

Janaki Ammal's slide on *Saccharum officinarum* and zea mays

## CWEH REPORT 2022-2024

**TOBAGO** CWEH US University of Sussex

**Exhibition, School Project and Workshop**

**ECO**  
**F** FLORA AND FAUNA  
**O** OCEANS  
**R** RIVER  
**C** CLIMATE  
**E** EARTH

Bloody Bay River Estuary

George Young's Painting

George Young's Map

**Exhibition**  
**"Nature as Curriculum : Children's Paintings on the Environment in India & Tobago"**

Eco Force Project – Children's Engagement with the Botanic Garden and Main Ridge Forest Reserve in Tobago. Followed by a workshop.

**Venue : Atrium, Scarborough Library, Trinidad & Tobago**  
**Date : 9th to 12th September 2024**



### CWEH Report 2022-24

The Centre for World Environmental History (CWEH) was launched in May 2002 under the aegis of the School of African and Asian Studies at the University of Sussex. It was funded for an initial three-year period by the Research and Development Fund of the University. CWEH has now raised funds from the Leverhulme Trust, the AHRC, the British Academy, The Canadian Social Science Research Council and the Norwegian Research Council, for independent projects.

The creation of CWEH initiative was a response to specialist courses and research conducted by Sussex faculty for over nine years in tropical and 'Southern' environmental history at, what was then, AFRAS and elsewhere in the University and within the Institute of Development Studies. Sussex University has a long research tradition focussed on environment and development problems in the tropics as well as a close relationship with the Institute of Development Studies (IDS), located on the Sussex campus, which is Britain's leading organisation carrying out research on social and economic processes and problems. Sussex University also has a solid tradition in radical history and the history of material culture and peasant society in the Global South, exemplified in the work of Professor Ranajit Guha and the Subaltern Studies School. Currently the Centre is in History department and collaborates with Geography in Global Studies and with environmental humanities scholars in Media, Arts and Humanities (MAH).

The Centre has a Director, Research Director, Faculty Associates, Visiting Research Fellows, Associates and Doctoral Associates. It has a close collaborative relationship involving frequent staff exchanges with the Jawaharlal Nehru University in New Delhi, India and the CNRS French Institute in the Union Territory of Pondicherry, India. The Centre is currently collaborating with Kew Gardens, The Botanical Survey of India, and JNU on a project on Joseph Hooker and India and with the British Library and the U.K. The centre has collaborated with Met office on a project on historical records and climate change. It is also collaborating on other projects including *Human Environment Interactions in the Indian Ocean World, 1500-1900* with the University of McGill, Canada, with IDS on uncertainty and livelihoods in India funded by the Norwegian Research council and with JNU on *Adivasi* colonial and post-colonial worlds. It is in the fourth year of a new partnership grant with McGill, entitled *Appraising risk, past and present: interrogating historical data to enhance understanding of environmental crises in the Indian Ocean World, 2019-25* and with IDS on *Tapestry (Transformation as Praxis; exploring social just and multi-disciplinary pathways to sustainability in marginal environments)* with Kyoto University and funded by the Belmont Forum, 2019-2021. Its most recent funding has been an AHRC funded project entitled *Hidden histories Science and the colonies: hidden networks of botanical science, ecology and eugenics at the end of empire, 2022-23*. British Academy funded, *Planetary Health and Relational Well Being: Investigating the Ecological and Health Dimensions of Adivasi Livelihoods in India, 2024-26*. We also work closely with Ekta Niketan on a project that engages with tribal health and livelihoods in a mining affected community in Jharkhand. (See appendix). We have also received funding from the AHRC impact Acceleration fund for a project on *Nature as Curriculum; Education for the Anthropocene* to work in Sundarbans and Tobago.

The Centre has raised £1.2 million in research grants. It has 400 members. The work by the centre was a REF 2021 4 star impact case study. <https://www.sussex.ac.uk/research/centres/media-arts-humanities-institute/impact/building-bridges>. The centre has exhibited its projects in Kolkata, Mysore, Delhi, Brighton, Sussex University and Tobago. Currently it runs a very successful project on

children's paintings in the context of climate change and is exhibiting this all in several different venues, particularly in Kolkata and Tobago. It currently hosts a digital exhibition. [https://sussex.figshare.com/Science\\_Humanism\\_and\\_the\\_making\\_of\\_Modern\\_India](https://sussex.figshare.com/Science_Humanism_and_the_making_of_Modern_India)  
This has 26,448 views. CWEH also run a series in world environmental history with Palgrave which has published 14 volumes to date. <https://www.palgrave.com/gp/series/14570www.sussex.ac.uk/cweh>

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## CWEH and Its Networks

### Directorship

**Director:** Prof Vinita Damodaran (MAH)

**Founding Research Director:** Richard Grove

### Advisory Board

Dr Antonia Moon Curator India Office records, British Library

Professor Deepak Kumar, Professor Emeritus and Historian of Science, JNU

Professor James Fairhead (Global Studies)

Professor Lyla Mehta (IDS)

Professor Rob Allan, Met office U.K.

Prof Alan Lester (Global Studies)

Dr Mick Frogley (Global Studies)

Prof Rohan Dsouza (Kyoto University)

(The Centre is sad to announce the death of a member of its advisory board, Professor Mark Elvin)

**Artist in Residence and Convenor of the Academia and Activist Network:** Zuky Serper

### CWEH Networks

CWEH runs 5 networks with a total of 450 members:

1. Botanical and meteorological history of the Indian Ocean 1600-1900
2. Mines, water and energy network
3. Academia and Activism network
4. Historical climatology
5. Climate change and the humanities

All of the networks have been active, particularly the Botanical and Meteorological History of the Indian Ocean and the Academia and Activist networks. The former has nearly 93 members including from Kew, the Natural History Museum, the Botanical Survey of India. It also has a Facebook page (<https://www.facebook.com/CWEHSussex/>) and Twitter account (@cwehsussex), with 2277 and 1567 followers respectively.

### MOUs and project partners

CWEH has an MOU signed in 2012 with the U.K. met office and the British Library on south Asian records and historical climate change.

<http://www.sussex.ac.uk/cweh/newsandevents/othercwehnews>

As part of this the centre helped coordinate an implementation plan in 2014 with the World Meteorological Organisation (WMO), the ACRE project of the UK met Office and several Indian Ocean rim countries on preserving their historic archives related to climate change.

[https://gfcs.wmo.int/sites/default/files/events/International%20Workshop%20on%20the%20Recovery%20of%20Climate%20Heritage%20in%20the%20Indian%20Ocean%20rim%20Countries%20and%20Islands//indare\\_implementation\\_plan-draft\\_final\\_14-04-2014.pdf](https://gfcs.wmo.int/sites/default/files/events/International%20Workshop%20on%20the%20Recovery%20of%20Climate%20Heritage%20in%20the%20Indian%20Ocean%20rim%20Countries%20and%20Islands//indare_implementation_plan-draft_final_14-04-2014.pdf)

The MOU has continued despite it ending formally in the form of joint articles, networks and exchanges. Professor Rob Allan of the Met office and the director of the Centre have worked on many projects together, including with McGill and recently on a internationally well received article <https://pmc.ncbi.nlm.nih.gov/articles/PMC9522357/> in the proceedings of the National Academy of Sciences in the US in the year 2022 with an Altmetric score of 145

The Centre has recently partnered with the John Innes Horticultural Institution, Norwich for its most recent project on Hidden histories of Science funded by the AHRC. This particular collaboration has resulted in a joint digital museum exhibition, Science, humanism and the making of modern India [https://sussex.figshare.com/Science\\_Humanism\\_and\\_the\\_making\\_of\\_Modern\\_India](https://sussex.figshare.com/Science_Humanism_and_the_making_of_Modern_India) . This has 26,448 views.

It also continues to work closely with its project partner in India, the Botanical Survey of India (BSI) in Kolkata. As part of their ongoing collaboration the centre hosted Dr Manas Bhaumick the director of the BSI gallery of the Indian museum and Dr Anandita Sinha in the U.K. with regard to the Natural History collections of the British empire. It works closely with the British Library and the Botanical survey of India and has had exhibition displays and conferences in a variety of venues, Mysore, Kolkata and Delhi. [https://www.researchgate.net/publication/324721835\\_The\\_awesome\\_inspiring\\_exhibits\\_of\\_Sir\\_Joseph\\_Dalton\\_Hooker\\_Offstage](https://www.researchgate.net/publication/324721835_The_awesome_inspiring_exhibits_of_Sir_Joseph_Dalton_Hooker_Offstage)

The first exhibition on E.K.Janaki Ammal in India was curated by the CWEH <https://www.thehindu.com/sci-tech/science/Kolkata-celebrates-botany-legend-Janaki-Ammal/article16073012.ece>

#### **Talks given by Centre Director Vinita Damodaran**

1. July 2024, Situating Ammal in the history of Science in India; a decolonial perspective, Ashmolean Museum, Oxford
2. March 2024, 'Gender, caste, race and science; E.K. Janaki Ammal and the history of science' Kew International Science seminar, Wakehurst place
3. September 2023, Mangroves and Mosquitoes, climate and environment in landscape art in British India, Yale University
4. August 2023 Why Environmental history matters? Kannur University
5. August 2023 Visual methodologies and climate change, Botanical Survey of India, Kolkata
6. April 2023- Volcanoes, climate and history, Centre for Interdisciplinary Research, Bielefeld, Germany
7. January, 2023, Science, Humanism and the Making of Modern India, Botanical Survey of India, Kolkata
8. November 2022, Future Natures in the Anthropocene in South Asia, Sussex
9. October 2022, Decolonising Adivasi studies and Indigenous histories in South Asia, Sussex
10. September 2022, Global alliance of the rights of nature, Participant, Sienna, Italy
11. September 2022, Delta dialogue series, Cantho university Vietnam
12. August 2022 Commonwealth Forestry Dehradun
13. July 2022 Keynote Portuguese conference of economic history, Coimbra University , Portugal
14. July 2022 Adivasi summer school, Turin

- 15. June 2022 Climate and History workshop, Brussels
- 16. April 2022 What the Adivasis of Eastern India can tell us about planetary health, Edinburgh University
- 17. March, 2022, Mangrove school project, Delta Futures project, Durham University
- 18. March, 2022, Droughts, famines and cyclones in South Asia, Durham University
- 19. Feb 2022, Adivasis in the Anthropocene, Max Planck Institute, Berlin
- 20. November 2021, Ammal, Darlington and Haldane, Oxford University

### **Talks given by Director of research, Prof Rohan Dsouza**

- 1. 'Should we still be teaching environmental history in the epoch of the Anthropocene ?' , Alia University, Kolkata, March 6th 2024.
- 2. 'Environmental history and the Making of the Modern River in British India' , International Conference: Environmental Issues: Global Politics and India's Leadership Historical Perspectives, Banwarilal Balotia College Affiliated to Kazi Nazrul, University, West Bengal, 4th & 5th March 2024.
- 3. 'Will Historians rather than Engineers make flooding safer in a Climate Changed South Asia?', IHE DELFT, Institute for Water Education, (Netherlands) November 1st , 2023. <https://www.youtube.com/watch?v=QOSR6otJ5a>
- 4. Discussant at the International Conference titled: Debating Economic Development in Tropical Asia: Historical Enquiries into the Relationships between Environmental Constraints and Population Growth, Keio University, Tokyo, 29th-30th March 2024.
- 5. 'Within the Pulse of the Monsoon Environmental history and the Biological Rivers of South Asia', Water and/in South Asia Dhar India Studies Program, Indiana University, Bloomington, October 26th, 2023.
- 6. 'SILT, FISH AND ENGINEERS: The Great Hydraulic Transition in British India' Rachel Carson Center for Environment and Society & Ludwig-Maximilians Universität München, Germany, July 17th, 2023. Studies
- 7. 'Soak or Sponge? Debating the Monsoon city in Anthropocene Asia', International Institute for Asian (Leiden University, Netherlands), <https://www.youtube.com/watch?v=sm98nJ7geNE&t=5s> 30th October, 2023.
- 8. 'Are we all in this together"? Colonialism, Environmental History and the Anthropocene in South Asia', Global Health Histories III: (More than) Human Agency in the Anthropocene, University of Leipzig, Germany, July 13/14, 2023. <https://www.youtube.com/watch?v=2WitUoBuXbk>
- 9. 4th September, 2022, 'On Sustainability: Will Economists benefit from talking to Environmental Historians?', Orissa Economics Association, Colloquy on Interrogating Sustainability
- 10. 'The Great Shift: Can the Earth System trump the Environment?', Workshop titled Nature as Curriculum: Education and the Earth System in the Anthropocene at Centre for World Environmental History, Sussex University, U.K., March 19th 2024.

11. 'Reflections on some 'Anti-Heroes' of Science and Technology in Decolonizing India' Integrating Histories of Development: the Good, the Bad, and the Joined, The Centre for the History of Global Development International Centre for Drug Policy Studies – Department of History of Shanghai University, China, 4-5 November, 2023.

12. 'Fins in the Inland Ocean: How Modern Rivers Discovered Their pulse in British India', Global Asia Initiative Workshop titled "Histories and Society in the Hydrosphere", April 28- 30, 2023. Duke University. USA.

13. 'Who really understands rivers ? Engineers, Environmental historians and flooding in South Asia',

International Seminar: Environmental Humanism: Recent Trends and Future Dimensions , Rabindra Bharati University, Kolkata, India, 13th January 2023

14. 'Nehru and the 'Anti-Heroes' of Science in Decolonizing India', Science Humanism and the Making of Modern India, Ashutosh Centenary Hall, Jawaharlal Nehru Rd., Kolkata, [CWEH (Sussex Univ), UKRI, John Innes Centre and Botanical Survey of India] (9-10th January, 2023)

15. 'Is it better to trust the environmental historian with her 'facts' than the Engineer with his 'politics' when dealing with floods in South Asia?', Department of History, Seminar, Manchester University, UK, 1st December 2022.

16. 'Future Natures: The New Environmentalism in Anthropocene South Asia', Centre for World Environmental History, University of Sussex, UK, 28th November, 2022

17. 'Limits to Boundaries: Environmental Histories of South Asia and Sustainability in the Anthropocene', Panel: Nature, Resources, and Development: Historical Perspectives on the Global Environment, Leipzig Research Centre ReCentGlobe – Annual Conference April 28th 2022.

18. 'Coasts, Estuaries, the Monsoon and 'discovering' the River's pulse in South Asia' in Panel 4: Rivers, Land and Seas in The Hydrologic Cycle and Historical Societies Workshop, Global Asia Initiative, Duke University, February 18-19, 2022.



### Senior Research Associates

Prof Rob Allan (Met Office)  
Prof Greg Bankoff (University of Hull)  
Dr Paul Basu (University of Oxford)  
Dr James Beattie (University of Waikato)  
Prof Peter Campbell (Boğaziçi University)  
Dr Minoti Chakravarty-Kaul (Delhi University)  
Prof Quentin Cronk (University of British Columbia)  
Samarendra Das (Independent researcher)  
Dr Sangeeta Dasgupta (JNU, New Delhi)  
Prof Rohan D'Souza (Kyoto University, Japan)  
Dr Richard Drayton (King's College London)  
Gladson Dungdung (Independent researcher)  
Prof Mark Harrison (Oxford)  
Dr Andrea Janku (SOAS)  
Kofi Mawuli Klu (Independent researcher)  
Professor Deepak Kumar (JNU, Delhi)  
Dr Vimbai Kwashirai (Universität Duisburg-Essen)  
Prof Roy Macleod (Department of History, University of Sydney)  
Dr Bao Maohong (Department of History, Peking University)  
Dr Wendy Maples (Academic consultant)  
Prof John McNeill (Georgetown University)  
Dr Peter Merrington (University of the Western Cape)  
Prof Brian Morris (Goldsmith's)  
Dr Mark Nesbitt (Kew)  
Dr Henry Noltie (Royal Botanic Garden Edinburgh)  
Dr Felix Padel (Independent researcher)  
Dr Stuart Peters (Queen Mary College)  
Dr Simon Pooley (Birkbeck University of London)  
Prof Ravi Rajan (University of California)  
Dr Mahesh Rangarajan (Delhi)  
Dr Daniel Rycroft (UEA)  
Dr Kate Showers (Independent Researcher)  
Julian Stargardt (Independent researcher)  
Dr Pauline von Hellermann (Goldsmiths, University of London)  
Dr Theresa Wong (Independent researcher)  
Dr Carol Yong (Independent researcher)

### **Research Associates**

George Adamson (Kings College)  
 Alex Aisher (University of Sussex)  
 David Blake (Independent researcher)  
 Chris Courtney (University of Durham)  
 Debojyoti Das (SOAS)  
 Subir Dey (University of Delhi)  
 Maxmillan Martin (University of Sussex)  
 Mike Rayner (University of Sussex)  
 Arnab Roy (Independent researcher)  
 Raymond Ruhaak (University of Liverpool)  
 Adrian Thomas (University of London)  
 Anna Winterbottom (University of Sussex / McGill University)  
 Preeti Thakur (University of Sussex)

### **Doctoral Associates**

CWEH's interdisciplinary perspective on complex issues is exemplified by its doctoral associates. It provides an intellectual home for both Sussex graduates and visiting graduates who are integral to contributing to CWEH's ever expanding areas of research. The multidisciplinary nature of CWEH research faculty means that doctoral students have access to a range of expertise as well as to contribute to it. They also form an active social community, organising workshops and networks. Visiting doctoral associates are also welcomed.

The centre's PhD Students currently include:

Mukulika Radhakrishnan, *'The Ambiguous Modern in Kerala: Narayana Guru and Women'*  
 Sandhya Kerkhetta- *Domestic violence among Adivasi communities*  
 Saumya Ranjan Nath: *The Kondhs and resistance against mining in Orissa*  
 Nandima Angom: *Indigenous women's movement in India's borderland*  
 Mike Rayner: *History of Indian genetics*  
 James Hamilton, *History of Indian Famines*  
 Manish Surin, *Ho resistance in Eastern India*

### **Visiting Doctoral associates**

Zhenwu Qiu , Tsinghua University in Beijing  
 Mrinalini Raj, Roorkee University

### **Visitors to the centre**

Henry Noltie (Edinburgh Botanic Garden)  
 Angelos Theocharis (University of Newcastle)  
 Rohan D'Souza (Kyoto University)  
 Felix Padel (independent researcher)  
 Manan Ganguli (Doctor, Ekta Niketan)  
 Jacinta Kerkhetta (Adivasi poet from Jharkhand)

John Matthew (Krea University)

Prem Poddar (Independent researcher)

Rita Pemberton (University of the West Indies)

Beppe Karlsson (University of Stockholm)

Amarjit Gurumayum (Jawaharlal Nehru University)

Peter Sutoris (University of Leeds)

### **International recognition for Centre and its activities**

The Centre's work on climate and the environment is internationally recognised and it figures on several websites and articles in the US, Australia, India and Singapore (see below). It is the leading international centre for climate and environmental history research in the global south.

1. <https://www.latrobe.edu.au/archaeology-and-history/research/centre-for-the-study-of-the-inland/resources-links>
2. <https://oro.open.ac.uk/69638/1/document.pdf>
3. <http://www.metacre.org/links?tmpl=%2Fsystem%2Fapp%2Ftemplates%2Fprint%2F&showPrintDialog=>
4. <http://eseh.org/wp-content/uploads/Notepad29.pdf>
5. <https://www.webarchive.org.uk/en/ukwa/collection/369?page=4>
6. <https://web.colby.edu/senseofplace/files/2013/07/MISTRA-FINALREPORT-15May2013-copy1.pdf>
7. <https://www.livemint.com/mint-lounge/features/the-indian-artists-of-roxburgh-s-herbarium-11585911714610.html>
8. <https://www.humanas.unal.edu.co/historiambiental/enlaces-recomendados/>
9. <https://core.ac.uk/download/pdf/200253876.pdf>
10. [https://gala.gre.ac.uk/id/eprint/32851/1/32851\\_COLES\\_Sustainability\\_technology\\_and\\_innovation.pdf](https://gala.gre.ac.uk/id/eprint/32851/1/32851_COLES_Sustainability_technology_and_innovation.pdf)
11. <http://cscs.res.in/dataarchive/textfiles/south-asian-historical-records-and-climate.an-interdisciplinary-workshop-march-4-52011.pdf>

## Collaborative Research Projects and Funding

Since its inception, CWEH has successfully applied for 18 funding proposals, totalling over 1.2 million pounds. It has the following ongoing research projects:

### **1. Botanical and metrological history of India and the Indian Ocean** (150,000 GBP)

The heart of the Centre's current projects are two related projects, one project focuses on "Kew and India". This project entitled botanical and metrological history of India, and the Indian Ocean has been funded by the AHRC. The project addresses a series of questions on the specific contribution of Kew in shaping the categories of natural knowledge and the capacity of communities to know and engage with the environment from the eighteenth to the twentieth centuries.

The second major project aims at mapping the historic climate archive for the Indian Ocean World and to model particular climate events over the last 500 years and even longer over a 2000-year period. Part of the larger project will compile a database of the paleoclimatic proxy archives (preferably continuous) that offer quantitative reconstructions of key climatic parameters for the Indian Ocean basin. Datasets will be filtered according to an agreed set of criteria that will likely include chronological control and errors, resolution of the time series, and geographical location of the archive. This is in collaboration with the Indian Ocean World Centre in McGill University in Canada.

The research agenda is inspired by the work of Richard Grove. Grove's hypothesis was that the information-gathering institutions of modern forms of empire captured and made visible global patterns of environmental and climate change. He also argued that the politics of empire had significant environmental consequences. Empires not only recorded the data of natural history; the institutions of empire shaped the natural world. The goal of our research has been to sponsor research that analyses and explains this interaction of human societies with their environments. The network associated with this project numbers 100 people

### **2. Appraising Risk Partnership 2019-2026** (500,000 CAD)

In collaboration with University of McGill

CWEH has been collaborating with the Indian Ocean World Centre at McGill University since 2019 on a project on Human environment interactions in the Indian Ocean World, 1500-1900. As part of this, the centre organised The Appraising Risk Partnership's 1st Summer School Workshop on the 26th and 27th May via Zoom, with collaboration from McGill University, the British Library, the University of Hull and the Met Office. 44 participants, mainly early career researchers, registered for the sessions from India, the Philippines, Indonesia, Germany, U.K, Australia and Canada. The themes of each day respectively were: "Environmental Archives" and "Climate of the Indian Ocean World: practical application", and presentations included: "Some sources for meteorology in the India Office Records and related collections", "ACRE's experiences with Indian Ocean World archives and their uses" and "Climate and the Environmental Historian". The partnership with McGill is currently in its fifth year. We have created a series of very important climate history related data series which are quite unique for the climate and famine history of South Asia. This partnership and its associated project are due to continue until 2026

For report of the summer school workshop please see: <http://www.sussex.ac.uk/cweh/>

Recordings are available here:

<http://www.sussex.ac.uk/cweh/newsandevents/conferences/appraisingriskworkshop>

### 3. Tapestry Mangrove School Project – 2019-2023

(30,000 GBP)

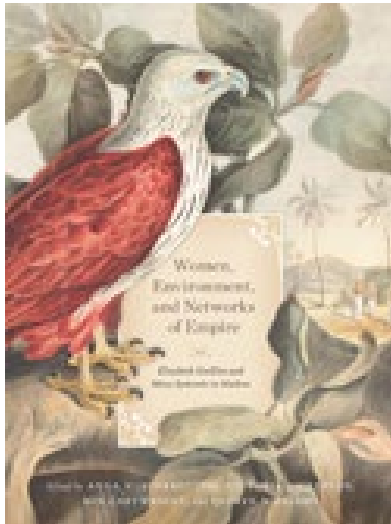
In collaboration with IDS

CWEH is also collaborating with IDS on a research project on climate change, uncertainty and social transformation. As part of this, the centre is running the “Environmental Education Awareness Programmes” with the Botanical Survey of India. This programme has been providing opportunities for students in vernacular schools across Kolkata to gain first-hand knowledge on economic and useful plants of India and other rare plants in habitat, and to also learn conservation and sustainability methods. The school programme which has covered 260 children in two schools in Kolkata has been expanded as the Mangrove School project in the delta region of the Sundarbans. Details to be found here.

<http://www.sussex.ac.uk/cweh/newsandevents/mangrove>

### 4. Gwilliam Letters Project 2019-2023

In collaboration with McGill University. This resulted in a successful publication.



### 5. TRANSFORM-IN EDUCATION: ‘Hope in the present’ 2022

CWEH is collaborating with academics in India (Dr. Anindita Saha) and Ecuador (Dr. Citlalli Morelos-Juarez) in a project that explores the role of arts-based deliberative pedagogies for supporting youth to express relationships with sustainability uncertainties, in dialogue with stakeholders, with a view to fostering community resilience expressed through narratives of hope and action.

This study explores how a process of collective engagement might re-orientate as community resilience, expressed as ‘hope in the present’. Youth narrate experiences of sustainability ontological uncertainty (including Covid-recovery and livelihood-adaptation) and, in dialogue with community stakeholders, identify possibilities for change. The study explores the efficacy of pedagogies that are themselves uncertain (‘uncertain pedagogies’), integrating arts-based deliberation: an emerging paradigm with considerable promise, as- yet uninvestigated in global contexts.

The progress of the project is detailed in a blog:

<https://www.transformineducation.org/blog/archives/03-2021>

### 6. Hidden histories project, Science and the colonies: hidden networks of botanical science, ecology and eugenics at the end of empire,

Project partners: John Innes Centre

AHRC funded (123,000GBP) 2022-2023

This project will uncover and highlight the nature of hidden intellectual networks at the end of empire and the science that resulted around the interconnected origins of:genetics, eugenics,ecology, humanism. It will do this through published research and a public exhibition.Taking this knowledge to new audiences will further help disseminate this knowledge to a wider audience both in Britain and



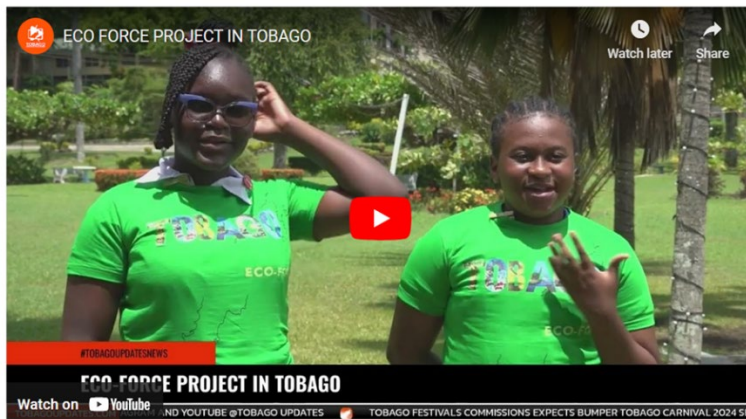
India.

<https://www.sussex.ac.uk/cweh/newsandevents/index?id=59585>

### 7. Planetary Health and Relational Well Being: Investigating the Ecological and Health Dimensions of Adivasi Livelihoods in India

Awarding body: British Academy- 2024-26 £45,516.80

8. Nature as Curriculum; Education in the Anthropocene; AHRC Impact acceleration fund 2023-2025 Two projects in the Sundarbans delta and Tobago on Children understandings of climate change through visual methodologies- £10,000



9. **Mining, indigenous communities and health.** In conjunction with Ekta Niketan the centre has funded adivasi self assertin projects as part of its academia and activism network. It works closely with Dr Manan Ganguli in Jharkhand. See report in appendix. Currently as opects of this research are appearing in the *Lancet* in 2025- 5000 pounds. This is an ongoing project that we are still funding.

### Reserva Tesoro Escondido

Mika Peck and Citlalli Morelos-Juarez, close associates of CWEH are at the heart of a project that has established a reserve in Ecuador to save the brown-headed spider monkey from the brink of extinction. Using an approach that engages local communities in science, the paraecologist model, the Tesoro Escondido Reserve together with Jocotoco Foundation protect over 2000 hectares of primary forest in the Chocó lowlands, a global biodiversity hotspot. This area in the province Esmeraldas is highly threatened by anthropogenic activities such as timber extraction, monocrops and mining concessions. The reserve protects one of the last healthy populations of Ecuadorian brown-headed spider monkeys as well as other endangered species such as the Great Green Macaw, the Banded-Ground Cuckoo, the Harpy Eagle, the magnificent jaguar, pumas and an incredible diversity of herpetofauna. The reserve collaborates with farmer families who offer their houses to host visitors, offering a unique experience in rural Ecuador.

Professor Damodaran visited Seinna with Dr Peck for a meeting on the Global alliance of the rights of nature in September 2022. They also collaborated closely in an exhibition in the Jubilee library, Brighton on a project, '**Hope in the Present**' organised by Rebecca Webb and Perpetua Kirby which brought together, children's objects relating to climate change from Ecuador, Sundarbans and Brighton. This project hosted an exhibition, a teaching booklet on living with uncertainty <https://openpress.sussex.ac.uk/creatingwithuncertainty/chapter/topic-1-adapting-to-new-challenges/> and launched a video on the project <https://www.youtube.com/watch?v=yS5C3NfHiAc>





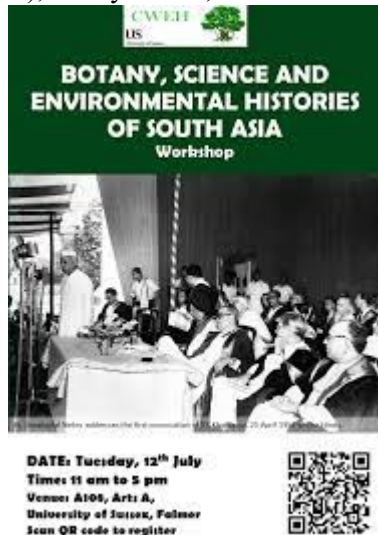


## Seminar Series 2022-23

The centre has a regular workshop series.

### **1. Botany, Science and Environmental History of South Asia. Sussex, July 2022**

Speakers from various UK and Indian institutions, including Vinita Damodaran, Mike Rayner, Antonia Moon (British Library), Manas Bhaumik (Botanical Survey of India), Sarah Wilmot (John Innes Centre), Henry Noltie, Anindita Saha,, Prof. Rohan D'Souza (Kyoto) and Angelos Theocharis



(Durham).

In particular this included a capacity building exercise for the Botanical Survey of India and Mike Rayner and I enabled Dr Bhaumik's visit to the Brighton Pavilion garden, Kew Garden, the John Innes Institute in Norwich and the South Asia collections.

### **Workshop; Environmental History, Commonwealth Forestry and the Challenges of Climate Change. Centre for World Environmental History, University of Sussex and Indian Council of Forestry Research & Education (Dehradun), July 2022**





## 2. Workshop on indigenous people titled “Decolonising Adivasi Studies: Indigenous Histories and Narratives from South Asia” Sussex, October 2022.

The speakers Vinita Damodaran, Sandhya Kerketta, Felix Padel, Manan Ganguli and Jacinta Kerketta.



2:00-2:15 pm: Introduction- Dr. Vinita Damodaran and Ms. Sandhya Kerketta  
 2:15-2:45 pm: Questioning the Anthropology of Adivasi Culture- Dr. Felix Padel  
 2:45-3:15 pm: Wellbeing and Health among the Adivasi of Eastern India- Mr. Manan Ganguli  
 3:15-3:45 pm: Adivasi's Traditional Healing Practices in Curing Diseases from the Central Belt of India- Dr. Noli Nivedita Tirkey  
 3:45-4:00 pm: Short Break

## Exhibition of Children climate change paintings, July 2022



**Seminars and Events in 2023-24**

Sl. No.	Event title	Date	Location
1	The translocate and the writing of India's fauna by Dr John Mathew, Associate Professor at Krea University, India.	2 <sup>nd</sup> June 2023	Fulton 102
2	Digital launch and Workshop on "Science, Visual cultures and Museums"	26 <sup>th</sup> June 2023	Fulton 111
3	Doing Indigenous Research and Activism In South Asia Book launch and Early Career Researcher's Workshop	25 <sup>th</sup> July 2023	A108, Arts A
4	Planting the Anthropocene: Indigenous Food Sovereignty in the Eastern Himalayas. An interactive lecture by Prof Bent G. Karlsson, Stockholm University	11 <sup>th</sup> October 2023	Fulton 106
5	Seeing like a State Working with Salt and the Struggle for Dignity in the Deltaic Coasts of South India - Senthil Babu D and AdiRamesh Foreign Kautilyas: At the Tibet-China-India Border in Kalimpong -Prem Poddar The	13 <sup>th</sup> November 2023	R-233 Bramber House
6	Caste, Politics and History in contemporary India	13 <sup>th</sup> March 2024	Fulton 110
7	After the Green Revolution: Documenting the Crisis in Punjab's Farmlands	18 <sup>th</sup> March 2024	Fulton 101
8	Nature as Curriculum: Education and the Earth System in the Anthropocene CWEH Occasional Workshop series	19 <sup>th</sup> March 2024	Fulton 208
9.	Doctoral event in collaboration with CWEH Environmental History and Resistance in South Asia	18 <sup>th</sup> June 2024	A108
10	Nature as Curriculum: Education in the Anhtropocence: Exhibition and workshop	09 September to 12 September 2024	Scarborough Library, Tobago
11	The Mangrove School project: Iconography of Climate Change	16 <sup>th</sup> September 2024	A 108, Arts A
12	Nature and sustainability as Curriculum: climate change and the Mangrove school project (2020-2024)	2 <sup>nd</sup> August to 3 <sup>rd</sup> August 2024	Sundarban Hazi Desarat college, West Bengal, India

13	Mangrove School Project – Batik Art Workshop	18 <sup>th</sup> May -24 <sup>th</sup> May 2024	Sundarban Bijoy nagar Disha, West Bengal, India
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**CWEH SEMINAR**  
**After the Green Revolution:  
Documenting the Crisis in Punjab's Farmlands**



**SPEAKER**

Harsha Vadlamani is an independent photojournalist, filmmaker and National Geographic Explorer whose work explores the inequalities that influence migration, health and the environment, with a particular focus on rural and indigenous communities in India.

His work has appeared in National Geographic, The New York Times Magazine, The Wall Street Journal, GEO, Al Jazeera, Le Monde, Financial Times Magazine, Rest of World, CNN, BBC, Scientific American, Foreign Affairs, Neue Zürcher Zeitung, Nature and Wired, among other publications.

He received Amnesty International UK's Media Award for Photojournalism in 2022 for his documentation of the COVID-19 pandemic in rural India.

**Date and time: 5 to 7pm on 18th March 2024**

 **Fulton 101, Fulton Building, University of Sussex, Brighton BN1 9RH**

**CWEH**  
**US**  
University of Sussex



**CWEH Seminar Series Presents**

**The translocate and the writing of India's fauna**

**A talk by John Mathew**  
**History of Science, Krea University**

**2nd June 2023 | 1 PM – 3 PM**

**Room no 4, MAH Resource Centre,  
Arts A, University of Sussex**

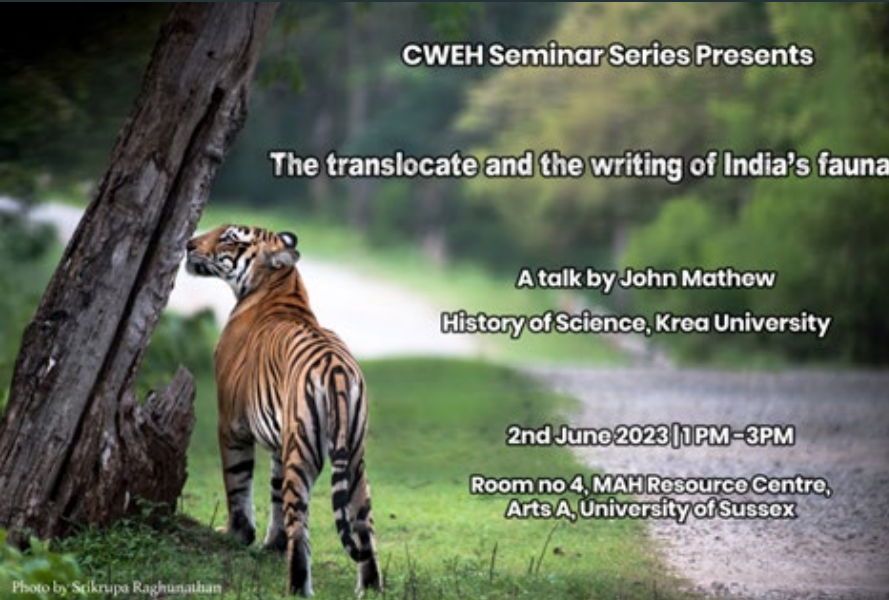



Photo by Sekrupa Raghunathan

**Exhibition, Round Table Discussion & Seminar on**  
**Nature and Sustainability as Curriculum :**  
**Climate Change and the**  
**Mangrove School Project (2020-2024)**

2nd & 3rd  
August, 2024

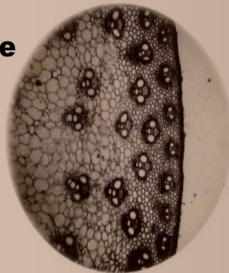
Venue: Sundarban Hazi Desarat College,  
Pathankhali, South 24 Parganas, West Bengal, India



## Science, Visual Culture and Museums

### Workshop and Digital Exhibition Launch

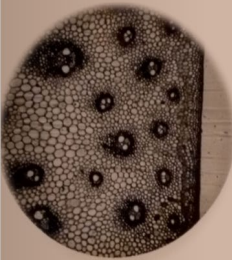
Speakers: Antonia Moon (British Library), Sarah Wilmot (John Innes Centre), Raneer Prakash (NHM), Zuky Serper (Sussex), Ben Burbridge (Sussex), Anindita Saha (Sussex), Angelos Theocharis (Durham), Laharee Mitra (Brighton)



### Digital Exhibition Launch: Science, Humanism and the Making of Modern India

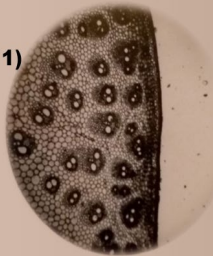
Digital walkthrough by Mike Rayner

With a film screening of *Janaki Ammal and the Genetical Society* by Susan Thomson



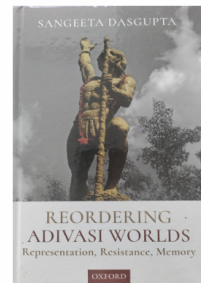
**26<sup>th</sup> June 2023, 1pm-5pm**  
**University of Sussex (Fulton 111)**  
**and Zoom**

To register, email  
[environmentalhistory@sussex.ac.uk](mailto:environmentalhistory@sussex.ac.uk)



## Doing Indigenous Research and Activism In South Asia

### Book launch and Early Career Researcher's Workshop



Sangeeta's latest book explores the story of the Oroans and Tana Bhagat's of Chotanagpur in the present-day state of Jharkhand; this book questions postcolonial understandings of the category of 'tribes' and unravels the threads of a hierarchical adivasi world. It unpacks colonial ethnography, missionary narratives, and anthropological writings; explore's issues of adivasi identity and resistance by drawing upon memories of the past.

Room Number : A 108, Arts A

Time : 11:00 to 15:30 PM, 25th July 2023

Order of the programme

- |                |   |
|----------------|---|
| 10: 45 -11:00  | : Welcome Speech by Dr Vinita Damodaran.  |
| 11 :00 - 11:40 | : A talk by Dr Sangeeta Das Gupta   |
| 11:40 - 12:15  | : Dr Manan Ganguli : Topic (tba)  |
| 12:15 - 13:00  | : Book launch by Dr Maya Unnithan   |
| 13:00 - 14:00  | : Lunch Break   |
| 14:00 -15:20   | : Panel on 'Doing Indigenous studies' by Early Career researcher's Manish Surin and David Thangsing |
| 15:20- 15:30   | : Closing Remarks   |

RSVP : [environmentalhistory@sussex.ac.uk](mailto:environmentalhistory@sussex.ac.uk)

# CWEH SEMINAR

## CASTE, POLITICS AND HISTORY IN CONTEMPORARY INDIA.

### SPEAKERS

FROM ANALOGUE TO DIGITAL: POLITICS AS A PROBLEM OF WRITING HISTORY IN INDIA

**PROF ROHAN D'SOUZA**  
Graduate School of Asian and African Area Studies (GSAAAS), Kyoto University, Japan

DALIT POLITICS IN TIMES OF RISING NATIONALISM: REFLECTIONS ON CONTEMPORARY BENGAL

**DR AYAN GUHA**  
British Academy International Fellow, School of Global Studies, University of Sussex

EXAMINING SURVEY WORKERS' SKILLS AND POLITICAL ECONOMY OF INDIA'S SURVEYING INDUSTRY

**VINAYAK KRISHNAN**  
PhD student, School of Global Studies, University of Sussex

**2PM-4PM**  
**13th March 2024**

 **Fulton 110, Fulton Building, University of Sussex, Brighton BN1 9RH**



**CENTRE FOR WORLD ENVIRONMENTAL HISTORY(CWEH) INVITES YOU FOR AN ALL DAY EVENT**  
16TH SEPTEMBER , 2024, 10 AM TO 5 PM , ARTS A 108 UNIVERSITY OF SUSSEX  
ALL WELCOME

**THE MANGROVE SCHOOL PROJECT EXHIBITION**  
**ICONOGRAPHY OF CLIMATE CHANGE : CHILDREN'S PAINTING FROM THE BENGAL DELTA**

THE EARTH IS FULL OF SPIRITS AS A TREE IS FULL OF LEAVES: ENVIRONMENTAL VALUES AND ORAL NARRATIVES OF INDIGENOUS COMMUNITIES IN INDIA



10 AM TO 3 PM

**CONFERENCE**  
3 PM TO 5 PM

**DR ANINDITA SAHA**



**THE MANGROVE SCHOOL PROJECT**  
**DR AMARJIT CURUMAYUM**

**CAPITAL AND ECOLOGY IN THE MARGINS : ABSTRACTING , TRANSLATING AND GOVERNING NATURE IN INDIA'S NORTHEAST**  
**ZUKY SERPER**

**UNDERSTANDING THE IMPACT OF ALUMINIUM MINING THROUGH GIS IN EASTERN INDIA**  
**DR SAUMYA RANJAN NATH**

**KONDH'S ENVIRONMENTALISM THROUGH ORAL NARRATIVES**  
**PROF VINITA DAMODARAN, MODERATOR (DIRECTOR,CWEH)**

FOR QUERIES  
ENVIRONMENTALHISTORY@SUSSEX.AC.UK

**TOBAGO**



**CWEH US University of Sussex**

**Exhibition, School Project and Workshop**



Bloody Bay River Estuary



George Young's Painting



George Young's Map

**Exhibition**  
**"Nature as Curriculum : Children's Paintings on the Environment in India & Tobago"**

Eco Force Project – Children's Engagement with the Botanic Garden and Main Ridge Forest Reserve in Tobago. Followed by a workshop.

**Venue : Atrium, Scarborough Library, Trinidad & Tobago**  
**Date : 9th to 12th September 2024**



**Nature as Curriculum:  
Education and the Earth System in the Anthropocene**

*CWEH Occasional Workshop series*



CENTRE FOR WORLD ENVIRONMENTAL HISTORY

# ' THE MANGROVE SCHOOL PROJECT '

## BATIK ARTWORK WORKSHOP

### May 2024

Venue :

### SUNDARBAN BIJOYNAGAR DISHA

Village & P.O. Bijoy Nagar, P.S. Gosaba, Bali Island, South 24 Parganas, West Bengal, India

Organised by :



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## Publications

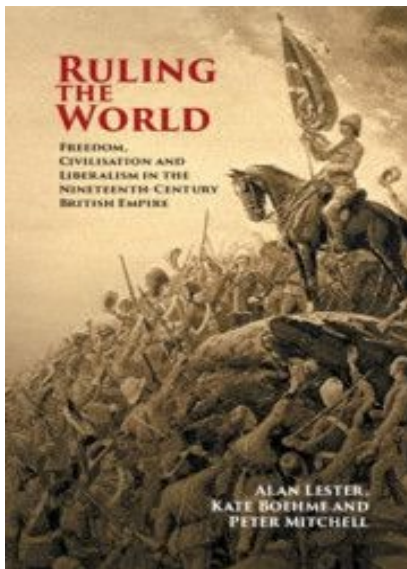
The Centre is currently working on an edited volume on Extractivism in South Asia, drawing on Joan Martinez Alier's work in South America. The volume is edited by Vinita Damodaran and Felix Padel and includes an afterword by Joan Martinez Alier. Some other recent publications of the centre include:

1. Anindita Saha and Vinita Damodaran The Mangrove School Project: Untold Stories of Children from the Margins, Bloomsbury, (In press)
2. Climate, Environment, and Crisis in Eighteenth Century India 18 Jul 2024 The Oxford Handbook of the Seven Years' War 363-380 (17 pages) Oxford University press
3. Environment, natural resources, and environmental history 18 Jul 2024 The Oxford Handbook of Environmental and Natural Resources Law in India 19-38 (19 pages) Oxford University Press Damodaran V
4. Mosques, Gopurams, varied waters and stormy seas: built and natural environments of early Nineteenth Century Madras
5. Women, Environment, and Networks of Empire: Elizabeth Gwillim and Mary Symonds in Madras McGill Queen's University Press
6. Looking beyond the apocalypse: environmental crisis, colonial environmentalism and Eastern India's tribal communities
7. The Environmental Apocalypse Interdisciplinary Reflections on the Climate Crisis Routledge, 16 Nov 2022
8. Special issue: Multiple worlds of the Adivasi. An introduction 20 Sep 2022 Modern Asian Studies 56(5):1353-1374 Article has an altmetric score of 1
9. Protracted Indian monsoon droughts of the past millennium and their societal impacts 19 Sep 2022 Proceedings of the National Academy of Sciences 119(39):e2207487119 1-9 National Academy of Sciences Co-authors Damodaran V, Kathayat G, Sinha A... 10 more

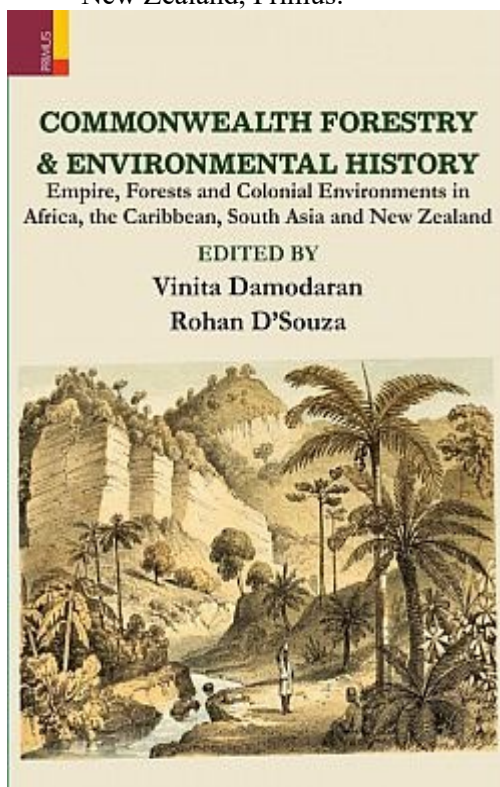


10. Red flows the Koina river: Adivasi resistance to the 'loot' of their land and resources in eastern India, 1980–2020 Sep 2022 Modern Asian Studies 56(5):1642-1671 Cambridge University Press
11. Uncertainty and environmental change 24 Dec 2021 The Politics of Climate Change and Uncertainty in India 55-82 Taylor & Francis Co-authors Damodaran V, D'Souza R, Dey S
12. Uncertainty and environmental change: Kutch and Sundarbans as environmental histories of climate change 23 Dec 2021 The politics of climate change and uncertainty in India 27-82 Routledge Co-authors Damodaran V, D'Souza R, Dey S... 3 more
13. H-environment roundtable reviews 25 Jul 2021 H-Environment 11(4):7-9 (3 pages) H-Net: Humanities and Social Sciences Online Co-authors Damodaran V
14. Climate, environment, and the colonial experience 18 Aug 2020 Geographies of knowledge: science, scale, and spatiality in the nineteenth century 215-234 John Hopkins University Press Co-authors Damodaran V
15. [Rebecca](#) Webb and Perpetua Kirby, *Creating with uncertainty*, 2023





33. . Vinita Damodaran and Rohan D'Souza, 2020, *Commonwealth Forestry & Environmental History: Empire, Forests and Colonial Environments in Africa, The Caribbean, South Asia and New Zealand*, Primus.

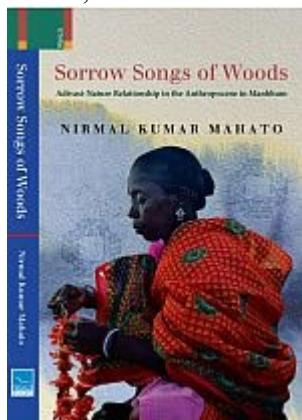


Contemporary anxieties about global warming and climate change impacts have unsettled the ways in which we think about environmental politics and human history. Intense discussions have already begun over whether we need to reconsider what we understand by the term ‘environmental change’ and if humans have truly become a ‘geo-physical’ force. Put differently, how should we recast our understanding of the planet’s varied environmental pasts in order to make sense of the Anthropocene present? This collection of 19 essays on forestry and environmental change in the erstwhile colonies of the British Empire—today comprising the ‘Commonwealth of Nations’—builds on Richard Grove’s quest for achieving a ‘global synthesis’ as efforts towards writing environmental histories on a planetary scale. The Commonwealth of Nations as a single environmental bloc for study, enquiry and historical scrutiny, explores connected environmental histories, compares dissimilar ecological regions and

debates ideologies for environmental management. Commonwealth Forestry and Environmental History is intended to enable conversations between environmental historians, foresters, sustainable development practitioners, policy makers and those keen on understanding contemporary politics brought on by concerns about climate change.

34. Nirmal Kumar Mahato, 2020, *Songs of Woods: Adivasi-Nature Relationship in the Anthropocene in Manbhum, Primus*.

*Sorrow Songs of Woods* focuses the fine and complex relationship between the Adivasis and nature in Manbhum. This book analyses the nature of colonial intervention in the ‘indigenous’ society and the politics of the identity formation of the Adivasis in relationship with the transformation of their community system and the state. It provides an empirically detailed and regional specific study on ethnic version of ‘ecological nationalism’ and seeks to locate the concept of indigeneity in terms of values, identities and knowledge systems, within a unified ‘indigenous worldview’.



20. Rohan D'Souza, 2020, “Event, Process and Pulse: Resituating Floods in Environmental Histories of South Asia”, *Environment and History* 26:31-50

The notion of the flood in South Asia is no longer solely characterised as the archetypal natural disaster. This perceptual shift, as this article will point out, draws from a conceptual shift within the field of environmental histories of South Asia. In the course of exploring and debating ideas about environmental change, environmental historians have drastically reconsidered the role and impacts of flooding in South Asia through three distinct narrative frameworks: (i) extreme hydraulic events; (ii) geomorphological process; and (iii) biological pulses. Environmental history as a field has thus helped to flesh out and radically revise our understanding of flooding, which has changed from previously being seen as an ahistorical calamitous event to instead providing contexts for revealing complex relationships between geomorphological processes, biological pulses and livelihood strategies. The notion of the flood in South Asia, consequently, is now acknowledged as an ecological force that is mediated by social, cultural and political interventions rather than exclusively borne out as an effect of nature.

21. Rohan D'Souza, 2020, Citizen, Consumer, User. Covid-19 and the Higher Education Churn in India, *JMC Review* 4.

As the infectious spread of the Covid-19 virus began to overwhelm people and governments across the world, higher education, unsurprisingly, has also been profoundly disrupted.

22. Gladson Dungdung, 2020, “India’s Coronavirus Refugees Are Also Development Refugees”, *Scientific American*, June 20 2020

The pandemic has increased the desperation of a population already facing economic exploitation and environmental destruction.

23. Iain Orr, 2020, “Covid-19 and islands (states, territories and sub-national island jurisdictions-SNIJs)” *BioDiplomacy*, June 2020,

An update in a revised format of a note started on 25 March – then updated every 5 days - with data from the Worldometer website on Covid-19 and islands.

24. Rohan D’Souza, 2020, “Zooming towards a University Platform”, *RAIOT*, June 2020

George Packer, journalist, novelist and a frequent contributor to *The Atlantic*, acridly concluded in a recent polemic that the “coronavirus didn’t break America”. Rather, the virus simply “revealed what was already broken”.<sup>1</sup> For Packer, the global pandemic in all its relentless fury actually laid bare Trump’s dysfunctional government within an already corroding and ailing society. The Covid-19 rampage, hence, was more messenger than the message.

25.. Alan Ziegler, Hanshe Lim, Robert Wasson, Fiona Williamson, 2020, “Flood Mortality on SE Asia: Can Paleo-Historical Information Help Save Lives?”, *Hydrological Processes*, December 2020.

26. F. Williamson, 2020, “Responding to Extremes: Managing Urban Water Scarcity in the Late Nineteenth-Century Straits Settlements”, *Water History*, October 2020.

27. F. Williamson and V. Janković, 2020, “A Question of Scale: Making Meteorological Knowledge and Nation in Imperial Asia”, *History of Meteorology* 9.

28. Gladson Dungdung, 2020, Coal Auction and Its Impact, *Adivasi Hunkar*, 25 July 2020.

29. Max Martin, Vinita Damodaran and Rohan D’Souza (Eds.), 2019, *Geography in Britain after World War 2: Nature, Climate, and the Etchings of Time*, Palgrave.

Contemporary anxieties about climate change have fuelled a growing interest in how landscapes are formed and transformed across spans of time, from decades to millennia. While the discipline of geography has had much to say about how such environmental transformations occur, few studies have focused on the lives of geographers themselves, their ideologies, and how they understand their field. This edited collection illuminates the social and biographical contexts of geographers in post-war Britain who were influenced by and studied under the pioneering geomorphologist, A. T. Grove. These contributors uncover the relationships and networks that shaped their research on diverse terrains from Africa to the Mediterranean, highlighting their shared concerns which have profound implications not only for the study of geography and geomorphology, but also for questions of environmental history, ecological conservation, and human security.

CWEH also run a series in world environmental history with Palgrave which has published 14 volumes to date. <https://www.palgrave.com/gp/series/14570>

### Recent Media

2024 Eco force project Tobago TV

<https://www.youtube.com/watch?v=R6E28M5B-vg>

2023 <https://www.youtube.com/watch?v=yS5C3NfHiAc>

The forgotten history of Cyclone science [https://www.historicalclimatology.com/features/the-](https://www.historicalclimatology.com/features/the-forgotten-)  
[forgotten-](https://www.historicalclimatology.com/features/the-forgotten-)

history-of-cyclone-science-lessons-for-the-climate-crisis

2022 <https://pmc.ncbi.nlm.nih.gov/articles/PMC9522357/>

2022 <https://3cs.ashoka.edu.in/events/healing-earth-conference-2022-2/>

2022 <https://citcem.org/en/working-session-with-researcher-from-the-university-of-sussex/>

July, 2021: BBC History programme interview with Damodaran on programme on Chipko.

<https://podcasts.podinstall.com/bbc-world-service-history-hour/202108071306-chipko-indias-tree-hugging-women.html>

February, 2021: Guardian interview with Prof. Vinita Damodaran on historical perspective on COVID-19.

<http://www.sussex.ac.uk/cweh/newsandevents?id=54715>

May 2020: Práticas da História interview with Prof. Vinita Damodaran on the history of environment and activism.

<https://praticasdahistoria.pt/article/view/21842>

Feb 2020: Smithsonian Magazine interview with Prof. Vinita Damodaran on E.K. Janaki Ammal, early 20<sup>th</sup> century female Indian botanist.

<https://www.smithsonianmag.com/science-nature/pioneering-female-botanist-who-sweetened-nation-and-saved-valley-180972765/>

## Current Partners

See [www.sussex.ac.uk/cweh](http://www.sussex.ac.uk/cweh) for more details.

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### **Appendix: School Project Report By Dr Anandita Saha**

Environmental literacy is essential to empower the children particularly in a climatic hotspot like the Sundarbans. This is the basis of our innovative school project the Mangrove school project in the region inspired by an interdisciplinary team of educationists, historians, anthropologists and visual artists. The delta region is affected by changing weather and climate conditions including floods and cyclones. The children of this region have frequently experienced climatic vulnerabilities every year. They are quite acquainted with such kind of uncertainties. Since 2020 year the children of the Sundarbans have experienced a completely different kind of uncertainty due to COVID pandemic which has severe effects not only on their lives but also on the livelihoods of their parents. Most of the people of Sundarbans who are tenant cultivator, fish folk, wage and migrant labourers have lost their job due to prolonged lockdown. It has become challenging for them to arrange their own bread & butter. The super cyclone, Amphan added to their grief and has made it difficult to maintain their livelihoods.

#### **Mangrove school project**

As the voice of the community is reflected in the voice of the children, we have selected children as our target group from two vernacular co-education schools – one from Raidighi island and the other from Gosaba island of the Sundarbans for our research work. The ages of these children range between 12 to 18 years. We have selected 50 children randomly from each school maintaining gender equality. Fortunately, we were able to assemble (coincidentally) a mixed group of participants who are members of different communities & economic strata. This initiative has helped us (i) to document the voices of the children experiencing uncertainty and climate change in the Sundarbans for the purpose of reimagining their future, (ii) to bring children's voices in conversation with expert voices to co-produce and re-shape knowledge, and also to reframe debate and marginality about uncertainty and climate change.

To capture the perceptions of the school children regarding uncertainty & climate change we planned to organise two introductory engagement sessions. We also plan to organise a combined workshop for bringing the voices of the children into conversation with expert voices to co-create knowledge that will help build community resilience and reduce poverty by exploring alternative livelihoods.

The bottom-up methodologies that we have adopted to document the uncrafted stories of the school children are the collection of oral narratives, visual narratives & written narratives. We emphasized the visual and written narratives as the children were unfamiliar with the virtual platform. They have produced some stunning creative artefacts that reflect their own views/thoughts/feelings/ responses to uncertainty & climate change. We have had to interact with the children remotely because of the present pandemic situation. It is clear from such interaction that most of the children are reluctant to follow the occupations of their parents. They want to avail better opportunities for more secure livelihoods in the future.

Since the interaction with the children took place after the super cyclone Amphan and during COVID we have seen that most of the reflections were around these two events. What follows is a children's view of their watery world and its challenges.





Red

## Alert

- A 15 years old, 10<sup>th</sup> standard student has painted this image. Her father is an Insurance Company agent. Her family belongs to a Hindu upper caste.
- She depicts this image as a rise in sea levels because of the gradually increasing temperature of the earth's surface. The image of sand glass timer signifies the global climatic distortion and the beginning of the countdown to the end of the earth and its change in colour from green to yellow.
- Effect of climate change is very pronounced on plant & animal kingdoms.



## Desperate attempt for survival

- A 16 years old 10<sup>th</sup> standard girl belonging to a Hindu upper caste has painted this image. Her father is a farmer by profession.
- As she notes, since flooding often occurs in the Sundarbans the local people are always under fear of losing their livelihoods. Here, the people are desperate to survive and escape from the severe water-logging situation by building rafts from banyan trees and carrying people and animals in search of a safe shelter.



## Life & uncertainty

- A 10<sup>th</sup> standard student of 16 years age has drawn this image. Her father is a doctor who belongs to a Hindu upper caste.
- Many migrant labourers died on the road while returning home due to exhaustion and fatigue and did not receive any support of any kind or get medical assistance. This image depicts bleeding feet which reflects the death of labourers while travelling. Their jobs have become uncertain as well and they had to travel while also facing a scarcity of food and water.



## Global Warming

- A 16 years old student belonging to a Hindu upper caste has drawn this image.
- The image depicts that our mother earth is exhausted. Image of the thermometer signifies increasing temperature of the earth's surface rapidly. So ice bag is kept on her head to reduce the temperature of the earth's crust.



## COVID 19 – A Disastrous Scenario

- A 7<sup>th</sup> standard, 14 years old girl has drawn this image. Her family belongs to a Hindu upper caste. Her father works in the forest department.
- This image depicts that people are dying due to the deadly effects of the Corona virus. Image of mask on the feet signifies that people are unable to avoid their present uncertainty & sacrifice their lives.



## Dying hope of the youth

- A 17 years old student of 12<sup>th</sup> standard has drawn this image. His father is a serviceman, belongs to a Hindu tribal group.
- This image depicts that the youth study hard in order to secure jobs to earn a better livelihood. But due to COVID, they can't find jobs which is forcing them to lose hope despite being highly qualified. The image of the fairy & human skulls signify that everyday their hopes are dying.

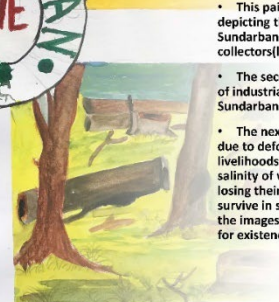
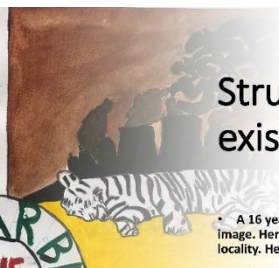
## Naked truth of COVID 19

- A 12<sup>th</sup> standard, 17 years old student has painted this image. His family belongs to a Hindu upper caste. His father is a tenant cultivator.
- Here a homeless man who has no cloth to wear but uses a mask to cover his face to protect himself from infection of Corona virus.
- His feet are tied with a chain which signifies his inability to move anywhere for food & shelter.



## Protect us from evil

- A 16 years old, 9<sup>th</sup> standard boy who belongs to a Hindu tribal group has painted this image. His parents are wage labourers.
- In Indian Mythology, Goddess Durga is the symbol of power and she protects us from all harm and agents of evil. This picture depicts Goddess Durga and her children protecting the earth from the present day evil in the form of Corona Virus.



## Struggle for existence

- A 16 years old 10<sup>th</sup> standard girl has drawn this image. Her father has a small grocery shop in their locality. Her family belongs to a Hindu upper caste.
- This painting displays 4 different images depicting the various aspects of livelihood in the Sundarbans. The first image shows honey-collectors(local name – 'Mouls') gathering honey.
- The second image shows that due to the effects of industrialization the biodiversity of the Sundarbans is vastly affected.
- The next image shows the cutting down of trees due to deforestation which is affecting the livelihoods and biodiversity; and, due to increasing salinity of water the fish collectors are in peril of losing their existence as the fish are unable to survive in saline water(clockwise from above). All the images are linked to one cause i.e. the struggle for existence of all living beings in the Sundarbans.

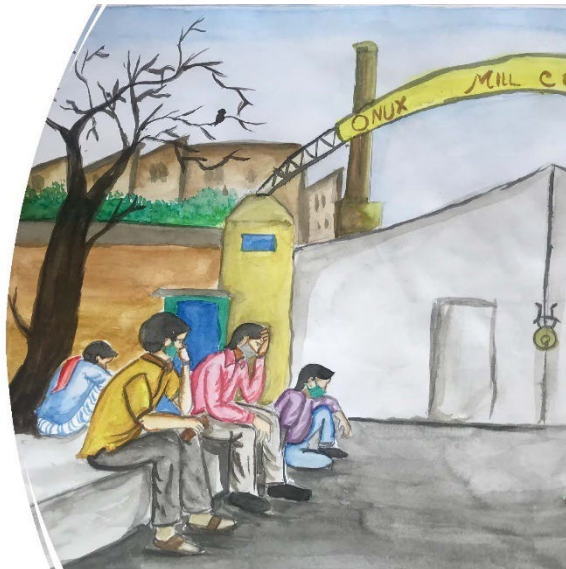


## Shattered lives

- This image has been painted by a 16 years old 11<sup>th</sup> standard girl. Her father is a labourer. Her family belongs to a Hindu upper caste.
- The person in the image who is lying on the ground is fighting for survival due to scarcity of food and water. The empty broken plate depicts that the poor people of entire country is suffering due to paucity of food and is trying to survive.

## Unemployed due to pandemic

- A 12 years old 7<sup>th</sup> standard child has painted this image. His father has a small stationary shop at their locality. They belong to a Hindu upper caste.
- Due to the pandemic, some factories are shut down and many workers lost their jobs. There is a dual uncertainty as there are no jobs in the market and the people who have lost work are struggling to feed their families and because of the pandemic their lives are at risk as well.



## Cultural diversity of the Sundarbans



This image is painted by a 17 years old 12<sup>th</sup> standard student whose father has a small shop. His family belongs to a Hindu upper caste.

This image reflects the social, economic, religious and cultural aspects of the Sundarbans. One of the images highlights the cultural dimension of the people performing their local dance art and in another image we find their social practices.

In one particular image it is shown that the local people worship their Goddess 'Banbibi' before they enter the forest in expectation of being protected by her.

It is illustrated by a couple of images in the painting depicting the geographical location of this rich heritage sight and their beautiful biodiversity.

The economic life of the fish folk of the Sundarbans is depicted here, who risk their lives each day to catch fish wherein lies the danger of the tiger on land and crocodiles in the water; also there is fear of tigers amongst the honey collectors.

Now all aspects of the Sundarbans are under threat because of various factors such as climate change, deforestation, industrialization etc. Mother Earth as well as the people of the Sundarbans are pleading to the creator to protect the Sundarbans from this state of sorrow.

It is clear from the outcome of the engagement session that children of the Sundarbans are quite anxious about their future. At present time they are suffering from dual uncertainty - climatic vulnerability & pandemic. They are now hoping for alternative livelihoods which would help them to arrange their own bread and butter instead of getting used to these uncertainties. The children are looking for change and are seeking to transform themselves and their conditions by adopting new methods and implementing new learnings. They are trying really hard to lead better lives and make their land into a better place by turning the tide in their favour. They are asking to be taught new things and techniques in order to be able to break from the tradition of inheriting their parents' profession and build better lives for themselves and their families.

Some key questions for us co-creating transformation:

- The paintings invite audiences (whoever they might be e.g. policy makers, scientists, planners) to respond in two overarching ways to the images/text, that demand them to situate themselves in relation to the art and the artists, and what is being conveyed.
- What is this to me? What does it mean to me? How do I read this beyond climate change as a scientific fact? What am I learning from this 'artist' that I didn't know before, and that it wouldn't be possible to know if not presented visually?
- What am I to this? Where am I in this story? What does this demand of me as human being? Consumer? Professional? Citizen? Academic?
- It is only in this way that transformation can be achieved?

Our current work on Nature as curriculum; education for the Anthropocene which we inaugurated at Sussex university in March draws on these two earlier grant projects Mangrove school project with Tapestry Project IDS

<https://www.sussex.ac.uk/cweh/newsandevents/mangrove>

Hope in the Present with Sussex University

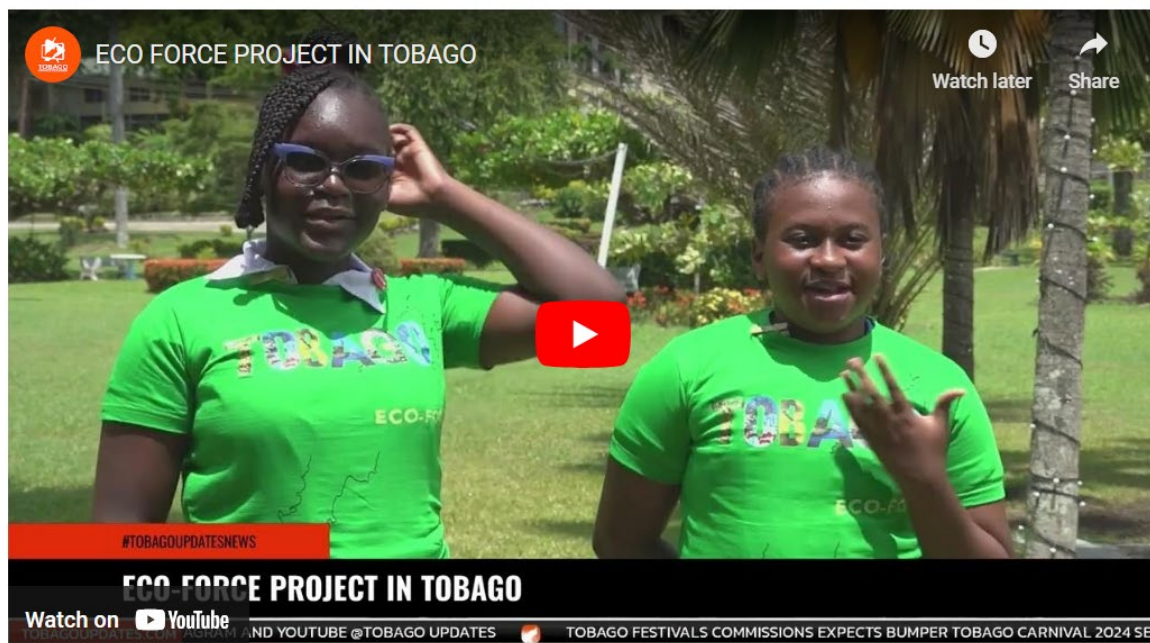
<https://www.transformineducation.org/blog/hope-in-the-present>

Both these projects focused on youth and children and their interactions with their environments and using visual methodologies to understand climate change in marginal contexts such as the delta regions of India. Our current project funded by AHRC impact acceleration fund now hopes to build on this work and take it to other marginal environments such as fragile island environments. The Mangrove project captured the oral and visual narratives of children navigating the uncertainties brought about by climate change in the Sundarbans. Through various artistic expressions such as paintings, tapestries, posters, batik, tie and dye, and block printing, these children convey life in the region. The project argued that fostering co-literacy and co-production of knowledge is crucial in empowering youth who, having witnessed the precarious lives of their parents amidst natural and man-made disasters like cyclones and floods, aspire for transformative change. By clearly articulating the past, present and future of the delta the children provide a vision of an environmentally sustainable future in the face of the current climate induced crises in the delta. Through this project we have organised exhibitions, conferences and workshops in a range of delta island contexts addressing 250 children in remote islands such as Bali Island. Through our Batik workshops we have enhanced the livelihood capabilities of the children.

### **The Tobago Eco force project**

Recently we have taken the Mangrove school project to Tobago. We had a very successful Workshop titled *Nature as Curriculum: Engaging with School Children in dialogues on the environmental history and Natural heritage of Tobago*. Between 09-09-2024 and 12-09-2024 in Tobago a range of stakeholders, Environmentalists, Botanists, foresters, Teachers, School Children numbering 50 school children and 50 teachers, educationists, scientists, council members, administrators and NGOs participated in 2 workshops, art work, a conference and an exhibition. Speakers included Rita Pemberton, Anindita Saha, Shane Ballah, Stuart Peters Angelos Theocharis. This was part of an AHRC impact event and was widely attended. It met all the impact criteria as it brought together a network of school children, activists, scientists and scientific institutions such as the Tobago botanic garden and the Main ridge forest reserve in conversation about the importance of bottom up approaches to forest and plant conservation. The university of Sussex was seen as pioneering in this approach and made national TV

<https://www.youtube.com/watch?v=R6E28M5B-vg>



## Appendix2

2

## Fourth World Action

*small actions, lasting impacts*

Dear Prof. Vinita Damodaran and Trust members,

This report is about the project Ekta Niketan for which Fourth World Action are grateful for the generous donation of £3,500 made by your Trust.

You will know that the project Ekta Niketan, a community tuberculosis (TB) programme, aims to control tuberculosis with a holistic approach – biomedical as well as social and societal determinants of the disease. For a disease like tuberculosis, security of food, shelter and social and environmental factors are equally important as the standard anti-tubercular drugs.

In order to reach out the surrounding marginalised communities, Ekta Niketan operates in a remote adivasi (indigenous) village in the state of Jharkhand, India. Unlike other TB centres – governmental and non-governmental, the centre is entirely run by a group of villagers who are much the same as their patients, sharing a common culture, language, education and economic conditions. After years of training, trials and practice, the group of villagers are now well trained to diagnose tuberculosis clinically, examine sputum samples under a microscope and to dispense anti-TB drugs correctly. The TB centre, established three decades ago, is now a well-managed centre for the treatment of tuberculosis that saves lives. The government TB programme at the state and local levels appreciates the work and provides medical supplies free of charge. We are proud what we have achieved with minimum resources.



### Social and societal determinants and Ekta Niketan

Despite the achievements mentioned above, Ekta Niketan is far from controlling the spread of tuberculosis effectively. This is because Ekta Niketan is not able to address 'beyond medicine' issues as effectively as it has with clinical diagnosis and treatment. Food, nutrition and agriculture; awareness and education; access to essential services, improving the economic conditions and safe environment, and above all, inequalities and discrimination in the society are beyond the scope of a small initiative like Ekta Niketan.

Yet the TB centre makes efforts to meet some of these 'beyond medicine' issues. Your support has enabled Ekta Niketan to address some of the social issues in a systematic way. This brief account below describes how we have utilised the funds during 2021-22. It is as such not a full report of the Ekta Niketan TB programme. For such a report, "Ekta Niketan – unlike other TB Centres", please visit <https://ekta-niketan.fourthworldaction.net>.

In addition to standard diagnosis and treatment, Ekta Niketan health workers assess the nutritional status, food security, occupational impacts and the support mechanisms available to each individual affected with tuberculosis. Based on such assessments, Ekta Niketan provides 1) nutritional supplement to selected individuals during the course of his/her treatment; 2) conduct tuberculosis awareness sessions with patients and family members on a regular basis; also, 3) involve authorities

*an initiative to  
reach out  
adivasi and  
other  
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populations in  
India  
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a world  
of the  
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and  
the neglected*

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Charity registration no: 1043264

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and health professionals in discussions on tuberculosis and marginalisation and impacts on mining and migration; and lastly, 4) promote dignity and cultural identity of the marginalised, adivasi and non-advasi, it works with.

1. **Nutritional supplement to selected TB patients:** TB patients in rural India, particularly areas where we work, are mostly poor and undernourished. It is documented that the average weight of people with TB is 30–35 kg; Ekta Niketan report confirms that. We have allocated a third of the funds made available (approximately £1000) for undernourished patients with significantly low body weight and/or economically heavily burdened families, and provided them with cash to procure nutritional breakfast before taking their daily anti-TB medicines for six months. [see below the details of the utilisation of funds]



2. **Tuberculosis awareness sessions - once a month:** During 2021–22, Ekta Niketan has conducted short sessions with patients and family members when they came to collect their monthly medicine packs on the first Saturday of each month. An information booklet explaining the disease, its spread and prevention measures is provided with those who are able to read.



3. **TB, Women, Migration and Adivasi identity meetings:** During the period, the following meetings with community organisations, village leaders, public health experts and local government representatives were organised to discuss the *Political Economy of TB; TB and Women* (7–8 March 2022); to observe the Adivasi Divas or the *International Indigenous People's Day* (9 August 2022)



4. **Jharkhandi Giti Riti Centre (Jharkhand's Music Culture Centre):** On 21 June 2022, Ekta Niketan committee opened the 'music-culture centre' in the premises of the TB centre. The music-culture centre though in its preparatory stage has clear activity plans during 2022–23 [for the details, please contact Sunita Murmu at [ektaniketan.centre@yahoo.com](mailto:ektaniketan.centre@yahoo.com)]. In order to manage the activities, the Ekta Niketan committee has set up a self-help group (SHG), and started raising funds. We have allocated a third of the funds, approximately £1000) to help establish the centre.



A combination of factors, namely the lack of capacity of Fourth World Action to raise funds to meeting additional needs, non-disbursing of funds promised by the government, and the limited capacity of the Ekta Niketan committee in fundraising, have all resulted the project is in a critical financial situation. Nevertheless, Ekta Niketan will continue and hopefully we will get out of the current crisis. In the near future.



Ekta Niketan is a model to learn and practise tuberculosis intervention in innovative ways. As I conclude this report, I would like the Trust to consider releasing the rest of the pledged £10,000.



PAGE THREE

**Utilisation of £3,5000 during 2021-2022:**

1. Nutritional support to critically ill patients: [25% of TB patients of the total 600 patients, 150 individuals, receiving Rs 120/- (£1.3) a month for six months, to help procure nutritional breakfast]	<b>£1,170</b>
2. Music-culture coordinator (also TB centre coordinator) [Rs 8000/- (£88) per month for twelve months]	<b>£1,056</b>
3. Equipment (audio-recording) for the music-culture centre [Personus audio recorder; Zoom H5 recorder; microphones and cables]	<b>£525</b>
4. Adivasi culture and TB events/discussions [TB migrants/economy meeting; Intl. Indigenous Day event; Music-Culture Centre opening]	<b>£650</b>
5. TB information booklet (in Hindi) to distribute at monthly meetings	<b>£100</b>

**TOTAL £3,501**

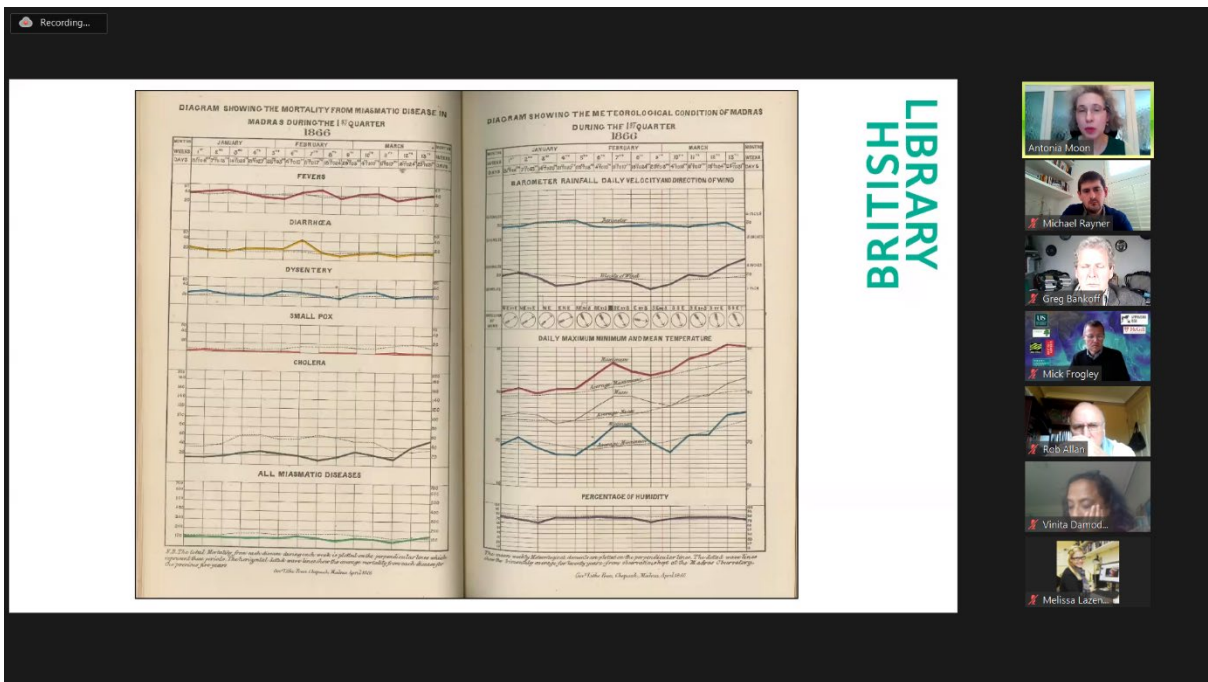
**Appendix 3: Report on Appraising Risk Partnership: 1st Summer School Workshop**  
**Title: Climate of the Indian Ocean World: Past and Present**

The Appraising Risk Partnership's 1<sup>st</sup> Summer School Workshop was conducted on the 26<sup>th</sup> and 27<sup>th</sup> May 2022 via Zoom. It was organised by the Centre for World Environmental History (CWEH) at the University of Sussex, as part of the Appraising Risk Partnership funded by the Canadian Social Science Research Council and with collaboration from the McGill University, the British Library, the University of Hull and the Met Office. 44 participants, mainly early career researchers, registered for the sessions from India, the Philippines, Indonesia, Germany, U.K, Australia and Canada. Attendance for each day was good, with approximately 45 attendees on each day (including the 7 speakers/organisers).

The theme of day 1, chaired by Vinita Damodaran was "Environmental Archives". The first half comprised 3x 20-minute presentations from Antonia Moon (British Library), Rob Allan (Met Office) and Greg Bankoff (University of Hull/University of Sussex), entitled respectively, "Some sources for meteorology in the India Office Records and related collections", "ACRE's experiences with Indian Ocean World archives and their uses" and "Climate and the Environmental Historian". The second half comprised a 40-minute workshop that drew on some of the themes from the presentations, run by Vinita Damodaran and Mike Rayner. The participants had been given 9 primary source extracts, relating to 3 case studies, in advance of the session, as well as secondary source material for optional further reading. The case studies related to (1) the 1864 Calcutta Cyclone, (2) the 1877-1878 El Niño and Madras famine, and (3) the 1944-1945 Pacific Typhoon. In break-out rooms of 4-5 participants they were instructed to discuss one of the case studies and answer questions about the sources. A padlet was provided as a platform to exchange ideas/ask questions, and each group was asked to share their conclusions with the larger group at the end.

The theme of day 2, chaired by Mick Frogley, was "Climate of the Indian Ocean World: practical application". The first half comprised a demonstration by Melissa Lazenby of the KNMI Climate Explorer software (<https://climexp.knmi.nl/start.cgi>), exploring data from the Calcutta Cyclone case study. In the second half, participants were divided into breakout rooms of 5-6 participants, and were given exercises to complete using KNMI based on either case study 2 or case study 3. Following this, each group was asked to talk about their experiences with the exercises and their ease in using KNMI. After the session on day 2, participants were debriefed and given a chance to share feedback on the Summer School and suggestions for future improvements. Feedback was largely positive, with participants saying that they appreciated the structure of the sessions and the interdisciplinary nature of the content. Historians in the group were particularly enthusiastic about the KNMI software introduced in day 2. A number of participants indicated that future summer schools on GIS would be beneficial, as well as more of a focus on ethnographic knowledge and mapping of indigenous ecological knowledge. One participant said that she would like more sessions on how to interpret the climate data, and another said that he would like to see something on citizen science. There was also a discussion on the importance involving other stakeholders in the workshops, like community leaders, practitioners, NGO staff, community-based organizations, rather than only academics.

All of the presentations from day 1 were recorded and will be made available to the participants and on the CWEH website, as well as the slides from both days. This was a very successful international summer school that effectively piloted online workshops across continents. We have had very good feedback on the meetings and hope that we have set the standard for future summer schools under this partnership.



Pictures

Figure 1. Day 1: Antonia Moon presenting "Some sources for meteorology in the India Office Records and related collections".

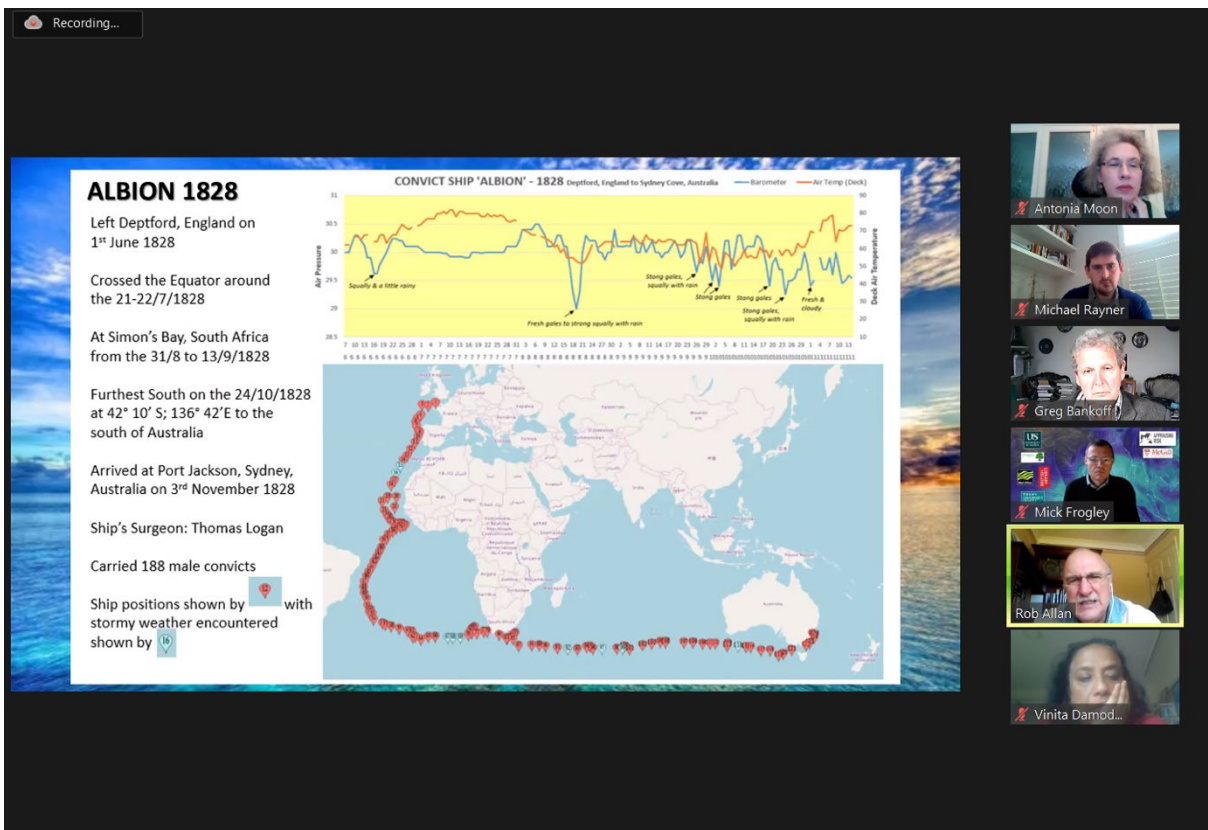


Figure 2. Day 1: Rob Allan presenting "ACRE's experiences with Indian Ocean World archives and their uses".

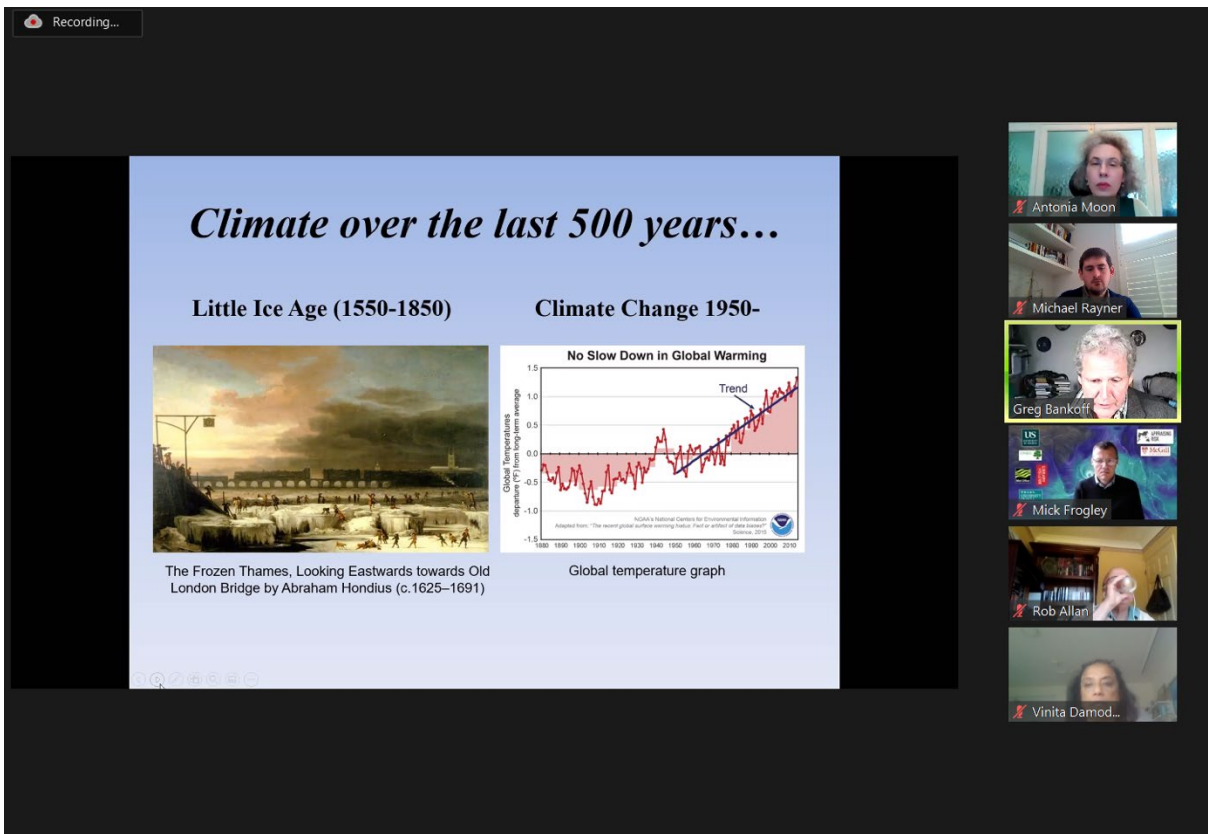


Figure 3. Day 1: Greg Bankoff presenting "Presentation: Climate and the Environmental Historian".

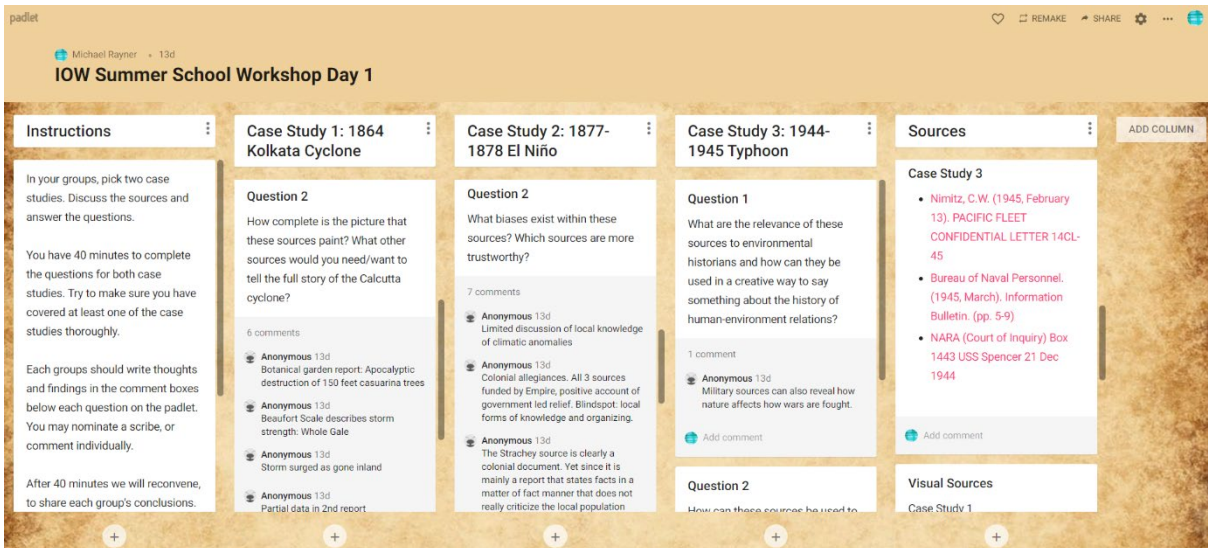


Figure 4. Day 1: Padlet used for workshop on "Environmental Archives"

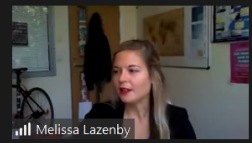
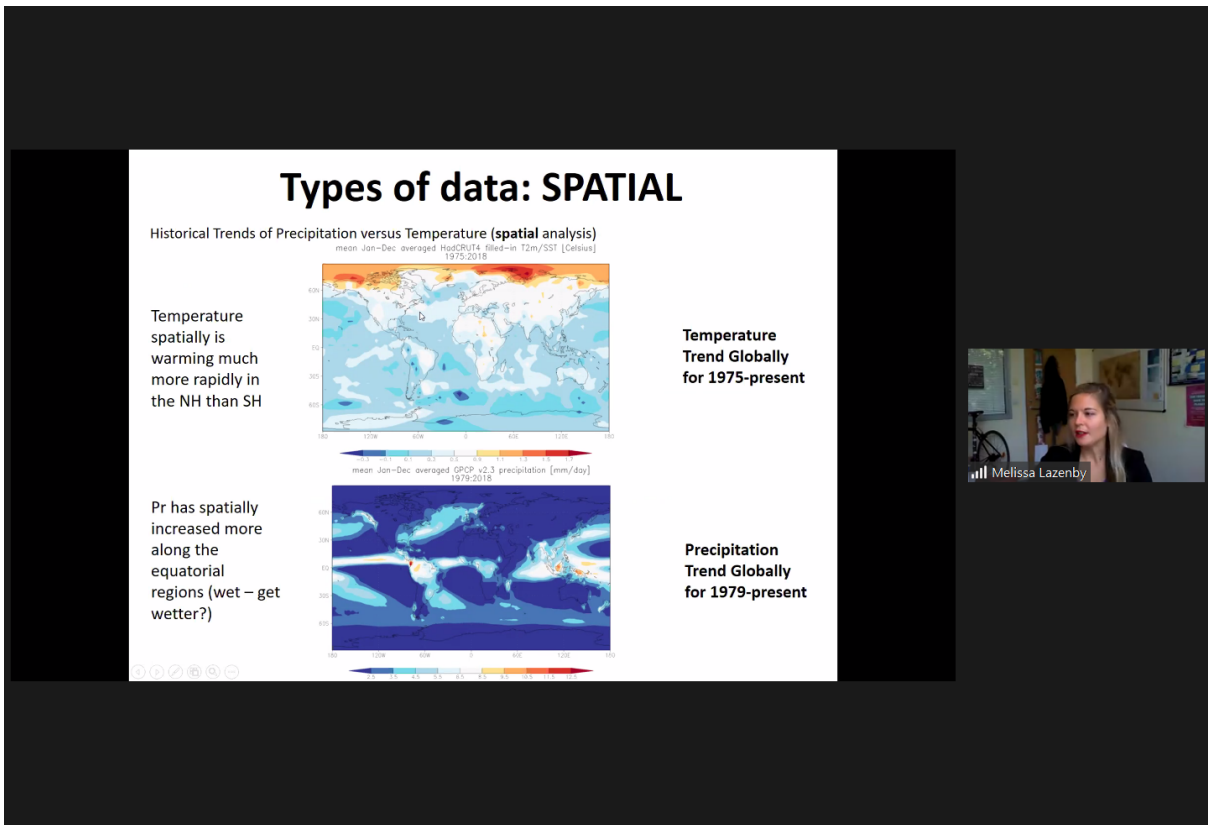


Figure 5. Day 2: Melissa Lazenby demonstrates the use of KNMI software.

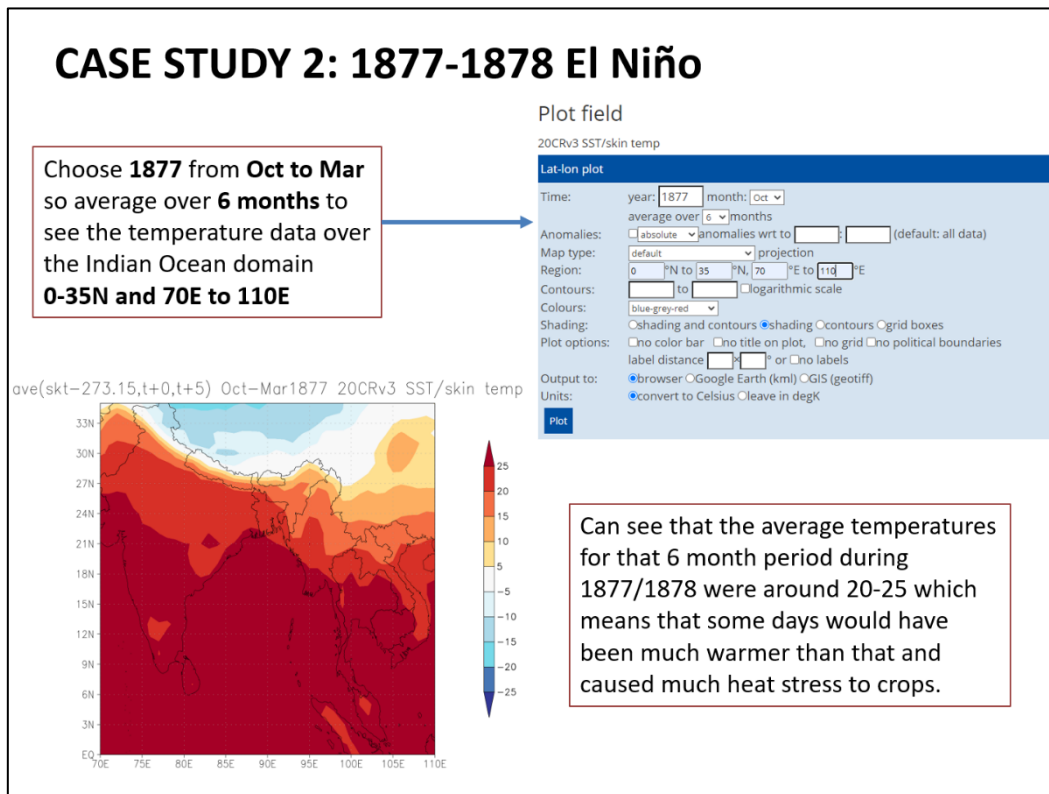


Figure 6. Day 2: exercise for case study 2, demonstrating average temperatures in the Bay of Bengal for a 6-month period during the El Niño.