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 located across History and Geography.

The Centre has a Director, Research Director, Faculty Associates, Visiting Research Fellows and 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. 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 has recently launched 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.

www.sussex.ac.uk/cweh
CWEH Director

Prof Vinita Damodaran (HAHP)

CWEH Advisory Board

Dr Antonia Moon Curator India Office records, British Library
Professor Deepak Kumar, Professor Emeritus and Historian of Science, JNU
Professor Mark Elvin, Professor Emeritus, ANU
Professor Rob Allan, Met office U.K.
Prof Alan Lester (Global Studies)
Dr Mick Frogley (Global Studies)
Dr Rohan Dsouza (Kyoto University)

The centre runs five networks:

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

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;

Sumanas Kalyogi- Khadi Industry in India
Saumya Ranjan Nath- The Kondhs and resistance against mining in Orissa
Preetix- Histories of Indian agriculture
Nandima Angom- Indigenous women’s movement in India’s borderland
Mike Rayner- History of Indian genetics
**Blog Posts, 2018-2019**

Debjyoti Das, 3 December 2019, ‘Swidden Farming’ in eastern India: What can an ethnographic study reveal about citizens’ interactions with the colonial and post-independent Indian state? A post from South Asia @ LSE - LSE's engagement with South Asia, 15 November 2019

“My Work Is What Will Survive”, A blog post from the Natural Sciences Collections Association, 12 November 2019

Stuart Richard Peters, Water Scarcity: How the South is caught up in the eye of the storm, 10 July 2019

Stuart Richard Peters, From Low-Carbon Economy to Zero-Carbon Economy: Why It Can’t Come Soon Enough,

13 June 2017, Rose named after Janaki Ammal, A blog post from the John Innes Centre

Stuart Richard Peters / Rohan D’Souza, 13 June 2019, Industry 4.0 and the Environment

5 March 2019, The Transition to a Low-Carbon Economy: It's Not What it All Seems?

Stuart Richard Peters, 20 December 2018, Botanical Drawings made in Nepal for Nathaniel Wallich in 1821 by Vishnupersaud and Gorachand

Henry Noltie, A blog post for Botanic Stories, Royal Botanic Garden, Edinburgh, 20 December 2018, Francis Buchanan’s Bengal Survey botanical drawings and specimens reunited after 203 years

Stuart Richard Peters, 8 November 2018, Supergrid Update.

**CWEH activists blog**

Contributes to promote the cause of indigenous peoples around the globe, highlight issues of human rights, justice, social and gender equality, holistic development, provides an up-to-date report on the regions and people we support and shares workshops, conferences, field work and current events.
• Saranda villages assert Forest Rights Act in rejection of allocation of coal blocks on their land
  Roger Moody, 21 March 2018

• ASIC takes action against Rio Tinto and its former CEO and CFO for misleading and deceptive conduct
  Roger Moody, 20 March 2018

• Atrocities against women and girls as tool for "devil-worshippers" cleansing
  Carol Yong
  26 January 2018
“Oui, we buy!”
The French Connection in the “crop-apartheid” affair
Carol Yong, 26 January 2018

Shifting Positions or: Wooing smallholders in advance of upcoming national elections?
Carol Yong
26 January 2018
Dams, resettlement and experiences of indigenous peoples in Malaysia
Carol Yong
19 January 2018

Recent Funding and Ongoing projects

1. **2018-22** Belmont Forum and Norface. *TAPESTRY, Transformations to Sustainability*, EU 2020
2. **2018-2025** Canadian Social Science Research Council. *Appraising risk, past and present: interrogating historical data to enhance understanding of environmental crises in the Indian Ocean World*. Partnership grant with McGill University, Canada (approximately 500,000 CANS).
4. **2017-2018** Canadian Social Science Research Council. *Human-Environment Interaction in the Indian Ocean World*. Primer grant with McGill University, Canada (approximately 20,000 CANS).
5. **2017-2018** Norwegian Social Science Research Council. Grant for a project on climate and uncertainty in India with IDS, Sussex (Approximately £40,000).

News

2019 *El Niño in World History* wins Atmospheric Science Librarians International award

The book *El Niño in World History* by Richard Grove and George Adamson has won an award. The Atmospheric Science Librarians International (ASLI) has selected the book to receive a 2018 ASLI’s CHOICE Honorable Mention award for an historical monograph related to atmospheric science. The award
was announced and presented at its 22nd Conference on January 10 at 1:00 PM in the Phoenix Convention Center in Arizona. This event was held in conjunction with the 99th Annual Meeting of the American Meteorological Society.

2018-2019 Sussex collaboration with British Library and Met Office as part of the MOU signed to understand environmental change in the Indian Ocean continues with Rob Allan of the Met office and Dr Moon of the BL working closely with CWEH with regard to publications and grants.

2018-2019 The Kolkata School project to bring school children to the Kolkata botanic garden is continued by the Botanical Survey of India for one year and continues to be very popular with school students, teachers and BSI scientists.

2018-2019 Following recent meetings convened by Centre for Environmental History, attended by Dr Paramjit Singh, Director of the Botanical Survey of India, who was also welcomed by the Asia Scotland Trust at a reception in the Botanic Cottage in the Royal Botanic Garden Edinburgh in May 2017 there is a major funding initiative to conserve Roxburgh House and herbarium in Kolkata. This initiative is now been carried forward by BSI’s new director Mao in conjunction with the Roxburgh International hub and CWEH.

**Recent select publications**

[https://www.palgrave.com/gp/series/14570](https://www.palgrave.com/gp/series/14570)

Palgrave Studies in World Environmental History

Damodaran, V. (Ed), D’Souza, R. (Ed), Sivasundaram, S. (Ed), Beattie, J. J. (Ed)

*Biofuels’ unbalanced equations: Misleading statistics, networked knowledge and measured parameters: Part 2. Networks, consensus and power*

International Review of Environmental History: Volume 5, Issue 2, 2019

The independence of claims that biofuels can mitigate climate change is assessed using environmental history. The development of professional and institutional networks that produced both energy demand models and soil, land and terrain databases and models is traced, and the acquisition of significant unacknowledged social power is examined. Data literacy’s critical perspective identified sources of embedded distortions, unacknowledged bias and inherent weaknesses. Claims of the robustness, accuracy, objectivity and originality of globalised analyses in general, and global biofuels projections in particular, are challenged. The effectiveness of policy based upon these results is discussed.
Synchronous droughts and floods in the Southern Chinese Loess Plateau since 1646 CE in phase with decadal solar activities


Comparison of *Sporormiella* dung fungal spores and oribatid mites as indicators of large herbivore presence: evidence from the Cuzco region of Peru.


A 1000-year-long documentary record of the lower Yellow River ice-jam floods and its climatic implications


The Yellow River floodplain is a low-lying landmass, which is remarkably susceptible to excessive precipitation and prone to floods. Therefore, it has a strong association with calamity and has traditionally been regarded as "China's sorrow." Also, given its immense ecological, societal, and economic importance, the Yellow River floodplain contributes significantly to human welfare, which has colloquially known as the birthplace of Chinese civilization. Therefore, a deeper understanding of flooding frequency in this area is especially important for the assessment of socio-economic risks associated with future climate changes. The late 20th century contained a number of catastrophic floods in the lower Yellow River, which has exerted devastating impacts on the human livelihood. However, the long-term context of apparently anomalous flooding events witnessed in recent decades has received very limited attention.
To better understand the nature, evolution, and driving mechanisms of river floods, it is widely recognised that the instrumental time series should be placed within a longer time framework. Here we present a 1000-year-long documentary record of ice-jam floods of the lower Yellow River by compiling flooding events in terms of levee breaches and overflows during the early spring months as documented in official dynamic histories. A time series with a yearly resolution was formed by using a binary expression with "1" denoting the presence and "0" the absence of flooding event for a year. The flood frequency is computed by convolution with a 31-year-wide window. Our results reveal an increasing frequency of ice-jam floods since AD 1855 when an avulsion occurred, and the river shifted northward to its current channel. As the occurrence of the ice-jam floods is essentially induced by a deepened temperature gradient between the inland and maritime region in the lower Yellow River area during the early spring months (January-March), we ascribe the increasing frequency of ice-jam floods to the prolonged negative phase of ENSO (i.e., La Nina). Our finding implies the global teleconnection of terrestrial hydrological systems to the ENSO cycles.

Biofuels’ unbalanced equations: Misleading statistics, networked knowledge and measured parameters

Kate B. Showers

In International Review of Environmental History: Volume 5, Issue 1, 2019

Biofuels were central to the European Union’s early twenty-first-century responses to Kyoto-mandated carbon emissions reduction. This paper, the first part of three, traces the evolution of eight globalised soil, land and terrain databases and models underpinning global biofuels research. Central to the discussion are examination of the meaning and power of numbers; the significance of homogenising and harmonising data; and the decline of data quality inherent in derivation. The relevance of globalised model-based analysis for practical policy formulation and local implementation are discussed.

A Cultural History of Famine; Food Security and the Environment in India and Britain, 1st Edition; ed. Ayesha Mukherjee
A Cultural History of Famine. The term "food security" does not immediately signal research done in humanities disciplines. It refers to a complex, contested issue, whose currency and significance are hardly debatable given present concerns about environmental change, resource management, and sustainability.

The subject is thus largely studied within science and social science disciplines in current or very recent historical contexts. This book brings together perspectives on food security and related environmental concerns from experts in the disciplines of literary studies, history, science, and social sciences. It allows readers to compare past and contemporary attitudes towards the issues in India and Britain – the economic, social, and environmental histories of these two nations have been closely connected ever since British travellers began to visit India in the latter half of the sixteenth century. The chapters in this book discuss themes such as climate, harvest failure, trade, technological improvements, transport networks, charity measures, and popular protest, which affected food security in both countries from the seventeenth century onwards. The authors cover a range of disciplinary and interdisciplinary approaches, and their chapters allow readers to understand and compare different methodologies as well as different contexts of time and place relevant to the topic.

This book will be of great interest to students and researchers of economic and social history, environmental history, literary studies, and South Asian studies.

Also in 2019


**Recent seminars and workshops organised, 2019**

**Rebuilding ‘Riskscapes’: post-flood Kerala 2018**

Thursday 10 October from 17:30 until 19:00

Ravi Raman (State Planning Board, Kerala, India)

**Disruption by Dams**

Wednesday 2 October from 15:00 until 18:00

Felix Padel

**Women, Militarisation and Trade in North–East India’s Borderland Area**

Thursday 27 June from 14:00 until 17:00
CWEH Activists and Academia Forum events

Nandima Angom and David Lillian Thangsing (School of Global Studies)

**How to Steal a Forest - Investigating Extractivism in India**

Saturday 8 June from 14:00 until 17:00

Chitrangada Choudhury with Felix Padel and Vinita Damodaran

**Artists Environmental Justice Now**

Wednesday 1 May from 10:00 until 18:00

Attenborough Centre for the Creative Arts, University of Sussex

CWEH Activists and Academia Forum events

**Mining Affected Communities from Odisha to Zambia**

Friday 1 March from 14:00 until 17:00

Samarendra Das and Suravee Nayak

Politicised Pollution, Land Grab, Mine Workers in Disputes

**Beyond the Indian Ocean: Inter-Asian Environments from the Hindu Kush to the Himalayas - Future Research Agendas**

Wednesday 17 October from 13:00 until 14:30

Shah Mahmoud Hanifi; Magnus Marsden; Vinita Damodaran

**Talks and Activities of CWEH members**

Vinita Damodaran gave the following talks

October 2019, Keynote address, Climate signals, Famine and livelihoods from 17th to 19th century India, Institute of Contemporary History, Lisbon

June 2019, Forests, heritage and history, Manchester
May, 2019, Art, Activism and Environmental history, Sussex

March, 2019, Adivasis and the Anthropocene, History seminar, Durham

March 2019, Environmental history for the Anthropocene, Brighton

January, 2019 A scientific Life, Janaki Ammal and the scientific patriarchy in Britain and India, Centre for South Asian Studies, Cambridge

M. Frogley gave the following talks:


**Media coverage**

March, 2018 Media coverage for work on Janaki Ammal March, 2018,

October, 2018 Guardian letter on the protests against 'menstruating' women entering Sabarimala temple in Kerala, Oct 31st, 2018

April 2019, Participant BBC radio 4, 'Beyond belief' https://www.bbc.co.uk/programmes/m0004f05

July, 2019, Interview with me on my work on Ammal with the Smithsonian Magazine


16th October, 2019 Daily Mail, Gandhi Must be scrapped

https://www.dailymail.co.uk/news/article-7576099/University-Manchester-students-say-statue-Gandhi-scrapped.html

27th December, 2019 Guardian letters on recent protests over the constitution

https://www.theguardian.com/world/2019/dec/27/fighting-back-over-india-constitution

4th January, 2020 BBC History channel, discussion on 1972 book, *Limits to Growth*

https://www.bbc.co.uk/programmes/w3csyx5b

**School project**

The AHRC project on the Botanical and Meteorological History of the Indian Ocean involved taking 2 schools to visit the Botanic Garden and the Indian Museum in Kolkata, India. The first of these was to the exhibition on "Joseph Hooker and the Botanical Heritage of India" in the BSI gallery of the Indian Museum. The second was to the AJC Bose Botanical Garden at Howrah. This project has continued with great success under the auspices of the BSI for the second year covering over 500 students. It is proposed to extend the project to other parts of India in the next three years with the first stage of the new project being launched in Sundarbans in 2019-20 the *Mangrove School project*.

http://www.sussex.ac.uk/cweh/research/indianocean/schoolproject

**International Visitors to CWEH: 2018-2019**

- Dr Ravi Raman (State Planning Board Kerala)
- Dr Felix Padel (JNU)
- Dr Chitrangada Choudhury (Independent Journalist)
- Dr Nirmal Mahato, North Bengal University
- Samarendra Das, Independent Activist
Media coverage for CWEH exhibitions

https://thewire.in/74911/janaki-ammal-magnolia-kobus/


https://www.youtube.com/watch?v=7uVKx2gL8


Current Partners

See www.sussex.ac.uk/cweh

Future plans with regard to our partners

Future plans with ACRE/Met Office: Linking to ACRE India under WCSSP India

1. Meeting in Mauritius May 2020

A two day Mauritius Project focusing on their efforts to recover, image and digitise historical terrestrial and marine instrumental observations held on Mauritius. This will include a presentation on the various CWEH projects in the Indian Ocean region. CWEH is also funding part of this project with McGill university.
ACRE India under WCSSP India

Background

Efforts to establish an Indian regional data rescue focus under the international Atmospheric Circulation Reconstructions over the Earth (ACRE) initiative have been sought since 2013, when a meeting to establish an engagement with the then Director of the Indian Meteorological Department (IMD) ultimately failed to gain traction. CWEH hopes to bring an interdisciplinary perspective to this initiative and is working closely with Prof Rob Allan.

In the course of working towards the above objective, a World Meteorological Organisation (WMO)/ACRE/Global Framework for Climate Services (GFCS) collaboration led to the formation of the wider Indian Ocean Data Rescue (INDARE) initiative in April 2014, with subsequent meetings in Geneva in late 2014 where CWEH was present, and on Mauritius in 2015 and 2016. INDARE had Indian representation, mainly from their oceanographic community, but that effort has floundered in recent years due to a lack of WMO funding.

Strong indications of enhanced interest and efforts by the IMD in the area of data rescue, and the potential to collaborate with ACRE, were made by an IMD attendee at the of ACRE China 3 (under CSSP China): in conjunction with ACRE SE Asia 2 and ACRE Japan, and the 11th ACRE Workshop: integrating with the Copernicus C3S DRS and the data rescue part of a German IKI project was held at Tokyo Metropolitan University in Japan during the week of the 12th of November 2018.

The new Weather and Climate Science for Service Partnership Programme (WCSSP) India initiative of the Met Office with the Indian Ministry of Earth Sciences (MOES) under the Newton-Bhabha Fund would provide an ideal platform to establish an ACRE India focus.

ACRE India

ACRE is proposing that an ACRE India focus under WCSSP India would involve the recovery, imaging and digitisation of both historical instrumental terrestrial and marine weather observations over the subcontinent and surrounding countries under British jurisdiction prior to Indian Independence and the State of India since then, plus across the wider Indian Ocean region.

Terrestrial weatherdata

Under the ongoing CSSP China, the ACRE China component has funded the scanning of the Indian Daily Weather Reports (IDWRs) covering the period 1878-1980, and the subsequent program of digitising this mass of data (initially around 100, but eventually 200 plus stations per day: see Figure 1). To date, this digitisation has focused on the 1910-early 1940s period, and we propose to aid this
effort by seeking additional funds under WCSSP India to speed up and complete this process for all of the records.

The IDWRs provide only once daily station weather observations (0800 local time), and we believe that the IMD might hold the records for a once daily afternoon observation from their stations which would also be valuable to recover and digitise. We would propose those data as well as the above effort to finish the IDWR observations as the second part of the terrestrial data effort under ACRE India.

Figure 1: Distribution of stations in the IDWRs with daily precipitation over India and surrounding countries in the 1910-1930s period

The costing for the additional IDWR digitisation aiding that in progress under ACRE China with more under ACRE India will be calculated from the ACRE China experience of our contractor as follows:

- Digitising the IDWR stations (at its peak with more than 200 stations with all the 11 variables and simple quality check and to account for the quality of the scans), then one day takes around 90 Minutes (if the number of station and variables is increasing over the years then we might need to adjust the 90 Min/day), so a full year is approx. 33,000 Minutes (around 550 hours) that would be approximately £4K/year.

- We would also have to find out if the IMD could also employ people to digitise the IDWRs, and thus share the load, and get more of the full 1878-1980 period complete more rapidly. They may
perhaps wish to focus on the daily afternoon readings, for which we believe they hold the original records.

Marine weather data

The major international repository of historical marine weather observations is the International Comprehensive Ocean Atmosphere Data Set (ICOADS). ACRE and partners through their data rescue activities over the last 11 years have digitised and added some important additional global marine weather observations to ICOADS (in the latest ICOADS 3.0 Release), primarily those extracted and digitised from ship logbooks (see Figure 2). These efforts have provided additional layers of observations adding to the existing global ICOADS compilation of such material, but importantly, in an ACRE India context, enhancing the Indian Ocean coverage of historical weather observations. Adding to this over the Indian Ocean, are the ACRE-digitised historical weather observations from ship logbooks in IMD Monsoon Chart volumes in the 1893-1899 period (Figure 3). These global activities continue under ACRE/ACRE Oceans and its various regional data rescue foci.

Additional historical instrumental marine weather observations for the Indian Ocean should also be available in the next year or so with the development of The Mauritius Project linked to the ACRE/Copernicus C3S Data Rescue Service South Africa focus, based at the University of Witwatersrand. A component of this is looking to recover, image and digitise weather observations extracted from ship logbooks in the 188 volumes of Charles Meldrum's 'anemological' journals covering the period 1853 to 1914 for the Indian Ocean region (see Figure 4).

Further global historical weather observations from ship logbooks that have so far only been inventoried and digitised under ACRE and ACRE Oceans that are relevant to ACRE India are those shown below.
Figure 2: ICOADS Release 3.0 distribution of digitised historical global marine surface weather observations in ship logbooks from three ACRE and partner data rescue activities over the last 11 years. (a) Historical voyages of exploration and discovery since the 1770s, (b) English East India Company (1789-1834) and (c) Clement Wragge’s abstracted ship logbook material (1888-1903). Source: International Journal of Climatology 27 JUN 2016 DOI: 10.1002/joc.4775. [http://onlinelibrary.wiley.com/doi/10.1002/joc.4775/full#joc4775-fig-0001]
Figure 3: Distribution of ACRE-digitised historical marine weather observations from ship logbooks over the northern Indian Ocean for the 1893-1899 period (still to be thoroughly corrected for all ship positions, hence the drift of stations over the adjacent landmasses). Source: IMD Monsoon Chart volumes
Figure 4: Indian Ocean chart for noon on the 1st of January 1861 showing ship weather observations from Charles Meldrum's 'anemological' journals.

Attribution studies of high-impact Indian weather events and the Indian Monsoon, using the Twentieth Century Reanalysis Version 3 reanalysis system (20CRv3)

Under ACRE India, this would draw on the previously mentioned and newly digitised historical terrestrial and marine weather records for India and surroundings (detailed above), both from our partners in India, and from both international and our own archives. This would involve assimilating these data into short re-runs of 20CRv3 - each re-run targeted at a period where there were weather events in India or the wider Indian region with major impacts.

This would produce a much-improved picture of the atmospheric states associated with each event or episode. We would then do event attribution studies - following the method that we have already demonstrated for the Tambora eruption in 1815 - by re-running the reanalysis with perturbations to the sea surface temperatures (SSTs) or other boundary conditions - to link specifically the event impacts to original forcings. This effort would be in conjunction, and involve close cooperation, with Prof Ed Hawkins at Reading University.
A CRE is currently looking to formulate along with CWEH and fund an interdisciplinary project focusing on the most comprehensive evaluation and reconstruction of the massive 1877-1878 El Niño, the first to generate widespread international meteorological interest following communications asking meteorological services across the world to 'pool' their weather observations in order to try and understand what this phenomena was, from the 1st Indian Meteorological Department Director (Henry Blanford). It would look to involve at least all of the Met Office Newton Fund foci (CSSP China, WCSSP South Africa, WCSSP SE Asia, WCSSP Brazil and the new WCSSP India), ACRE and all of its regional foci around the globe, the Copernicus C3S DRS, plus social.

With a view to this we are meeting in Mauritius on May 18th 2020 for a workshop on the Mauritius Project looking to discover, rescue, scan, digitise and catalogue the holdings of terrestrial and marine instrumental weather observations held by various bodies on Mauritius – especially their Met Service and National Archives – going back in time as far as possible.

2. Plans with the Asia Scotland Trust and the Botanical Survey of India

To restore Roxburgh house in the Kolkata Botanic Garden as a climate centre. See attached plans. The fund-raising for this is in process.

3. To extend the School project with the Botanical Survey of India

The AHRC project on the Botanical and Meteorological History of the Indian Ocean involved taking 2 schools to visit the Botanic Garden and the Indian Museum in Kolkata, India. The first of these was to the exhibition on "Joseph Hooker and the Botanical Heritage of India" in the BSI gallery of the Indian Museum. The second was to the AJC Bose Botanical Garden at Howrah. This project which covered 240 students has continued with great success under the auspices of the BSI for the second year covering another 240 students. It is proposed to extend the project to other parts of India in the next three years to Sundarbans as part of the education to transform Mangrove school initiative funded by the Tapestry project.

http://www.sussex.ac.uk/cweh/research/indianocean/schoolproject

4. To further the digital repatriation of botanical specimens from Kew and the NHM. This ongoing project has successfully digitised over a 100,000 plant specimens from India held at the Natural History Museum

We have also had discussions with Kew on digital repatriation and hope to consolidate links with them on this issue in our June meeting on Environmental history of the Indian Ocean World which will involve all our partners including McGill.

5. To continue working with our partners the British library to co-curate exhibitions and to highlight collections related to the environmental history of empire and to integrate collections with the Botanical survey of India. They are now joining us for a summer school in May with McGill on Appraising risk in the Indian Ocean world.

6. To work with the University of McGill as part of our partnership grant on Human Nature interactions in the Indian Ocean world 2018-22.

7. To work with IDS and Kyoto on TAPESTRY project as part of a group funded by EU horizon 2020 on a transformations to sustainability project involving two environmentally fragile locations in India, the Kutch and the Sundarbans. We are launching a new school project (Mangrove school project) in the Sundarbans which is co-producing knowledge on climate change and uncertainty in 2020-21.