

Institution: University College London		
Unit of Assessment: 15 – Archaeology		
Title of case study: Transforming the future of Silk Roads heritage		
Period when the underpinning research was undertaken: 2002-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Tim Williams	Associate Professor of Silk Roads Archaeology	2002-present
Gaygysyz Jorayev	Research Associate	2013-present
Period when the claimed impact occurred: 2014-2020		
Is this case study continued from a case study submitted in 2014? Y		
1. Summary of the impact (indicative maximum 100 words)		
<p>Research led by Tim Williams has transformed the sustainable management of archaeological heritage along the Silk Roads at site, landscape, regional and international levels, as well as deepening public awareness and understanding of their world-famous sites. His International Council on Monuments and Sites (ICOMOS) thematic study resulted in a radical new policy framework for undertaking serial transnational World Heritage nominations of the Silk Roads, transforming the attitudes of governments and heritage agencies to have a major impact on conservation, management, interpretation, and heritage tourism in the region. It led to the Central Asian Archaeological Landscape (CAAL) project, which is directly benefitting national and local heritage agencies, facilitating policy development, and enabling them to strategically plan for site and landscape preservation in the face of multiple threats from urban expansion, changing agricultural sustainability and the climate crisis.</p>		
2. Underpinning research (indicative maximum 500 words)		
<p>Between 2002 and 2020 a team led by Tim Williams conducted extensive field research to characterise the long-term dynamics of the early Islamic city (7th–13th centuries CE) and World Heritage Site of Ancient Merv (Turkmenistan), one of the most important cities on the Silk Roads. Merv is an outstanding example of a large and complex urban settlement, from a vital period in the development of city living: with the coming of Islam, the urban landscape and the conduct of daily life began to change. Merv is especially significant because unlike other major centres, it was abandoned and its archaeology is immediately accessible. The project conducted a wide-range of investigations including excavations, field survey, systematic aerial survey using an Unmanned Aerial Vehicle (undertaken by Jorayev), as well as collection of high-resolution photographic and laser scan data. This led to new ideas about the development and use of the urban and suburban space; in particular, it showed how water systems shaped the city in the context of consumption for spiritual (mosques and madrassahs) and practical (domestic, industrial and sanitary) needs [R1/R2/R3].</p> <p>The work led to a 2009 project to explore the context of the ancient cities, including Merv, within the fertile Murghab Delta (in collaboration with the University of Bologna) and, more widely, the Silk Roads that these cities were so intimately bound up with through much of their history. This investigated how the urban centres were connected through trade and how this fluctuated over time, against the background of dynamic empire systems, imperial influence on trade routes, individual “city” dominance over routes, and the structuring of rural waystations. Informed by this, a UCL team (led by Williams and supported by Jorayev) then undertook <i>The Silk Roads thematic study</i> [R4], funded by ICOMOS [i] and published in 2014. This project explored the complexity of the archaeological record of the Silk Roads from East Asia to the Mediterranean, between the 2nd century BCE and the 16th century CE, with the aim of exploring the geographical, chronological and socio-political variations in site types to better understand the complexity of ancient Silk Road societies. Williams developed a new holistic approach to the archaeology of the Silk Roads, enabling the identification of key landscapes and sites across a wider area by focusing on “corridors of movement” rather than narrowly defined “routes” between large cities or spectacular monuments. The report [R4] argued for the broadening of approaches to heritage management and the sustainable use of archaeological sites and landscapes along the Silk Roads. Using a Geographic Information System (GIS), the project mapped over 75,000 kilometres of routes,</p>		

covering an area of 18,000,000 square kilometres, and drew together data on over 10,000 individual sites. The complexity of the archaeology, and the multifaceted character of the Silk Roads, was revealed, including the inter-relationship of activities, the impacts of political control on adaptation and development, and the shifting pathways of control and exploitation. The research led to a more nuanced appreciation of the impacts of the Silk Roads on communities, emphasising the significance of short to medium distance exchanges and the pivotal role of the central areas in promoting interactions. Importantly, it has also challenged the traditional east-west focus of Silk Roads dialogues by highlighting the north-south routes, particularly the interactions with the steppe regions and South Asian societies [R4/R5].

This report [R4], with its core concept of “corridors of movement”, and the ensuing transnational UNESCO nomination strategy (see Section 4), in turn led to the charitable foundation Arcadia approaching Williams to undertake a GBP2,890,000 Central Asian Archaeological Landscape project (CAAL) [v]. Williams’ and his team’s expertise in interrogating aerial and satellite imagery, and in compiling GIS databases, and their research on the heritage of the wider area of the Silk Roads corridors [R4], informed this decision. The CAAL project is gathering and synthesising data across the vast Central Asian region to create an evidential platform for heritage decision-making and scholarly research. It is a partnership between 21 institutions from the Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan, Turkmenistan, Republic of Uzbekistan, and the People’s Republic of China (Xinjiang Uyghur Autonomous Region), along with the International Institute for Central Asian Studies in Samarkand, and the ICOMOS International Conservation Centre in Xi’an. The multinational team (78 staff across partner institutions in Central Asia) are digitising archives and records, consolidating information from regional research centres into a multilingual catalogue (8 languages). This is being enhanced by new research using satellite imagery and field surveys, discovering sites and improving documentation.

3. References to the research (indicative maximum of six references)

- R1.** Williams, T. (2008). The landscapes of Islamic Merv, Turkmenistan: Where to draw the line? *Internet Archaeology* 25. <https://doi.org/10.11141/ia.25.1>
- R2.** Williams, T.D, Campbell, K., Jorayev, G., Wordsworth, P., Jepbarov, R. & Moriset, S. (2018). Semi-fortified palatial complexes in Central Asia: new work at the Great Kyz Kala, Merv, Turkmenistan, *Archaeology International*, 21: 153-169 <http://doi.org/10.5334/ai-395>
- R3.** Williams, T.D. (2018). Flowing into the city: approaches to water management in the early Islamic city of Sultan Kala, Turkmenistan, in Altaweel, M. and Zhuang, Y. (Eds.) *Water Societies and Technologies from the Past and Present*. London: University College London Press, pp. 157-179. <https://doi.org/10.14324/111.978191157693>
- R4.** Williams, T. D. (2014). *The Silk Roads: an ICOMOS thematic study*. Paris, France: ICOMOS <https://iris.ucl.ac.uk/iris/publication/428885/1> Available on request
- R5.** Frchetti, M.D., Smith, C.E., Traub, C.M. and Williams, T. D. (2017). Nomadic ecology shaped the highland geography of Asia’s Silk Roads. *Nature*, 543: 193-198. <http://dx.doi.org/10.1038/nature21696>

Quality of research is also demonstrated by the following peer reviewed research grants:

- i. Williams, T. [PI] 2010–2013 Major Grant from ICOMOS for “Silk Roads Thematic Study” EUR17,180.
- ii. Williams, T. [PI] 2014 Researcher Links Workshop Grant. Workshop on Silk Road documentation and new technologies, Kazakhstan, May 2015, British Council, GBP27,500
- iii. Williams, T. [PI] 2015 South Asian Silk Roads: Bhutanese National Inventory & South Asia report, UNESCO Korean Funds-in-trust, USD14,500
- iv. Williams, T. [PI] 2015-18 US Ambassador Funds: conservation at Merv, USD71,170
- v. Williams, T. [PI] 2018-2023 Central Asian Archaeological Landscape project, Arcadia, GBP2,890,000

4. Details of the impact (indicative maximum 750 words)

Williams’ Ancient Merv project, based at one of the most important cities on the Silk Roads, promoted the development of conservation skills, shared research and educational opportunities across the region. Williams’ Silk Roads thematic study [R4] created the key conceptual framework of “corridors of movement” that now forms the basis of the Silk Roads

World Heritage nomination strategy. This underpinned the successful 2014 nomination of The Routes Network of Chang'an-Tian Shan Corridor. At both international and national levels, the evidence gathering of the Central Asian Archaeological Landscape (CAAL) project has facilitated policy development and enabled strategic planning for site and landscape preservation. CAAL has developed heritage management capacities across that region through workshops and other training activities.

Changing the approach of government and heritage agencies to the Silk Roads:

World Heritage Listing unlocks access to international funding and attracts tourism and media attention. The Silk Roads thematic study [R4] established a new nomination strategy for World Heritage Listing, transformed the management and interpretation of Silk Roads archaeology and shaped the transnational working of governmental and heritage agencies in the Asian region [i, iv]. As the Project Officer for the Asia-Pacific Unit of the World Heritage Centre at UNESCO reports, [R4]'s conceptual framework of corridors of movement and impact "provided the approach that enabled nominations to focus on specific regions/responses, and paved the way for a series of transboundary nominations linked by a broader concept, rather than a single, unmanageable, nomination. This unlocked the ability for intergovernmental projects across Eurasia" [A]. This approach now forms the basis of the Silk Roads World Heritage nomination strategy and "[Williams] contribution to the World Heritage Silk Roads safeguarding is so significant that I continue to count on him for long-term continuous collaboration and advice" [A].

The strategy developed by Williams was adopted by 26 countries and implemented through transnational nominations. The first nomination using this approach was the successful 2014 *Silk Roads: The Routes Network of Chang'an-Tian Shan Corridor*, which is 5,000 km in length and encompasses 33 sites in 3 countries (China, Kazakhstan and Kyrgyzstan) [B]. As Feng Jing, Chief, Asia and Pacific Unit, UNESCO and Susan Denyer, World Heritage Advisor, ICOMOS, explained in UNESCO's magazine *World Heritage*, this successful nomination "represented a major achievement in a long process of international cooperation for safeguarding cultural heritage along the Silk Roads" [C]. It "demonstrates that – with a common value framework, a functioning cooperation mechanism and the proper upstream guidance – it is possible to structure a serial transnational World Heritage nomination with sites in three countries" and that this has "significant benefits in terms of fostering understanding, increasing regional and international cooperation and benefiting sustainable development" [C].

Williams's new approach to nominations [R4] changed the focus of government and heritage agencies in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, and China from simply focusing on large individual cities or spectacular monuments to a more holistic approach that recognised the complexity of Silk Roads archaeology. This improved the designation of sites and landscapes, increased state investment in heritage management and promoted capacity building [A]. ICOMOS China explain how collaborating with Williams built capacity: "Williams has subsequently been influential in the development of the strategies and approaches, including with us to provide capacity building programmes for site managers, from the three participating countries: China, Kazakhstan and Kyrgyzstan" [D]. From 2015, this new approach to and promotion of Silk Roads nominations "created the agenda for significant investment by the National Administration of Cultural Heritage in China" enabling "document[ation of] the routes and sites of the region, to provide a platform for management, protection, and the selection of sites for inclusion in the nomination" [D].

As the Director of IICAS (International Institute for Central Asian Studies) puts it, Williams and his team were "crucial to the process of preparing the nomination dossier 'Silk Road: Zarafshan-Karakum Corridor'" [E]. This "included creating and processing over 50,000 photographs of 31 monuments of architecture and archaeology; an important part of the nomination dossier, to demonstrate current condition, risks and to underpin management actions" [E]. The Director of the National Directorate of Turkmenistan for Protection, Research and Restoration of Historical and Cultural Monuments, Ministry of Culture explains that "The UCL team helped with documentation, for example, the desert caravanserai, mapping and GIS, management planning, and overall technical support in the writing of the dossier" [F]. The dossier, submitted in 2020, "marks a major achievement for our department and the cross-border protection of archaeological heritage" [F].

UNESCO has recognised the capacity-building and learning opportunities demonstrated by the Ancient Merv project. UNESCO's 2019 report *Cultural Heritage Innovation: Opportunities*

for international Development explains that the project “is being used as a learning tool, to develop a local skills base, share research and enhance the educational opportunities the site offers, as well as to aid methodological and technical development for the management of other World Heritage sites” [G: p. 20]. Williams’ research has enhanced further work by UNESCO to develop the South Asian Silk Roads, building capacity and supporting transboundary relationship building in 4 countries. Drawing on [R4], in December 2013, Williams was invited to advise the state parties of Bhutan, China, India and Nepal on potential transnational Silk Roads nominations (iii). UNESCO’s Project Officer explains that Williams “supported our initiatives” by “writing a draft nomination strategy (presented in Kathmandu, Nepal in September 2014) which identified key nominations and approaches, and playing an important role in a number of subsequent UNESCO meetings and workshop with South Asian partners” [A]. This included “developing inventories of sites and landscapes to support the selected corridors” which has had a “major impact on both policies and protection [...] especially in the contest of transnational working”.

In 2016, William’s *Final Technical Report on the results of the UNESCO/Korean Funds-in-Trust Project: Support for the Preparation for the World Heritage Serial Nomination of the Silk Roads in South Asia, 2013-2016* [H] was published. The report outlines the technical steps towards nominations in South Asia. As UNESCO put it, “the project has significantly enhanced the capacities of South Asian States Parties, particularly Bhutan and Nepal, to understand, conserve and inventory their National Silk Road Heritage sites/routes/corridors. It has also created a platform for sustained dialogue between the States Parties concerned, within the framework of the World Heritage Serial Nomination of the Silk Roads in South Asia” [I]. Williams’ expertise and technical report [H] led to China and Korea investing in Silk Roads research projects and developing capacity building programmes for South Asia professionals, with UCL providing input to six training workshops (May 2013 Kathmandu; Dec 2013 & Aug 2014 Thimphu; Sept 2014 Kathmandu; Sept 2017 & Nov 2018 Xi’an). These brought together professionals from India, Nepal, Bhutan and China in active transboundary work to frame new options of serial nominations in the region. This included, as ICOMOS China explain, “important initiatives to develop the trans-Himalayan routes, supporting us and UNESCO in numerous workshops and meetings with South Asian partners, and developing an important draft nomination strategy which identified key corridors and approaches” [D]. In addition, Williams “contributed to supporting Bhutan in developing their national inventory” [D].

Recording archaeological heritage to improve protection and management:

The Central Asian Archaeological Landscape (CAAL) project has directly benefitted international and national heritage agencies, facilitating evidence-based policy development and enabling them to strategically plan for site and landscape preservation. The archaeological heritage of the region faces multiple threats from infrastructure development projects, changing agricultural practices, climate change (including the collapsing glaciers of the “third pole” in the Himalaya-Hindu Kush mountain ranges), urban expansion and rural depopulation.

To enable a better understanding of the full range of archaeological heritage across the region, CAAL created an online geospatial open access inventory, <http://3.11.16.60/>. (v). 49,000 sites have been digitised and added to the database, fostering management and protection and enabling a more efficient response to threats by improving both the quality and dissemination of information. In Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, 131,721 documents describing 9,229 monuments have been digitized and catalogued by CAAL for the “preservation of the potential of historical and cultural heritage” in these countries [E/F].

This data facilitates policy-making at a national and local level to enable better site and landscape preservation and sustainable use, changing awareness and practice [A/D/E/F]. For example, the Director Secretariat of ICOMOS International Conservation Centre, Xi’an explains that CAAL “has enabled us to undertake work on the mapping, identification, and digital documentation of sites in five Central Asian countries and western China. This project is crucial to our long-term plans to develop digital national inventories to assist in the protection of archaeological heritage linking together existing records to provide an effective management platform” [D]. In addition, a revised World Heritage trans-national nomination for the Zarafshan-Karakum corridor (Tajikistan, Uzbekistan & Turkmenistan - submitted 2020) moved from only major sites to incorporating smaller sites and landscapes and committed resources to their conservation and management [F]. In Turkmenistan, the President agreed to support a Silk Roads heritage partnership with Uzbekistan and Tajikistan, a diplomatic breakthrough, and to

redeployment of staff resources. As the Director explains, the collaboration with CAAL “has enabled us to devote staff to the digitisation of our National Monument passport records” [F]. As they put it, this “work is fundamental to our long-term protection of the archaeological resources of Turkmenistan, providing a high-quality national inventory and the capacity to deploy this to help manage and protect our country’s heritage” [F].

Professional impact on heritage practitioners:

Building on the Silk Roads project, the CAAL project has developed heritage management capacities across the Central Asian region. The CAAL team of post-doctoral researchers (Jorayev, Rui Pang, Marco Nebbia, Ona Vileikis, and Kimberly TeWinkle), under Williams’ direction, have trained more than 100 professionals in institutions across the region, through a mixture of workshop and on-the-job training programmes, collaborative fieldwork, and online support [E/F]. Workshops combined high resolution photographic and satellite imagery with “on the ground” field visits, in order to develop local capacity, discover new sites, improve documentation, and promote awareness. For example, the Director of IICAS explains that the “collaboration of the Central Asian institutions with UCL has considerably enhanced their technical base”. Documenting skills gained ranged from photogrammetry to “identification of risks during construction near cultural historical sites” as well as the skills and knowledge to generate a nomination dossier [E]. During the COVID-19 pandemic, training was delivered remotely “which facilitated [participants’] professional growth”. In addition, training on documentation using unmanned aerial vehicles resulted in more than 30,000 photos of archaeological sites, used to create orthophotomaps of Tajikistan’s monuments “for inclusion in the nomination dossier submitted for the inscription in the UNESCO World Cultural Heritage List” [E].

Williams’ research has led to new World Heritage nominations and transformed the capacity of local heritage and archaeological institutions to face the challenge of the sustainable use of heritage in the 21st century.

5. Sources to corroborate the impact (indicative maximum of 10 references)

- A. Statement: Project Officer for the Asia-Pacific Unit of the UNESCO World Heritage Centre
- B. China, Kazakhstan & Kyrgyzstan (2014) Successful World Heritage Nomination: *Silk Roads: the Routes Network of Chang'an-Tianshan Corridor*. Dossier submitted to UNESCO by State Parties showing impact on site protection. Available via <https://bit.ly/3t4ZZN5>
- C. Jing, F. and Denyer, S. Safeguarding cultural heritage along the Silk Roads and Williams, T. D. and Lin, R. Sustaining the cultural landscapes of the South Asia Silk Roads, both in *World Heritage*, 93: 8-15 and 16-17 <https://bit.ly/3ckee6>
- D. Statements: Chinese National Committee for ICOMOS China; Director Secretariat ICOMOS International Conservation Centre, Xi'an.
- E. Statement: International Institute for Central Asian Studies (IICAS), Samarkand
- F. Statement: Director of the National Directorate of Turkmenistan for Protection, Research and Restoration of Historical and Cultural Monuments, Ministry of Culture, Turkmenistan
- G. UK National Commission for UNESCO (2019) *Cultural Heritage Innovation: Opportunities for international development*. London: UK National Commission for UNESCO
- H. Williams, T. 2016 *Final Technical Report on the results of the UNESCO/Korean Funds-in-Trust Project: Support for the Preparation for the World Heritage Serial Nomination of the Silk Roads in South Asia, 2013-2016*. London: Institute of Archaeology. ISBN 978-0-9956132-0-1. Available on request.
- I. Lin Chih-Hung, R., Geng, Y and Paydar, M. 2016 *Support for the preparation for the World Heritage Serial Nomination of The Silk Roads in South Asia: final report*. UNESCO. 0000246096. Available at <https://bit.ly/3rA8MGH>