

Institution: University of Sussex		
Unit of Assessment: 28 – History		
Title of case study: Building Bridges: Working between the UK and India to repatriate colonial archives and develop new knowledge, audiences and curricula		
Period when the underpinning research was undertaken: 1 Jan 2000 – 31 Dec 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:
Vinita Damodaran	Professor of South Asian History	1995 – present
Period when the claimed impact occurred: 1 Aug 2013 – 31 Jul 2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact		
<p>Damodaran's research on climate heritage, botanical history and colonial archives has created new, long-term collaborations between cultural institutions, groups and individuals in the UK and India, and has enabled them to reach new audiences. Beneficiaries include: the British Library, the UK Met Office; the Royal Botanic Gardens, Kew; the Natural History Museum; the Botanical Survey of India; exhibition audiences; and indigenous environmental activists. Educational initiatives based on Damodaran's research have reached over 1,600 schoolchildren, and her work on climate in the Indian Ocean has been incorporated into the Met Office's Atmospheric Circulation Reconstructions over the Earth (ACRE) weather database, helping to improve the data and knowledge available to best predict climate variability. Damodaran's research on archival collections has inspired lasting impact across two continents.</p>		
2. Underpinning research		
<p>Over the last twenty years, Damodaran has played a crucial role in the development of histories of the environment, focusing on rights and resources, practices and data, and landscape and climate. Her research has built momentum for a distinctively South Asian Environmental History whilst maintaining a global perspective and attending to the <i>longue durée</i>. She has studied both material changes in the environment and local interactions with it.</p> <p>Her pioneering work on the Chotanagpur plateau in Eastern India, which in 1911 was populated by 33 different groups of Adivasi, explored nature as a 'used' environment. Attentive to the attacks Adivasi faced from the colonial state and development organizations, she explored long-term environmental change, community response, and human-nature interactions [R1]. Her jointly edited essay collection <i>The East India Company and the Natural World</i> showed that resource use was a critical aspect of Imperial History, but that a relentless programme of plant classification, framed by a conservationist discourse, also created invaluable environmental data [R2]. She has consistently located colonial narratives of tribe, custom and landscape within the context of more recent contestations for space and resources, demonstrating that the past provides an ongoing resource and context for present social justice claims [R3].</p> <p>A second strand of Damodaran's research approaches botany both as a historically-situated practice and as a historical resource for scholars and public audiences. Her ground-breaking work on E. K. Janaki Ammal, the first female employee of the Royal Horticultural Society and Director of the Botanical Survey of India, restored a hitherto hidden figure to the history of science – one who attempted to challenge Kew's imperialist approach to plant classification [R4]. As PI on the 'Botanical and Meteorological History of the Indian Ocean' network project, [G1 & G2], she drew together over 90 stakeholders, including the British Library (BL), the National Museum of Natural History in Delhi, the Botanical Survey of India (BSI), and the Royal Botanic Gardens, Kew, to transcribe, collate, and where possible digitise, a wealth of botanical and environmental knowledge collected between the 17th and the 19th centuries and to make these resources more accessible in the Global South. These included the India correspondence</p>		

of Kew Director, Joseph Hooker, and 33 volumes pertaining to Danish botanist Nathaniel Wallich who was the superintendent of Calcutta Botanic Garden until 1846.

Damodaran's research has been conducted within, and its impact realised through, a distinctive collaborative methodology. By developing a cross-disciplinary framework she has used her own research to gather together previously-unconnected individuals, groups and organisations for capacity building, dialogue and global partnership. As Director of the Centre for World Environmental History (CWEH) from 2003, Damodaran has nurtured four additional research networks (Academia and Activism; Mines, Water and Energy; Historical Climatology; Climate Change and the Humanities). Out of these have emerged collaborative grants and edited collections that have positioned humanities scholars from the Global South, as well as the North, as key voices in environmental discourse, and particularly in debates about climate change [G3]. Under Damodaran's auspices, Sussex signed a Memorandum of Understanding with the British Library and the Met Office in 2012 to share historical climate and weather data for India and the Indian Ocean world with ongoing impact since. Working with the Met Office and the Indian Ocean World Centre at McGill, she has also collated and analysed such data, synthesising qualitative and quantitative knowledge by linking natural archives with documentary archives to map 17th century historical floods, famines and droughts in South Asia [R5 & G4]. This work has included identifying historical quantitative daily and sub-daily temperatures for use in the Met Office Atmospheric Circulation Reconstructions over the Earth (ACRE) project [R6].

3. References to the research

- R1:** Damodaran, V. 'The Politics of Marginality and the Construction of Indigeneity in Chotanagpur', *Postcolonial Studies*, 9(2), 2006: 179-196. <https://doi.org/10.1080/13688790600657843>
- R2:** Damodaran, V., Winterbottom A. and Lester A. (eds.) *The East India Company and the Natural World*, Palgrave Macmillan, 2015, pp. 285. Submitted to REF2.
- R3:** Damodaran, V. 'Indigenous Agency: Customary Rights and Tribal Protection in Eastern India, 1830-1930', *History Workshop Journal*, 76(1), 2013: 85-110. <https://doi.org/10.1093/hwj/dbs037>
- R4:** Damodaran, V. 'Gender, Race and Science in Twentieth-Century India: E. K. Janaki Ammal and the History of Science', *History of Science*, 51(3), 2013: 283-307. <https://doi.org/10.1177/007327531305100302>
- R5:** Damodaran, V., Hamilton, J. and Allan, R. 'Climate Signals, Environment and Livelihoods in the Long Seventeenth Century in India' in Mukherjee, A. (ed.) *A Cultural History of Famine: Food Security and the Environment in India and Britain*, Oxon: Routledge, pp. 52-70. Available on request.
- R6:** Allan, R., Endfield, G. Damodaran, V. et al., 'Toward Integrated Historical Climate Research: the Example of Atmospheric Circulation Reconstructions over the Earth', *WIREs Climate Change*, 7, 2016: 164-174. <https://doi.org/10.1002/wcc.379>

Grants

- G1:** Vinita Damodaran (PI), 'Collaborative Research on the Meteorological and Botanical History of the Indian Ocean, 1600-1900', AHRC, [AH/J008559/1](https://doi.org/10.1033/9781107052171), Jun 2012 – May 2014, £34,699 to Sussex.
- G2:** Vinita Damodaran (PI), 'The Botanical and Meteorological History of the Indian Ocean, 1500-1900', AHRC follow-on impact grant, [AH/P005217/1](https://doi.org/10.1033/9781107052171), Sep 2016 – Sep 2017, £77,040 to Sussex.
- G3:** Vinita Damodaran (Co-I), 'Uncertainty, Climate Change and Social Transformation', Research Council of Norway, 2015-2017, £31,255 to Sussex.
- G4:** Damodaran (Co-I), 'Appraising Risk, Past and Present: Interrogating Historical Data to Enhance Understanding of Environmental Crises in the Indian Ocean World', Canadian Council of Social Sciences and Humanities, 2019-22, £71,974 to Sussex.

4. Details of the impact

The extensive impact of Damodaran's research stems from its demonstration (to individuals as well as organisations) that historical climatological and botanical records produced during

colonial periods are never simply inert documents or archives, but continue to have a potent political charge and policy relevance for the ever more inter-connected 21st-century world. The research has underpinned three distinct, yet complementary, areas of impact.

Increased capacity building for flagship cultural and scientific institutions resulting in new learning, new projects, and extended audiences

Damodaran's multi-disciplinary methodology has created international collaborations among a range of previously-unconnected academics, archivists, curators, scientists and communities. For [text removed for publication] of the India Office Records at the BL, this has 'brought us introductions to people [with] whom we would never otherwise [have] had contact with' and has delivered new professional learning: 'thanks to Vinita, we were also able to take a facsimile exhibition... to Mysore. This was an effective way to get our materials shown to Indian audiences,' where it generated 'enthusiasm not only from the general public but also from artists and other creative people.' A further impact was the generation of more funding for the BL's environmental collections, such as a Wellcome project 'to digitise our medical records [which] has built on the work on environmental records that I've done with Vinita.' [S1a]. Fiona Ainsworth, Head of Library Art and Archives at the Royal Botanic Gardens, Kew, states that Damodaran's research was critical in enabling them to present some of their material – for the first time in India – 'to the local audience in Kolkata.' [S1b]. [Text removed for publication] of the Botanical Survey of India (BSI), explains that Damodaran's work has created 'a stronger bridge' between the BSI in India and organisations in the UK [S1c].

The Met Office is another beneficiary. 'Vinita's research is bringing the Humanities into the picture of what we do' explains [text removed for publication], from the ACRE project in which Damodaran's Centre is a partner; '[it puts] everything in a much more complete context which we believe makes the database, and the weather reconstruction generated from it, more useful to the end user.' [S1d]. By recovering and digitising previously-neglected historical climate evidence, Damodaran has extended the scale and accessibility of data available to predict climate change. According to [text removed for publication], this helps to bring 'a wider socio-historical and economic perspective which deepens and enriches the extent of the work we do at the Met Office.' [S1d].

Damodaran was part of a team including ACRE, other national meteorological and hydrological services, international and regional institutions, and national and international climate experts, that drew up the World Meteorological Organisation's Indian Ocean Data Rescue Initiative (INDARE) implementation plan in 2014 [S2a p. 24]. 11 Indian Ocean Rim countries signed up to it, thereby committing to enhance the quality and quantity of historical weather data to improve decision-making and policy formulation [S2b]. For example, Mauritius, via their Meteorological Society, is now scanning the 188 volumes of Meldrum's extracts from ship logbooks of vessels that were at harbour in Port Louis from the 1850s to the First World War [S2c].

Repatriating knowledge, highlighting environmental destruction in Adivasi lands, and communicating hidden histories of botanical science to new beneficiaries

The pioneering Indian female botanist and cytogeneticist, E. K. Janaki Ammal, was practically unknown in India, as well as in the UK, until Damodaran curated the first exhibition of Ammal's life, letters and works. The exhibition toured Kolkata and Delhi from 2016 to 2018 – receiving 12,750 visitors – and is currently on permanent exhibition at the Botanic Garden of India in Uttar Pradesh [S3a]. It was based directly on Damodaran's research and resulted in several popular articles and blogs on Ammal in India, and internationally, including an article in the *Smithsonian Magazine* which has a circulation of over 1 million. Such publications, which explicitly cite the underlying research, have further extended the reach of Damodaran's impact [S3b].

Sponsored by the BSI, the Ammal exhibition appeared at the Indian Museum in Kolkata alongside a partner exhibition – 'Hooker, Botanical Trailblazer' – which Damodaran co-curated with Kew and which was funded by Damodaran's AHRC impact grant [G2]. This built on her work with Hooker's India letters at Kew (digitisation was initially funded by Sussex) and combined Kew material with collections from the BSI and other Indian institutions. For Ainsworth (Kew), Damodaran's involvement facilitated additional reach in the bicentenary year of Hooker's

birth: 'It has been fantastic to have another strand to those celebrations to say we have also, not only been doing things at home in the UK, but have been promoting his work globally.' [S1b]. For [text removed for publication], it created a new way for the BSI to interact with the public: telling the story of key individuals within environmental history 'was a new approach we had taken to the museum for the first time... a new interface.' [S1c]. In a clear indication of the significance of the exhibition, it was opened by Sri Ajay Narayan Jha, who was then the Secretary of the Ministry of Climate Change, Environment and Forests in the Indian government.

In association with the museum exhibition, Damodaran hosted two major public conferences in India, as well as numerous workshops in the UK, to engage – and facilitate connections between – international scholars, activists and diverse publics around issues of forest destruction. The particular issue of the destruction of the Saranda forest attracted press attention in India when the Adivasi activist Gladson Dungdung was barred from leaving the country to attend a Sussex workshop on the matter in 2016. The confiscation of his passport by the Indian government was raised in the Upper House of India Parliament [S1e]. Subsequently he was able to attend a 2017 conference at the Indian Museum Kolkata on 'Forests, Sacred Groves and the Environmental Heritage of India' which drew attention to the natural heritage of India's indigenous communities and highlighted the destruction through mining of key natural heritage sites in tribal areas. His participation created deeper engagement with marginalised indigenous students on the issue of mining destruction and tribal landscapes.

Rinu Kumari, a tribal research scholar from Kolhan University, was prompted to write about how both the event and Damodaran's research had changed perceptions: 'tribal people are very scared of the people from outside, after meeting you I felt some people truly think about us in the right way; you have given a new direction to my life.' [S1f]. For Dungdung, Damodaran's research has had a fundamental impact on the reach of his activism. By launching his books at her events, he attracted an international audience and more coverage in the Indian media than he would otherwise have had. As a result, his opportunities to present on Adivasi issues have increased 'both locally and globally'. He writes: 'this collaboration has enriched my knowledge, strengthened my intellectual capacity, gave me a recognition as one of the powerful Indian activists, created intellectual space and encouraged me to fight for the rights of the Adivasis.' [S1e].

The BSI also benefitted from meetings organised through Damodaran's research, particularly those in 2017 with the Head of the BSI and the Natural History Museum (NHM) in London. These led directly to an MoU through which the BSI sent a team of eight scientists to the NHM to make images of, and digitally repatriate, more than 30,000 herbarium specimens originally collected in India [S4]. As [text removed for publication] (BSI) explains, this was of huge significance for Indian botanical science because the collection had not previously been made available to Indian scientists. Access to the specimens was essential to the creation of the new flora of India ('they helped us in finalising the descriptions and identifying the species'), while also contributing to the NHM's digitisation programme [S1c]. The new flora of India, which will be completed in 2021, will estimate the status of Indian plants in existence internationally and help understand changing biodiversity in the context of industrialisation and development.

Increasing educational opportunities and influencing the design and development of new curricula

A schools and outreach programme, developed in Kolkata through Damodaran's AHRC-funded network, has also drawn on her empirical research. A pilot project with two local schools – Dum Dum Motijheel Girls' High School & Kishore Bharati High School – gave children the opportunity to engage with the natural history collecting practices of the British Empire and the co-construction of botanical knowledge by local communities, including Adivasis in India. They also learned about the conservation of the endangered flora of South Asia and about the environmental and plant knowledge of India's indigenous communities.

The programme, which ran from January to August 2017, included a guided visit to the Hooker exhibition at the Indian Museum and to the Charya Jagadish Chandra Bose Indian Botanic Garden, Howrah, West Bengal. For Kew, this was an important part of their engagement, as Fiona Ainsworth noted: 'I know that all the school activities have been great for our outreach, so

just being able to participate in it has been really helpful.’ [S1b]. For the first time, BSI scientists opened up their collections to children from underprivileged backgrounds and engaged with them through talks, discussions and essay projects. The programme developed study kits and 36 different brochures, all in Bengali and English, on topics ranging from medicinal plants to climate change – produced in conjunction with BSI scientists and teachers [S5a]. The sessions improved student understanding of the natural history collection, of the role of botanical knowledge (both colonial and indigenous), and of the importance of India’s botanical heritage and its conservation in terms of India’s endangered flora and fauna. In an essay for a competition run by the programme on ‘Conservation of Biodiversity Elements and their Sustainable Uses’, one student wrote: ‘it is our duty to save our biodiversity. It is essential to save precious life on our earth or it will be a curse on our life and we are destroying our future and our next generation.’ [S5b]. The project also co-produced educational materials by inviting children to depict their surrounding environment or a plant in the botanic garden. 240 students participated in the pilot [S5c]. [Text removed for publication] particularly praises the programme for bringing knowledge about biodiversity to ‘underprivileged Bengali speaking children’ and providing ideas and inspiration for ‘new learning material.’ [S1c].

The pilot study shaped the BSI’s ongoing educational work and persuaded it to continue and extend the programme as the ‘Environmental Education Awareness Programme’ (EEAP) in India – an important legacy of Damodaran’s project. In the August 2017- March 2018 cycle, 475 students from six schools were given the opportunity to learn about plants and conservation at the Botanic Garden and Museum [S6a]; in the 2018-19 cycle a further 896 children participated in the programme across 11 different schools [S6b]. Teacher feedback refers to ‘an excellent environmental and educational programme’, explaining that ‘now [students] can relate their theoretical knowledge to practical experience’ and stating that ‘I have seen increased interest and engagement with environmental issues as a result.’ [S6c]. In 2020, the programme extended its reach to the children of a marginal environment in the delta region of the Sundarbans, supported by ESRC funding [ES/S008292/1].

5. Sources to corroborate the impact

S1. Interviews and testimonials.

- a. Interview with [text removed for publication], India Office Records, British Library.
- b. Interview with Dr Fiona Ainsworth, Head of Library Art and Archives at the Royal Botanic Gardens, Kew.
- c. Interview with [text removed for publication], Botanical Survey of India.
- d. Testimonial from [text removed for publication] ACRE Project, Met Office.
- e. Testimonial from Gladson Dungdung, Adivasi activist.
- f. Testimonial from Rinu Kumar, tribal research scholar.

S2. The Indian Ocean Data Rescue Initiative (INDARE).

- a. INDARE Implementation plan.
- b. World Meteorological Organization report on INDARE.
<https://public.wmo.int/en/resources/meteoworld/indian-ocean-data-rescue-initiative>
- c. Mauritius Project.

S3. E. K. Janaki Ammal Exhibition.

- a. Visitor numbers.
- b. Report on press coverage.

S4. *Business Standard*, 5 November 2014. Press coverage of digital repatriation.

https://www.business-standard.com/article/news-ians/indian-flora-records-in-london-to-be-digitally-repatriated-114110500275_1.html

S5. Schools pilot project, 2016-18.

- a. Teaching materials.
- b. Essay competition entrant.
- c. Report on the number of participants.

S6. Environmental Education Awareness Programme.

- a. Programme report, 2017-2018.
- b. Programme report, 2018-2019.
- c. Teacher comments.