

<b>Institution: Durham University</b>
<b>Unit of Assessment: 17A Geography, Environmental Studies and Archaeology</b>
<b>Title of case study: (3) Protecting the UNESCO World Heritage Site of Lumbini, Nepal, and neighbouring sites of significance.</b>
<p><b>1. Summary of the impact</b></p> <p>Durham Archaeology has significantly changed how one of the most important World Heritage Sites in Asia is protected and managed. By enhancing the definition, sequence and preservation of Lumbini, birthplace of the Lord Buddha, this research has influenced development plans for the maintenance of the site, preventing proposals that would have destroyed critical evidence of early Buddhist practice. The research approach is now being translated to neighbouring sites. The impacts of Durham's research thus have extensive reach, being of significant value to the Government of Nepal, the United Nations Educational and Scientific Organisation (UNESCO) and the Lumbini Development Trust.</p>
<p><b>2. Underpinning research</b></p> <p>The research on which this study is based is derived from two field projects led by Robin Coningham.</p> <ul style="list-style-type: none"> <li>• <i>Anuradhapura (Sri Lanka) Project, Phase II: The Hinterland</i> (AHRC-funded £215,870);</li> <li>• <i>Strengthening the Conservation and Management of Lumbini: the Birthplace of Lord Buddha Project</i> (Japanese Funds in Trust (JFIT) for UNESCO US\$ 791,786).</li> </ul> <p>Together these projects have implemented a bimodal research programme geared towards the critical evaluation and definition, protection, management and promotion of Buddhist archaeological heritage in Asia. The first strand has refined existing models for the development and spread of early Buddhism throughout South Asia and challenged current notions of early practice and precept [Refs 1 &amp; 2]. The second has assessed and mitigated current risks and threats to the long-term preservation of Buddhist archaeological heritage at Lumbini [Ref 3].</p> <p>Durham's pioneering approach uses systematic and scientific archaeological techniques developed within the hinterland of Anuradhapura, and these underpin the first strand. By combining geophysical survey, targeted excavations at monastic and secular sites, Carbon 14 dating, luminescence dating of bricks and sediments, and systematic transect and geoarchaeological survey, we have redefined the role of early Buddhist monasteries in the colonisation and management of Anuradhapura's hinterland, through provision of a robust spatial and chronological framework [Ref 1].</p> <p>These techniques have now been applied to the UNESCO World Heritage site of Lumbini [Ref 3 &amp; <a href="http://www.unesco.org/new/en/kathmandu/culture/jfit-lumbini-project/">http://www.unesco.org/new/en/kathmandu/culture/jfit-lumbini-project/</a>]. Coningham's excavations within the Maya Devi Temple have documented unique evidence of pre-brick, timber-built structures. This refutes established thinking and contradicts the focus in heritage practice on brick-built structures as the prime indicators of early Buddhist occupation across South Asia. The recovered posthole sequence may represent the earliest Buddhist shrine in South Asia [Ref 3].</p> <p>Geophysical survey, using a combination of magnetometry, GPR and augering, has also delineated the extent of subsurface cultural material beyond the monumental core, and excavations in these peripheral areas, including the Village Mound, have demonstrated the presence of occupation contemporary with the Buddha's life. Experimental luminescence dating of bricks and sediments within the Temple has facilitated a reassessment of the chronological sequence of the site. Thin-section analysis, lipid and pollen sampling are shedding light on the nature of ancient space utilisation and early devotional practice [Ref 3].</p> <p>The findings at Lumbini underpin the second research path, focussed on revising the ways in which Buddhist sites are protected, managed and presented, changing the emphasis from brick-built structures on the surface to subsurface archaeological deposits [Ref 3]. The excavations at Lumbini testify to the likely survival of sequences of perishable structures pre-dating brick built structures at Buddhist sites across South Asia. These findings thus have direct relevance more</p>

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widely to the definition and protection of such remains in law in Nepal.

This research is led by Prof Robin Coningham (Durham 2005 - present) with Dr Mark Manuel (Durham PhD 2005-2008; PDRA 2008-), Dr Keir Strickland (Durham PhD 2007-2011; Lecturer at UHI 2012-), Dr Christopher Davis (Durham PhD 2009-2013; PDRA 2013-), Jennifer Tremblay (Durham PhD 2010-) and Prof Ian Bailiff (Durham 1979- present).

### 3. References to the research

[Ref 1] Coningham, R.A.E., Gunawardhana, P., Manuel, M.J., Adikari, G., Katugampola, M., Young, R.L., Schmidt, A., Krishnan, K., Simpson, I., McDonnell, G. & Batt, C. 2007. The state of theocracy: defining an Early Medieval hinterland in Sri Lanka. *Antiquity* 81(313): 699–719. <http://dro.dur.ac.uk/3677>

- Submitted in RAE 2008. Cited in important comparative overviews eg. Fagan, B. 2011 *Elixir: a human history of water*. London: Bloomsbury, and Smith, M.E. 2012. *The Comparative Archaeology of Complex Societies*. Arizona State University Press.

[Ref 2] Bailiff, I.K., Lacey, H.R., Coningham, R.A.E., Gunawardhana, P., Adikari, G., Davis, C.E., Manuel, M.J. & Strickland, K.M. 2013. Luminescence dating of brick stupas: an application to the hinterland of Anuradhapura, Sri Lanka. *Antiquity* 87(335): 189–201.

<http://antiquity.ac.uk/Ant/087/0189/ant0870189.pdf>

- Submission for REF 2014
- *Antiquity* is a journal with a rigorous peer-review process: 'The application of luminescence dating to brick stupas represents an original and novel application and it opens up promising avenues of research for refining existing chronologies and providing direct and independent dating evidence for brick monuments across Asia'. *Antiquity*, anonymous peer referee's comments.

[Ref 3] Coningham, R.A.E., Acharya, K.P., Strickland, K.M., Davis, C.E., Manuel, M.J., Simpson, I.A., Gilliland, K. & Tremblay, J. 2013. The Earliest Buddhist Shrine: Excavating the Birthplace of the Buddha, Lumbini (Nepal). *Antiquity* 87(338): 1104-23

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- Submission for REF 2014
- 'This is a very interesting paper which challenges established understanding of Buddhist archaeology through the presentation of new data and analysis. The apparent absence of archaeological correlates (largely as a result of methodological shortcomings) for the Buddhist tradition prior to the Mauryan period is one of the major issues in the archaeology of early Indian religions.' *Antiquity*, disclosed referee's comment (Dr Julia Shaw, UCL).

### Grants

Coningham, R.A.E. 2004-2009. (PI). Director. *The Anuradhapura (Sri Lanka) Project: the hinterland*. AHRC £215,870.

- Graded 'Outstanding' in the AHRC post-award review.

Coningham, R.A.E. 2010-2013. (Co-PI). Archaeological Expert, World Heritage Centre, UNESCO, Paris. *Strengthening the Conservation and Management of Lumbini: the Birthplace of Lord Buddha*. Japanese Funds in Trust for UNESCO US\$ 791,786.

<http://www.unesco.org/new/en/kathmandu/culture/jfit-lumbini-project/>;

### 4. Details of the impact

Durham's involvement in the Birthplace of Lord Buddha project (Japanese Funds in Trust for UNESCO: see Section 2), is stated by UNESCO as being central to the on-going purpose of conservation and protection at Lumbini [Source 1]. By bringing to bear in Sri Lanka a pioneering research approach developed by Durham, UNESCO recognises that the Durham team is uniquely placed to provide evidence vital to the protection of Lumbini's Outstanding Universal Values (OUVs), citing them as 'the only team with a proven track record and capacity to undertake the highly specialised archaeological activities' [So2 pp.4 & 6]. By verifying that fragile but extensive sub-surface deposits relating to the life-time of the Buddha survive, Durham's research has

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become integral to the development of management and protection at Lumbini 'to prevent future damage' [So3 pp.2-3]. With an estimated 795,794 visitors in 2012 (<http://www.lumbinitrust.org/articles/view/198>), as compared against 16,780 in 2000 ([www.lumbinitrust.org/buletins/ec4f6233d1b87506.96216119.pdf](http://www.lumbinitrust.org/buletins/ec4f6233d1b87506.96216119.pdf)), Lumbini is a fast growing attraction for pilgrims and tourists. This massive increase in numbers, and related changes to local infrastructure including a larger airport, new link-roads, and also new water, sewerage, power lines and mediational paths, all place pressure on Lumbini and its associated sites (eg. Tilaurakot and Kudan), and could compromise Lumbini's OUVs (<http://whc.unesco.org/en/list/666/>). The results from this Durham project are thus significant to Lumbini in particular, and are also relevant to Buddhist heritage in the wider region, and are of broad international interest as well: evident in the commissioning by National Geographic in 2012 of the film *Buried Secrets of the Buddha*, due for release in December 2013. Impact is claimed in three specific areas:

**A. New UNESCO Guidelines for the Management of Lumbini**

Previously, management approaches at Lumbini have focused on the conservation of brick-built structures on the surface. Sensitive archaeological deposits, hitherto unrecognised, have been jeopardised by the laying of electrical cables, water pipes and footpaths. By identifying and mapping sub-surface structures, Durham's project has prevented further damage [So3 p.2-3] and in 2012 UNESCO recognised that it was 'reinforcing the capacity of the Nepalese authorities for the protection, enhancement and sustainable development of the property' [So4 - *Current Conservation Issues*]. This field research has also fed directly into new guidelines that ensure the proper preservation and presentation of the Sacred Garden (the most sacred part of the complex) by highlighting two key principles against which to test future developments at the site: Non-intrusive and Reversibility. Recent plans for the construction of a pilgrim walkway funded by the Thai PhuonThai Foundation. responded to these principles. The result was the resituation of a new modern access route specifically to avoid damage to subsurface archaeological remains [So4 *General Response to Decision 33 COM 7B.79a & So5 p.23 – 28/1/2011*]. With support from UNESCO, the Durham key principles have been adopted within UNESCO's new in press volume on *Perceptions of The Sacred Garden of Lumbini: in preparing an integrated vision for the sacred garden*, which will form the basis of Lumbini's new draft Integrated Management Plan [So6 p.153].

**B. Government of Nepal Proposed Modification of World Heritage Site Boundary**

When Lumbini was inscribed on the UNESCO World Heritage List in 1997, its designation was limited to a cluster of standing monuments. The Durham team have now demonstrated the presence of important natural and cultural sub-surface features outside the protected property [So7 p.13]. Of particular importance is the recovery of a deep sequence at the Village Mound, which is currently occupied by the Divisional Police Headquarters, confirming 'the presence of early cultural and natural levels' [So3, p. 8]. This has prompted UNESCO to undertake the relocation of these existing structures in order to protect the fragile but important archaeology [So5, p. 23] and crucially, has directly informed a request by the Nepal Government to the World Heritage Committee to recognise the extension of Lumbini's buffer zone to include these sub-surface assets within the property [So7 p.12 & So 4 *Conclusion*].

**C. Government of Nepal and UNESCO Development Plan/s and Translation of Approach to Neighbouring Sites**

The Government of Nepal considered the Durham approach so integral to meeting the challenges to its World Heritage Sites, that an extension of field activities was agreed in 2011 [So8]. This extension supports the development of the nomination dossier for Tilaurakot, a site associated with the life of the Buddha and also on the tentative World Heritage list for Nepal. Durham's strategies, methods and guidelines outlined above, are central to this activity with field seasons in 2012 and 2013. Durham has also advocated the development of a broader survey of the region, and was contracted by UNESCO in 2012 to prepare the outline for a Lidar survey of the Greater Lumbini Area to support general infrastructure and cultural zoning [So9 p.9]. This proposal has now been included within UNESCO's brochure for key components that require assistance and financial support from national and international stakeholders, demonstrating acceptance of Durham's multi-disciplinary approach [So5 pp. 28-9].

## 5. Sources to corroborate the impact

[Source 1] UNESCO. Strengthening the Conservation and Management of Lumbini; the Birthplace of Lord Buddha <http://www.unesco.org/new/en/kathmandu/culture/jfit-lumbini-project/>. Accessed 8/6/13.

[Source 2] UNESCO (23/11/11). Selection Form of An Implementation Partner KAT/2011/1024/NBT/CLT  
 Section II. Justification of the choice of an implementation partner for 'Strengthening the Conservation and Management of Lumbini the Birthplace of Lord Buddha/ Archaeological Identification and Interpretation of Lumbini'. Partnership Proposal prepared and submitted by UNESCO Field Office Kathmandu to UNESCO World Heritage Centre Paris via UK National Commission for UNESCO.

[Source 3] AP (23/1/12). UNESCO JFIT Narrative Progress Report (January – December 2011), prepared and submitted by the Government of Japan to UNESCO.

[Source 4] Government of Nepal (2011). State of Conservation Report of Lumbini, the Birthplace of the Buddha Submission to the UNESCO World Heritage Committee.  
<http://whc.unesco.org/en/soc/400>  
 Accessed 8/6/2013.

[Relevant sections: *Current Conservation Issues*; *General Response to Decision 33 COM 7B.79 a* (confirming that '...temporary improvements are being carried out in close consultation with the national and international consultants working with the JFIT project'); *Conclusion* (statement of support for the inclusion of the outer sacred garden in a new buffer zone by the World Heritage Centre and Advisory Bodies). Prepared and submitted by Government of Nepal to UNESCO].

[Source 5] UNESCO (5/13). Lumbini: The birthplace of Lord Buddha in Nepal. Completing the Kenzo Tange Master Plan. KAT/2013/PI/H/4. Fund-raising brochure designed and published by UNESCO and UNDP to assist Nepali national authorities in garnering international support for the development of Lumbini and its surrounding areas.

[Source 6] UNESCO. *Perceptions of The Sacred Garden of Lumbini: in preparing an integrated vision for the sacred garden*. Volume presenting an Integrated study and vision for Lumbini, compiled and edited by Kai Weise commissioned and published by UNESCO, Katmandu. Pre-print proof provided. In press: launch date 31/10/13. [http://www.unesco.org/new/en/unesco/events/public-events/?tx\\_browser\\_pi1%5BshowUid%5D=27156&cHash=72e2606092](http://www.unesco.org/new/en/unesco/events/public-events/?tx_browser_pi1%5BshowUid%5D=27156&cHash=72e2606092).

[Source 7] Basnyat Thapa, N. (12/11). Research to cast light on Lord Buddha's birth date: Scientific dating to unlock events of historical and religious magnitude. *Voices* (UNESCO Asia-Pacific Quarterly –10/2011-12/2011) 28: 12-13.  
[unesdoc.unesco.org/images/0021/002148/214821E.pdf](http://unesdoc.unesco.org/images/0021/002148/214821E.pdf). Article in UNESCO's Asia-Pacific Quarterly journal and written by a member of UNESCO.

[Source 8] Government of Nepal (1/11). Memorandum of Understanding between Ministry of Federal Affairs and University of Durham, UK concerning Archaeological Excavation in Tilaurakot, Kapilbastu District of Nepal. Outlining agreed research and fieldwork at Tilaurakot by Durham. MoU with Durham commissioned by the Secretary of the Government of Nepal's Ministry of Federal Affairs, Constituent Assembly, Parliamentary Affairs and Culture. Signed by Durham Department of Archaeology and Lumbini Development Trust, Government of Nepal.

[Source 9] UNESCO (20/11/12). Consultancy Contract for preparing a project outline of archaeological survey through remote sensing in the Greater Lumbini Area. KAT/12/CLT/23. Consultancy contract to Coningham commissioned by UNESCO.