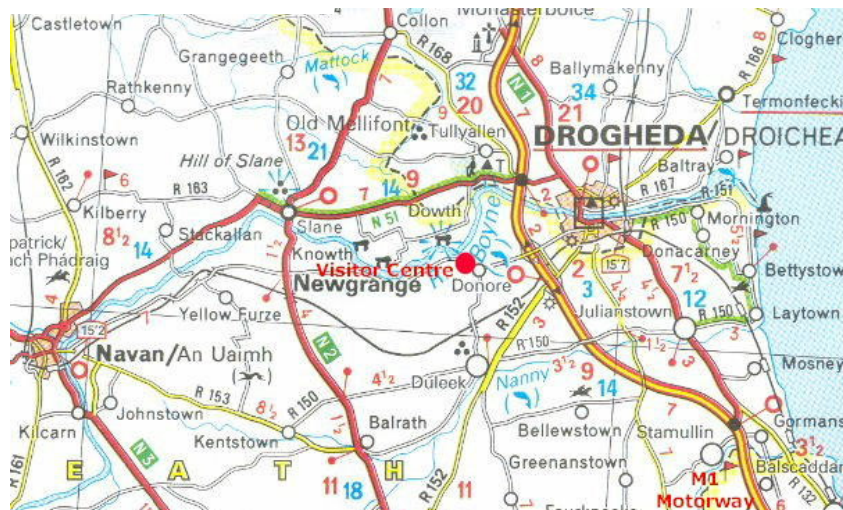
The Brú na Bóinne visitor centre is situated approximately 50km North of Dublin and can easily be reached by car via the M1 on the Dublin-Belfast route and via the N2 towards Donore. Access to the sites of Newgrange and Knowth is only possible via the Brú na Bóinne visitor (Fox 2007).

Trains are running to Drogheda and Laytown from where buses connect to the visitor centre (Irish Rail 2007).

Bus Éireann provides seven daily bus services during the week and four services on Sundays from Drogheda (Duchas 2002) as well as guided day tours from Dublin (Bus Eireann 2007).

The closest airport is Dublin Airport situated about 35km from the sites.

Figure 2: Road Map



Source: Meath County Council 2007b

The dramatic road infrastructure improvement in County Meath over the last years means better access but also poses at threat as Meath could turn into a ‘corridor county’ (Meath County Council 2007a, p. 120). As most tourists arrive by car, the council seeks, in cooperation with the National Roads Authority (NRA), clearer and concise signage by introducing a new uniform branding. This means less pollution due to wasted fuel and land erosion by coaches and cars.

Furthermore, the council looks to facilitate the development of walkways and cycleways throughout the county to offer an alternative infrastructure (Meath County Council 2007a).

#### 5.4. Legal Protection

Being listed as a (World) Heritage Site, Brú na Bóinne is subject to legal protection by various national and international laws. Some of these laws are imposed by:

- the National Monuments Acts (1930-1994)
- the Environmental Protection Agency Act (1992)
- International Legislation
- Irish Legislation
- the Planning Act 2000
- UNCESCO.

A summary of their influences regarding the sustainability of this site is described in Appendix C. The involvement of this comprehensive list of stakeholders shows the determination in keeping the site protected.

Meath County Council (2007a) lists strategies in its Development Plan that reflect the intention of sustaining the characteristics of the site, the area and its people. Some strategies include:

- Preservation of the essential characteristics of individual settlements within their settings by developing robust design guidance.
- Impact control of new infrastructure and industrial development, with regard to noise and air pollution, impinging on views, tranquility and character.

- Promotion of sustainable tourism development and encouragement of the provision of a comprehensive range of tourist facilities.
- Maintenance of a vibrant and healthy agricultural sector based on sustainable development.

### 5.5. Carrying capacity

The site is popular amongst tourists with visitor numbers around 70.000 in 1980 (Duchas 2002) reaching 214.000 in 2006 (OPW 2007a). Interim figures of 235.000 (in 2000) dropping to 186.000 (in 2001) due to the foot-and-mouth outbreak show the vulnerability of this natural site (Duchas 2002). Various websites (Heritage Ireland 2007, Meath County Council 2007b, Tourism Ireland 2007a) warn tourists about delays during the peak summer months. Access to the tomb is not guaranteed.

Due to Newgrange's increased popularity over the years and looking at sustainability for the future, the newly opened visitor centre imposes limits on the number of visitors that can be taken to and through the tomb. By channeling tourists through the visitor centre, visitor numbers are controlled and the site protected. Furthermore, this reduces littering, illegal trading and traffic congestion (Duffy 2006). After arrival by car or bus and ticket purchase at the centre, visitors proceed walk for 5 minutes to the bus stop from where a minibus takes them to the site (Fox 2007). The following restrictions apply:

- No direct access for tourists to Newgrange and Knowth.
- A maximum of 30 tourists will be allowed per tour, lead by a guide, into the tomb (Tourism Ireland 2007b).
- The next group has to wait for the previous group to emerge.
- Groups of 15 or more must pre-book.
- Last admission to visitor centre 45 minutes before closing (Heritage Ireland 2007).

- Winter solstice: access granted via lottery (Fox 2007)
- A partial yet full-scale (wheelchair accessible) replica at the visitor centre (Duffy 2006).

## 5.6. Pollution management

Meath County Council accepts that care has to be taken with the ‘potential environmental impacts of new infrastructure and industrial development, such as noise and air pollution, impinging on views, tranquility and character’ (Meath County Council 2007a, p.344).

By opening the visitors centre and controlling the number of people at the site, pollution has been reduced (Duffy 2006).

No further details regarding pollution management have been made available to the author.

## 6. Social sustainability

### 6.1. Interaction with community

The local community in Slane opposes the opening of the visitor centre in 1997 as it fears the loss of business it would have received had the centre opened in Slane. The centre is situated 12km away from Slane and only accessible from the South side of the Boyne River. The OPW recognises this threat and puts some measures in place to help the community benefit from this new centre (Duffy 2006):

Local accommodation providers receive reduced admission rates for their clients and guaranteed access times providing an advantage to suppliers further away.

Links with other local cultural attractions (promotion in visitor centre).

Links with local tourism authorities (promotion in visitor centre).

Access and use of visitor centre for community activities like (school) concerts, book launches, exhibitions and lectures.

Special attention to events illuminating and illustrating the mythology, meaning and archeology of the sites.

Local residents and their guests are given free admission to the centre and the sites.

## 6.2. Employment

The opening of the visitor centre puts a positive mark on the local employment situation (Duffy 2006). Table 2 shows the increase in employees by the OPW at the site before and after the opening.

Table 2: Brú na Bóinne staff (source: Duffy 2006)

Brú na Bóinne	Prior to opening in 1997	After opening in 1997
	4 full time staff	30 full time employees
	16 temporary staff during high season	12 temporary staff during high season
Tea Room at Brú na Bóinne	n/a	7 full time staff 15 seasonal (part-time and full time)
Midlands East Tourism	5 temporary staff	4 full time staff 3 seasonal staff
Total (at high season)	25	71

Local staff now include tour guides, store keepers, maintenance/grounds keeping staff and bus drivers (Duffy 2006). This shows the commitment of the OPW to support the local community with regard to a sustainable tourism site.

### 6.3. Education

Education and interpretation can enhance the quality of an experience by providing a deeper insight and understanding (Hall & McArthur 1998). The education regarding this tourism site is aimed at schools, the public and staff.

#### 6.3.1. School Education

The OPW supports the education system and introduced the 'free admission to schools' programme to access heritage sites and museums (Duffy 2006). Nearly 7000 school children entered the Newgrange site in each 2005 and 2006 showing the popularity and importance of this heritage site regarding its place in history.

The visitors centre cooperates with local schools and offers the use of the centre for activities and exhibitions. Both parties also work together to develop educational resources (Duffy 2006).

Meath County Council has its own 'Heritage in Schools' programme for primary school children aiming at 'raising awareness of the natural and built heritage among children, teachers and parents' (Meath County Council 2007b). Heritage specialists can be requested by teachers for talks and visits to heritage sites.

#### 6.3.2. Public Education

The OPW and its marketing department, Heritage Ireland, are promoting Irish Heritage sites by offering the purchase of a Heritage Card. This individual card is valid for one year and allows unlimited admission to all sites managed by the OPW or the Department of the Environment, Heritage and Local Government. They hope to introduce and educate the public about the rich and varied attractions reflecting Irish history and Culture (Heritage Ireland 2007).

A research study by the Heritage Council shows that people are increasingly concerned about the need to protect the heritage and are willing to pay for it (National Heritage Council 2007). Threats to the environment (68%), concern for future generations (52%) and general interest in Ireland's history and culture (46%) are the main reasons given in order to safeguard heritage sites.

The visitor centre informs the public about the history of Newgrange via audio-visual materials, interpretative displays and a book shop (Duffy 2006). The constant accessibility of the tomb replica provides an alternative form of education.

Meath County Council runs an annual Heritage Week celebrating Irish history. This event is 'part of the European Heritage Days, a joint initiative of the Council of Europe and the European Union' (Meath County Council 2007b). In the 2007 Heritage Week, Brú na Bóinne opens for one day without charging admission and providing tours free of charge.

### 6.3.3. Staff/Industry Education

The Heritage Council offers a training and development programme for heritage officers and council staff by offering regular seminars. They encourage active participation and feedback regarding local heritage issues (Heritage Council 2007).

ENFO has developed an operational programme for sustainable tourism in 1999 and offers grants to support sustainable developments within the tourism industry (ENFO 2007). It offers help in obtaining the ISO 14001 certificate (environmental management system), advises industry suppliers on the protection of environmentally sensitive areas affected by tourists and consults accommodation providers about the impact of their business on the environment in terms of efficiency, consumables and waste production.



## 7. Conclusion

Brú na Bóinne is a popular heritage site which is owned and managed by various departments. Although fragmented, the local and national departments concerned with the sustainability of the site are complementing each other. The site is managed, promoted and controlled successfully with utmost dedication to the preservation of the site, involving the local community and providing staff and visitors with a unique, educational experience.

Considering the importance of this World Heritage Site and the efforts by its stakeholders to protect the site and educate the public, the development of a centralised website displaying not only visitor information but also historic and current management issues as well as educational aspects, can prove even more beneficial to the subject of a sustainable tourist attraction.

APPENDIX A: Table 3: Landscape Character: Summary Matrix

Landscape Character Type	Landscape Character Area	Value: Exceptional, Very High, High, Moderate, Low, Very Low	Importance: International National Regional Local	Sensitivity: High, Medium, Low
River Corridors and Estuaries	5. Boyne Valley	Exceptional	International	High
	8. River Nanny	Very High	Regional	High
	14. Royal Canal	High	Regional	Medium
	20. River Blackwater	Very High	Regional	High

Landscape Character Areas	
Characteristics	Sensitivities
<p><b>Coastal Plains (Landscape Character Area 7)</b> The Coastal Plain comprises a large area of east coast lowland divided by the Nanny estuary. The area is characterised by scrubby rolling lowland. Long distance views are available along the coastline, however due to the flat topography of the landscape and overgrown nature of many hedgerows, views from inland of the coast are not readily available.</p>	<p>The Coastal Plain exhibits high sensitivity with respect to development. In particular, it has a low capacity to absorb large farm buildings, visitor facilities, overhead cables, roads and railways, windfarms, forestry and undergrounding of cables. Subject to good design and siting, the landscape has greater capacity to absorb one-off housing, as well as multi-house developments within the urban areas.</p>
<p><b>Boyne Valley (Landscape Character Area 5)</b> This landscape is of International importance, comprising the World Heritage site of Brú na Bóinne. It is of exceptional value, and it is an objective of the Planning Authority to protect, conserve and maximise the opportunities associated with this valuable heritage within the county. To this end a Local Area Plan will be prepared to advance and outline the Planning Authorities policies and objectives for the area (Refer Section 8.1.4)</p>	<p>This area is highly sensitive to most categories of new development, particularly housing (including one-off), large agricultural structures, extractive industries, afforestation, masts or other tall structures, windfarms, forestry and undergrounding of cables. There is some capacity to facilitate re-use of existing buildings (including derelict agricultural buildings) and to provide visitor facilities.</p>

Source: Meath County Development Plan 2007-2013

APPENDIX B: Table 4: SWOT Analysis Meath County Council 2007

Meath Tourism Strategy – Product SWOT Analysis			
Strengths	Weaknesses	Opportunities	Threats
Wealth of Heritage.	Lack of hotels (particularly 4 and 5 star).	Develop more high end quality accommodation.	M1 – fear of becoming ‘corridor county’.
Access – M1, N2, M3/N3 & M4.	Poor Signage.	Exploitation of water and angling amenities.	Competition with other counties.
Location to Dublin city centre, airport and ferry-port, and to Northern Ireland.	Lack of family entertainment venues.	Establishment and promotion of new walkways and cycle routes for Meath on a legal and permanent basis to include heritage and other attractions.	Lack of ‘partnership’ working intra-agency in county.
	Lack of weather independent facilities.	Develop ‘tourist character’ in towns.	Lack of inward investment.
	Lack of Irish and cultural experiences.	Attract retail investor.	Lack of interest.
	Lack of internationally renowned festivals.	Offer an Irish cultural experience to exploit Gaeltacht product in Meath.	Coastal attractions.
		Remove cars from beaches.	Car-driving and parking on beach.
		Creating an aesthetic town-centre for ‘Coast’ – with adequate parking.	
		Establish a voluntary festivals committee for the county with a view of finding a fulltime professional to work with festival committees.	

Source: Meath County Development Plan 2007-2013

APPENDIX C: Table 5: Legal Protection

Governed by	Protection offered
National Monuments Acts 1930-1994	<ul style="list-style-type: none"> <li>- acquire monuments by agreement or compulsory purchase</li> <li>- guardship of monuments</li> <li>- preservation orders</li> <li>- registration of site</li> </ul>
Environmental Protection Agency Act 1992	<ul style="list-style-type: none"> <li>- licensing, monitoring and providing technical advice</li> <li>- setting standards for large-scale industrial or potentially polluting processes</li> </ul>
International Legislation	<ul style="list-style-type: none"> <li>- European Communities Regulations 1999: procedures in case of proposed development on an environmentally sensitive site</li> <li>- 1988: Boyne River designated a Salmon River under EU Freshwater Fish Directive</li> <li>- 1992: Habitats Directive on the conservation of natural and semi-natural habitats</li> </ul>
Irish Legislation	<ul style="list-style-type: none"> <li>- environmental impact assessment of development with regard to farming and forestry</li> <li>- Meath County Council Development Plan 2007-2013</li> </ul>
Planning Act 2000	<ul style="list-style-type: none"> <li>- Handles planning permissions</li> <li>- Sustainable development with regard to environmental protection: landscape conservation, tree preservation and public rights of way</li> </ul>
UNESCO	<ul style="list-style-type: none"> <li>- Adhere to authenticity</li> <li>- Protection under national law</li> <li>- Adequate planning control and management</li> <li>- Conservation</li> <li>- Access to public</li> <li>- Administrative and resource arrangements</li> </ul>

Source: OPW: Brú na Bóinne Development Plan 2002

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