'Greening History Teaching': Justifying the Inclusion of Socio-Environmental History in the South African Further Education and Training History Curriculum

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Abstract

This position paper argues for including socio-environmental history in the South African Further Education and Training (FET) history curriculum. It is premised on the fact that planet Earth is in the age of the Anthropocene, within which humans have had a dominant effect on the planet and have contributed fundamentally to climate change, which is noticeable through extreme weather events, such as erratic rainfall, floods, droughts, heatwaves and wildfires. These have led to extreme hazards, including destruction of infrastructures, large-scale migrations and loss of lives. Climate change aside, humanity is also facing problems of air and water pollution, deforestation, desertification, famine and diseases; in fact, we still have traumatic memories of the COVID-19 pandemic, which destroyed livelihoods and to date, has left more than seven million people dead worldwide. This paper is based on a desktop qualitative research method and draws from secondary and primary literature on socio-environmental history. Furthermore, it analyses the Curriculum Assessment Policy Statement (CAPS), focussing on the FET history curriculum. The study builds on the intersectionality and all-inclusive ecologies of knowledge approach to demonstrate that socio-environmental history intersects with other history topics already part of South Africa's CAPS FET history curriculum. The paper argues that, through the infusion of socio-environmental history content into this curriculum, history teaching will contribute more meaningfully toward learners' understanding of the socio-environmental

challenges confronting humanity in South Africa and beyond. This will provoke learners to raise questions regarding the nexus between people and nature, and interrogate how this shapes the local, regional and global environments and the results thereof, in the process, inculcating positive attitudes and values about stewardship of planet Earth.

Keywords: Anthropocene; Climate change; History teaching; Socio-Environmental history; Stewardship.

Introduction

The planet is in the age of the Anthropocene. This is a new periodisation of the earth's history, which is strongly informed by the science of climate change and has demonstrated that human action is the key impetus behind climate change.[1] Since 1990, the Intergovernmental Panel on Climate Change (IPCC) and other sources have been publishing scientific and socio-economic reports on climate change, its impact, future risks and options for reducing the rate at which climate change is taking place. The IPCC has noted that the main contributor to climate change has been humans, whose activities have contributed to increased atmospheric gas concentrations, leading to significant global warming, altered precipitation regimes, increased frequency of weather events, oxygen depletion and modifications to aquatic life.[2] This has been manifested through increasing erratic rainfall and floods, which have destroyed infrastructure and killed humans. More recently, the outbreak of the COVID-19 pandemic, which has led to more than 7 million deaths by the end of February 2024.[3]

This paper is primarily conceptual. It is based on policy papers that were accessed primarily online, with most of these papers being generated by various agencies of the United Nations (UN). Furthermore, the paper benefited from secondary sources, such as academic books and journal articles as well as an in-depth analysis of South Africa's CAPS FET history curriculum, which has been in use since 2012. The study also consulted South African newspapers, thereby gaining insights into topical environmental and climate emergency matters. A point of note is that there is a thin line between the terms 'environmental history' and 'socio-environmental history'. Therefore, the study uses these terms interchangeably throughout the paper.

[1] S Swart, "At the edge of the Anthropocene: Crossing borders in Southern African environmental history", *South African Historical Journal*, 73(1), 2021, p. 2.

[2] IPCC, "Intergovernmental panel on climate change", (available at www.ipcc.ch, as accessed on 27 January 2024).

[3] Worldometer, "Coronavirus death toll", no date (available at https://www.worldometers.info/coronavirus/coronavirus-death-toll, as accessed on 28 February 2024).

The physical and natural sciences domains, including climate science, chemistry, physics and geography, have played dominant roles in generating and disseminating knowledge about the environment and natural processes of the planet. It is also evident that contemporary environmental challenges are primarily a result of the nexus between humans and the environment. Therefore, history teaching should come on board and help save the planet by teaching histories of communities, in this instance, socio-environmental narratives and processes, to reveal how people's interactions with the environment have, over time, transformed the face of the earth, the atmosphere, climate and weather patterns.

A mere glance at the current curriculum shows the pervasiveness of the theme of colonial domination and resistance focussing on the political, ideological, economic, social and military histories of South Africa and other regions. Hence, this paper uses intersectionality and an all-inclusive ecology of knowledge, based on a trans-modern universal view, as a theoretical lens to demonstrate how socio-environmental histories intersect with other histories that are already part of the CAPS FET history curriculum. Furthermore, it explores how socio-environmental history concepts and content can be infused into existing history topics or integrated as stand-alone socio-environmental history topics. In this process, history teaching will complement the efforts of natural sciences by disseminating knowledge of the environmental and societal processes using the social, political and cultural lens, which the natural sciences are less inclined to do. This will enable learners to acquire content on human-environment relations and explore how these have shaped local, regional and global environments. The learners would acquire positive attitudes and values about stewardship of the planet and its resources.

There has been a growing body of work on modern society's environmental crises. Jared Diamond is among the scholars who have taken a historical analysis of the interplay between societies and the environment.[4] Examining the rise and fall of 13 past and present societies in different parts of the world, Diamond argued that a critical determinant of these societies' fates was how they managed their environments. He noted that three of the five factors that explain the collapse of societies relate to the environment: human-induced ecological damages, climate change and societal responses to environmental decline.[5] He demonstrated how environmental factors such as deforestation, biodiversity loss, soil erosion and natural resource depletion contributed to the collapse of Easter Island, the Maya and the Norse colony civilisations. The case of Easter Island is intriguing since it was

[4] J Diamond, *Collapse: How societies choose to fail or succeed* (New York, Penguin, 2005).

[5] T Jeyaretnam, AR Magalhaes and AM Szmant, J Diamond, Collapse: How societies choose to fail or succeed, *Sustainability: Science, Practice and Policy,* 2(1), 2012, p.42.

a rainforest island when humans first inhabited it, yet, following the occupation, humans started cutting the forest, leading to a "complete environmental disaster" characterised by deforestation, soil erosion, loss of biodiversity and "reduced capacity to sustain life and, finally, collapse". Diamond asked, "What went on in the mind of the person who cut the last tree [on this Island]?[6]

Notably, the study also examines the histories of states that conserved their forest resources and avoided possible collapse. Diamond's work teaches that societies should interact with their environments more sustainably. This history genre, which is currently not part of history CAPS, should be infused into the history curriculum, as this would spread environmental thinking among South African learners and help them develop a caring attitude towards the environment. That way, teaching history would contribute to saving the planet.

Richard Foltz, an environmental ethics and animal rights historian, has lamented that most history research and writing has focussed almost exclusively on the interactions and connections between people.[7] This is consistent with Donald Worster's observation that "…there is little nature in the study of history".[8] Foltz goes on to say that focussing on human-to-human interactions only is based on a false perception that human activities are dis-embedded from the physical context and this produces fragmented histories, which leads to fragmented thinking. Therefore, history writing and teaching "must include all actors", and historians must be "conversing with botanists and zoologists, geologists and meteorologists, geographers, anthropologists, and many others".[9]

In South Africa, MC Kgari-Masondo has demonstrated how the Apartheid-era forced relocations of the majority Sotho-Tswana community from Lady Selborne to Ga-Rankuwa contributed to environmental degradation, characterised by pollution, erosion and the creation of *dongas* (a dry gully, formed by the eroding action of running water).[10] While most community members were generally environmentally conscious, some residents adopted passive resistance, characterised by "non-participation in environmental issues, because

[6] T Jeyaretnam, et al., J Diamond …, *Sustainability…*, 2006, pp. 42-43.

[7] RC Foltz, "Does mature have historical agency? World history, environmental history, and how historians can help save the planet", *The History Teacher*, 37(1), 2003, p. 10.

[8] D Worster, "History as natural history: An essay on theory and method", *Pacific Historical Review,* 53(1), 1984, p. 1.

[9] RC Foltz, "Does nature have historical agency...", *The History Teacher,* 2003, p. 25.

[10] MC Kgari-Masondo, "The usable past and socio-environmental justice: From Lady Selborne to Ga-Rankuwa", *New Contree*, 66, 2013, p. 90.

they felt aggrieved by the displacement".[11] This reveals that environmental degradation may emanate from human decisions, and arguably, teaching social-environmental history promotes ecologically sound and socially just practices.

The paper begins with developments of the 1960s when lobby groups started raising questions about human activities and how these impacted the environment. It moves into the 1970s and presents an overview of international meetings that aimed to mitigate climate change. The paper traces the rise of environmental history as an academic discipline, its origins in the United States of America (USA), its spread to Europe and Africa and the subsequent efforts to disseminate knowledge about the subject. The paper then explores the South African environmental history landscape, selected scholarship, politics and climate change matters. It analyses the South African CAPS FET history curriculum, which has been in use since 2012. It also identifies environmental history content that can be included in this curriculum while suggesting strategies for incorporating it.

Efforts to curb environmental challenges since the 1960s

The Anthropocene has generally been traced to the Industrial Revolution, around the 1800s, which created the world's first fossil fuel economy. Organic fossil fuels drove the growth of mines, factories and mills and raised the demand for coal, along with a rise in carbon dioxide emissions, to the detriment of the environment.[12] Further impetus to climate change must be understood within the context of the vast tons of bombs dropped during the Second World War. Worst among them were the August 1945 Hiroshima and Nagasaki nuclear bombings in Japan.[13] The resulting radioactive particles of these bombings made their way into rocks, trees and atmospheric acid. Over the past 60 years, the human impacts have unfolded at an unprecedented scale.[14] Yet, to date, the world continues experiencing widespread natural resource extraction, high carbon dioxide emissions, toxic pollution of water and the atmosphere, global warming, species extinction and habitat loss, all of which contribute significantly to the modification of the planet.[15]

[11] MC Kgari-Masondo, "The usable past and socio-environmental justice…", *New Contree,* 2013, p. 91.

[12] K Pavid, "What is the Anthropocene and why does it matter?", (available at https://www.nhm.ac.uk/discover/what-is-the-anthropocene.html#:~:text=We%20are%20living%20in%20a,water%2C%20organisms%20and%20the%20atmosphere, as accessed on 16 January 2023), pp. 1-7.

[13] K Pavid, "What is the Anthropocene…", pp. 1-7.

[14] K Pavid, "What is the Anthropocene…", pp. 1-7.

[15] S Swart, "At the edge of the Anthropocene…", *South African Historical Journal*, 2021, p. 2.

Concerns with environmental challenges started mounting in the 1960s. Rachel Carson's book, *Silent Spring*,[16] highlights the fatal impact of agricultural chemicals on North America's birdlife, contributing a wake-up call to the adverse environmental effects of human activities. Therefore, the 1960s were characterised by growing environmental awareness, manifested through the increasing number of conferences and agreements, written warnings, legislative actions and media attention, which began in Western countries and later encompassed other parts of the world. These include the Stockholm Conference, an early UN conference focussed on international environmental issues. Held in Stockholm, Sweden, in June 1972 and attended by delegates from 114 governments, the conference laid the foundation for global environmental governance.[17] It also led to the creation of the UN Environment Programme in December 1972, whose mandate was to coordinate activities to promote natural environments and sustainable livelihoods. Furthermore, this conference further produced what became known as a "Framework for Environmental Action", comprising 109 human settlements, natural resource management, pollution, education and environmental management recommendations.[18]

The second significant conference was held in Tbilisi, Georgia, in October 1977. Organised by the UN Education, Scientific and Cultural Organization (UNESCO), it resulted in the Tbilisi Declaration of 1977, a unanimous accord among more than 66 delegates on the need for environmental education.[19] Then, in June 1992, Brazil hosted the Earth Summit in Rio de Janeiro, bringing political leaders, diplomats, scientists, media representatives and non-governmental organisations from 179 countries. Among the results of this summit was the adoption of the 27 principles of the Rio Declaration, the formation of the UN Framework Convention on Climate Change, the Convention on Biological Diversity and the Declaration on the Principles of Forest Management.[20]

[16] R Carson, *Silent Spring*, (Boston: Houghton Mifflin, 1962).

[17] P Boudes, United Nations conference on the human environment. *Encyclopaedia Britannica*, 15 September 2014, (available at, https://www.britannica.com/topic/United-Nations-Conference-on-the-Human-Environment, as accessed on 21 January 2023).

[18] P Boudes, "United Nations Conference…", Encyclopaedia Britannica, 2014.

[19] AH Hoffmann, "The intergovernmental conference on environmental education" held in Tbilisi 14 – 26 October 1977", *Environmental Conservation,* 5(2), 1978, pp. 153-154, doi:10.1017/S0376892900005701.

[20] United Nations, "United Nations conference on environment and development, Rio de Janeiro, Brazil, 3-14 June 1992", (available at https://www.un.org/en/conferences/environment/rio1992, as accessed on 16 January 2023).

The fourth was the Kyoto Protocol, another international treaty adopted in Kyoto, Japan, in December 1997.[21] Since 2005, it has aimed to reduce the emission of six greenhouse gases in 41 countries, including the European Union. Its target is greenhouse gases, since they contribute to global warming, which results in the melting of glaciers, sea ice and Arctic permafrost. This, in turn, leads to a rise in sea levels, the inundation of low-lying coastal areas and a possible disappearance of others.[22] Global warming further results in extreme weather events, such as floods and droughts, changes in their distribution and an increased risk of extinction for 20 to 30 per cent of all plant and animal species.[23] Unsurprisingly, despite its shortcomings, the Kyoto Protocol is widely hailed as the most significant environmental treaty ever negotiated.

Leaders who attended the fifth UN Climate Change Conference of December 2015 focussed solely on tackling climate change. This conference led to the Paris Agreement, which came into force on 4 November 2016 and was signed by 192 countries plus the European Union.[24] The agreement included a commitment to reduce greenhouse emissions and to cooperate in adapting to the impacts of climate change. Furthermore, the developed nations agreed to assist developing countries towards meeting their climate mitigation and adaptation targets. Each country must submit a report on its action plan every five years.[25]

Since 1995, world leaders have been meeting annually under the Conference of the Parties (COP), a series of UN conferences that review the progress in limiting climate change. Up to December 2023, there have been 28 COP meetings, three of which were held on the African continent, namely COP12 of December 2011, held in Nairobi, Kenya, COP17 of December 2015, held in Durban, South Africa and COP27 of December 2022, held in Sharm El Shaik, Egypt. Notably, the previous three meetings held in Glasgow, Sharm El Shaik and Dubai have focussed on the shift from fossil fuels-based energies, primarily coal, oil and gas, to renewable energy sources. While this has brought intense debate about the economic and social costs of transitioning from fossil fuels to renewables, it has given investors direction that long-term and profitable investments are in renewables, as opposed to fossil fuels. Arguably, teaching socio-environmental history would be a means to complement these global efforts, which are meant to curb climate change and related

[21] J Layton and S Dion, "Kyoto Protocol international treaty", Britannica, 1997, (available at https://www.britannica.com/event/Kyoto-Protocol, as accessed on 16 January 2023).

[22] J Layton and S Dion, "Kyoto Protocol …", Britannica, 1997.

[23] J Layton and S Dion, "Kyoto Protocol …", Britannica, 1997.

[24] United Nations, "The Paris greement", (available at https://www.un.org/en/climatechange/paris-agreement, as accessed 20 January 2023).

[25] United Nations, "The Paris greement". …

environmental degradation processes. The paper now turns to the rise and development of environmental history as an academic discipline.

Origins and development of environmental history

Alongside these climate change challenges was the emergence of environmental history as an academic discipline. Scholars agree that the field originated from the USA, where it planted its roots in the 1960s. This discipline,

> *… deals with the history of human impacts on nature and the interactions between humans and nature. It asks how nature influences humans, how humans intervene in nature and how nature and humans interact. It also investigates natural changes not caused by human action to understand these processes.*[26]

This definition does not capture the fact that environmental history is distinctively interdisciplinary. It borrows from natural sciences and humanities, including biology, geography, politics and history. Secondly, it has a global outlook. It transcends national borders since it encompasses natural phenomena like weather, climate, rainfall and rivers, which cut across artificial borders.[27]

Markedly, environmental history rose at a time when history was dominated by intellectual and political history.[28] The rise of environmental history is credited to Roderick Nash, who advocated for writing history "from the bottom up", beginning with what is ignored, scorned, and is not endowed with speech.[29] Donald Worcester argued that environmental history deserved a rightful place in history books for it can demonstrate this "… long-running human dialogue with the earth".[30] August 1972, recognised as the birth of environmental history, is associated with a special publication in the *Pacific Historical Review* and a famous article by Roderick Nash, in which he coined the expression "Environmental History".[31]

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[26] FJ Bruggemeier, "Environmental history", *International encyclopaedia of the social and behavioural sciences*, 2001, p. 4621.

[27] T Myllyntaus, "Environment in explaining history, restoring humans as part of nature", T Myllyntaus and M Saikka, (eds.), *Encountering the past in nature, essays in environmental history*, (Athens, Ohio University Press, 2001), p. 146; See also D Worster, "World without borders: The internationalizing of environmental history", *Environmental Review*, 6, 1982, pp. 8-13.

[28] F Locher, G Quenet and W Bishop, "The origins, stakes, and perspectives of a new site for research", *Revue D'Histoire Moderne & Contemporaine (Review of Modern & Contemporary History)*, 564(4), 2009, pp. 7-38.

[29] R Nash, "American environmental history: A new teaching frontier", *Pacific Historical Review,* 41(3) 1972, pp. 362-372.

[30] D Worcester, "History and Natural History: …", *Pacific Historical Review,* 1984, p.1.

[31] R Nash, "American Environmental History…" *Pacific Historical Review,* 1972, pp. 362-372; S Sörlin and P

After a firm establishment in the USA, environmental history spread to Europe. It received significant attention in the 1980s, as new interpretations were published in countries like the Netherlands, West Germany and Britain.[32] While, in the USA, the focus was on the "wilderness" and "problems of primary occupations", it took new dimensions in Western Europe, where it focussed on specific local peculiarities, such as the history of water management in the Netherlands, struggles over nuclear power in Germany and forestry histories in Nordic countries.[33] It was also concerned with epidemics, cultural landscapes and environmental pollution in urban areas.[34]

Alongside this was the rise of environmental history societies. The American Society for Environmental History (ASEH), established in the USA in 1977, aims "to increase understanding of current environmental issues by analysing their historical background".[35] It sought to encourage research, publication and teaching of environmental history. The ASEH utilised a quarterly journal called *Environmental History* and the ASEH newsletter.[36] Notably, its membership is "markedly interdisciplinary and international".[37]

Alongside the ASEH, the European Society for Environmental History (ESEH) was also formed in 1999. Like the ASEH, it seeks to promote research in environmental history, foster communication among environmental historians and strengthen links between environmental historians and policymakers. Interestingly, the ESEH also aims to promote the teaching of ecological history in tertiary institutions and secondary schools.[38] The ESEH publishes a quarterly newsletter and hosts a biannual conference where scholars meet to showcase their research.[39]

The need to promote and disseminate environmental history research led to the rise of publishers that target environmental history works. The White Horse Press has been strategic in this area. Founded in 1991, the White Horse Press publishes five journals: *Environment Values; Environment and History; Global Environment; Nomadic Peoples* and

Warde, "The problem of the problem of environmental history: A re-reading of the field", *Environmental History,* 12(1), 2007, p. 107-130.

32 T Myllyntaus and M Saikku, Environment in Explaining History…, *Encountering the past…,* 2001, p. 14.

33 S Sörlin and P Warde, "The problem of the problem…, *Environmental History,* 2007, p. 110.

34 T Myllyntaus and M Saikku, Environment in Explaining History…, *Encountering the past…,* 2001, p. 18.

35 American Historical Association, "American Society for Environmental History" (available at https://www.historians.org/about-aha-and-membership/affiliated-societies/american-society-for-environmental-history, as accessed on 25 January 2023).

36 American Historical Association, "American Society for…"

37 N Jacobs, "Welcome to ASEH", American Society of Environmental History, (available at https://aseh.org/, as accessed on 25 January 2023).

38 European Society for Environmental History Mission, "Mission", (available at http://eseh.org/about-us/mission/, as accessed on 25 January 2023).

39 European Society for Environmental History Mission, "Mission".

the *Journal of Population and Sustainability*.[40] The *Global Environment* publishes three issues annually, focussing on the environment and world history, particularly on modern contemporary topics. The *Environment and History*, founded in 1995, focusses on the nexus between environmental science and history, bringing scholars in humanities and natural sciences closer together.[41] Remarkably, all the journals accept papers from across the globe.

An overview of environmental history in Africa

African environmental history has been dominated by colonial experiences and their legacies, with histories of soil erosion and conservation forming part of this legacy. Eurocentric historians blamed soil erosion and other forms of environmental degradation on "African ignorance" of conservation methods.[42] However, colonial efforts to redress these challenges were less effective than anticipated, since most were drawn from "European scientific models", inapplicable primarily to the African contexts.[43] Thus, revisionist historians have criticised Western environmental historiography on Africa, arguing that it lacks appreciation of African conservation norms. This takes us to the theme of Indigenous Knowledge Systems. This has become popular in post-colonial Africa because it explores subtle environmental ideas and practices embedded in community-based rules, beliefs, superstitions, and taboos about flora and fauna, mountains, pools, snakes and large trees.[44]

The resource-based conflict theme, which deals with contestation over access to natural resources, also dominates African environmental history. While during the colonial period, these contestations contributed to African nationalism, especially in settler states like Kenya, Zimbabwe and South Africa, they have remained contested spaces in post-colonial Africa.[45] This conflict applies equally to access to minerals, exemplified by a proliferation of 'illegal' artisanal gold and diamond mining, the environmental effects, and the bloody conflicts among the miners and between miners and the state.[46]

[40] The White Horse Press, "About WHP" (available at https://www.whpress.co.uk/publications/about-us/, as accessed on 25 January 2023).

[41] The White Horse Press, About WHP.

[42] JR Mcneill, "Observation on the nature and culture of environmental history", *History and Theory*, 42(4), 2003, p. 26.

[43] W Beinart, "African history and environmental history", *African Affairs*, 99(395), 2000, p. 275.

[44] V Kwashirai, "World environmental history – Environmental history of Africa", Encyclopedia of Life Support Systems, (available at, https://www.eolss.net/Sample-Chapters/C09/E6-156-35.pdf , as accessed on 14 March 2023).

[45] See, for instance, N Ndumeya, "Nature, conservation and conflict in Eastern Zimbabwe: Chirinda Forest, 1980–2000", *Journal of Southern African Studies*, 45(2), 2019, 253-271.

[46] See, for instance T Madimu, "'Illegal' gold mining and the everyday in post-apartheid South Africa", *Review of African Political Economy*, 49(2), 2022, pp. 1-16; M Thabane, "Liphokojoe of Kao: A study

Environmental historians also investigate Africa's climatic history and its impact on the communities. McCann states that concerns over Africa's climate history emerged in response to the 1968-1972 drought in the Sahel, Ethiopia's twin famines in 1972-1974 and 1984-1986.[47] These had implications for Africa's food security. Hence, environmental historians sought to investigate the relationship between drought, humanity and livelihoods. Other themes of African environmental history include disease and public health, livestock and wildlife diseases, deforestation, and afforestation programmes.

Socio-environmental history and climate change in South Africa

South Africa is exceptionally rich in socio-environmental history literature. It has a wide range of books, book chapters, journal articles and postgraduate theses that cover various socio-environmental history themes, implying that the country has a solid base on which to 'green' the FET history curriculum. In 1980, Jeff Guy published work on ecologies and the Zulu Kingdom, in which he established a link between the environment, population, war, and state building. He pointed to the ecological factors in the rise of Shaka and the Zulu Kingdom in the early nineteenth century. Guy demonstrated how major kingdoms then were linked to areas of specific vegetation types and that the Mfecane wars were predominantly struggles over natural resources.[48] Equally significant is a collection edited by Beinart, Delius and Trapido.[49] While the thrust of the collection is on agriculture, the theme of socio-environment is conspicuous, indicating the relationship between nature on the one hand, and agriculture and history on the other.

In another study, Colin Bundy demonstrated that land, pasture degradation, soil erosion, water shortages and the subsequent imposition of top-down rural betterment programmes prompted contestations in rural South Africa.[50] This is also true with colonial

of a diamond digger rebel group in the Lesotho highlands", *Journal of Southern African Studies*, 26(1), 2000, pp. 105-121; W Mwatwara, J Mujere and G Mkodzongi, "Between violence and negotiation: Gold rushes, gang violence, and negotiated access in artisanal gold mining along Zimbabwe's Great Dyke", *The Extractive Industry and Society*, 11, 2022, pp. 1-9.

[47] JC McCann, "Climate and causation in African history", *The International Journal of African Historical Studies,* 32(2/3), 1999, pp. 261-279.

[48] J Guy, "Ecological factors in the rise of Shaka and the Zulu Kingdom", in S Marks and A Atmore (eds.), *Economy and society in pre-industrial South Africa* (London: Longman, 1980), pp. 102-119.

[49] W Beinart, P Delius and S Trapido, *Putting a plough to the ground: Accumulation and dispossession in rural South Africa 1850 – 1930* (Johannesburg: Ravan Press, 1986).

[50] C Bundy, "We don't want your rain, we won't dip: Widespread opposition, collaboration and social control in the anti-dipping movement, 1908 – 1916", W Beinart and C Bundy, *Hidden struggles in rural South Africa: Politics and popular movements in the Transkei and Eastern Cape 1890 – 1930* (Johannesburg, Ravan Press, 1987), pp. 222-269.

Zimbabwe and Kenya, where inequitable ownership and access to resources like land, flora and fauna prompted nationalist struggles. Africans began challenging colonial laws that barred them from accessing these resources on equal terms with the white communities.[51]

On this basis, Sandra Swart notes that, unlike the environmental history of the Global North, which has focussed on the wilderness and urban history, the ecological history of South Africa has focussed on rural struggles over resources.[52]

Jane Carruthers has produced several articles, monographs, and a vast edited collection of case studies on the environmental history of South Africa. Her inspirational works have focussed on creating and managing national parks, which sheds light on biology, local ecologies and histories, the nexus between parks and nationalism, and facets of people–parks conflict.[53] Fittingly, she has been hailed as a pioneer of the environmental history of South Africa. Related to this, Shirley Brooks has written various pieces on the historical geography of KwaZulu-Natal province, South Africa. Brooks has focussed on the creation of game reserves and the subsequent contestations emanating from the contradictory interests of game and cattle farmers, as well as the Africans who, in the process, were evicted from their ancestral land.[54] Sandra Swart, who works on the relationship between humans and animals, has produced a monograph on horses and several other works on dogs, lions and kudu hunting in the Eastern Cape, bringing an otherwise under-researched field into the spotlight.[55] In the same vein, Nancy Jacobs' classic work on the donkey massacre in Bophuthatswana is a helpful lens through which to view socio-political and economic relations, including status, gender and religion, in the then Bophuthatswana. Other notable works include F. Khan,[56] J. Tropp[57] and T. Hoffmann.[58]

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[51] See, for instance VEM Machingaidze, "Agrarian change from above: The southern Rhodesia native land husbandry act and African response", *International Journal of African Historical Studies,* 1991, pp. 557-588.

[52] S Swart, "South African environmental history, A historiography", SR Rajan and L Sedrez (eds.), *The great convergence: Environmental histories of BRICS* (Oxford, Oxford University Press, 2018), p. 326.

[53] See, for example, J Carruthers, Towards an environmental history of South Africa: Some perspectives, *South African Historical Journal*, 23(1) 1990, pp. 184-195.; J Carruthers, "Police boys" and poachers: Africans, wildlife protection and national parks, The Transvaal, 1902 – 1950, *Koedoe*, 36(2) 1993, pp. 11-22.

[54] See, S Brooks, "Ropes of sand: Soldier-settlers and nagana in Zululand", A Reeves, JS Crush and J Crush, *White farms, Black labour: The State and agrarian change in Southern Africa, 1910 – 1950* (Portsmouth, Heinemann, 1997).

[55] E Duvenage, "Professor Sandra Swart makes (her own) history", February 2022,
(Available at http://www.sun.ac.za/english/Lists/news/DispForm.aspx?ID=8926, as accessed on 1 April 2023).

[56] F Khan, "Soil wars: The role of the African National Soil Conservation Association in South Africa, 1953 – 1959", *Environmental History*, 2(4), October 1997, pp. 439-59.

[57] J Tropp, *Natures of colonial change: Environmental relations in the making of the Transkei* (Athens, Ohio University Press, 2006).

[58] MT Hoffman, "Changing patterns of rural land use and land cover in South Africa and their implications

Another notable development has been the entry of environmental history and climate change courses at South African universities. In a recent study, Sandra Swart noted an increase in the number of postgraduate students pursuing environmental history at honours, master's and PhD levels.[59] Equally significant has been an increase in socio-environmental history papers presented at academic conferences, with some published in scholarly journals.[60] The first issue of volume 73 of the 2021 edition of the *South African Historical Journal* was devoted to the Anthropocene, a significant contribution to knowledge on this theme.[61] Related to this, some South African universities have lately been offering mandatory climate change-related courses, taking a multi-disciplinary approach to their studies.[62] Therefore, including socio-environmental history in South Africa's FET history curriculum would be another way of equipping learners with skills and knowledge that prepare them for university education.

Academics aside, matters of environment and climate change have become topical among politicians, media houses, artists, and the youth. The current paper uses four illustrations. First, in April 2023, the South African president, Cyril Ramaphosa, lamented that sub-Saharan Africa is experiencing temperature changes "well above the global average" and further bemoaned that climate change-induced natural disasters, like droughts and floods, were affecting South Africa badly.[63] This ties in with an earlier concern, where, in April 2022, the then minister of Cooperative Governance and Traditional Affairs, Dr Nkosazana Dlamini Zuma, regretted the disastrous floods that had hit parts of KwaZulu-Natal province in April 2022, which left more than 435 people dead, 80 missing and affected 19 113 households, a total of 128 743 people.[64] The then minister described these floods as "… the worst we have seen in our living memory", adding that flooding in this province had worsened over the preceding five years, stating: "This tells us that climate change is

for land reform", *Journal of Southern African Studies*, 40(4) 2014, pp. 705-725.

[59] S Swart, "At the edge of the Anthropocene…", *South African Historical Journal,* 2021, p. 343.

[60] S Swart, "At the edge of the Anthropocene…", *South African Historical Journal,* 2021, p. 344.

[61] See S Swart, "At the edge of the Anthropocene…", *South African Historical Journal*, 2021, p. 345

[62] University of the Witwatersrand, "Climate change and me marks Wits' largest first-year course in its history", November 2022 (Available at https://www.wits.ac.za/news/latest-news/general-news/2022/2022-02/climate-change-and-me-marks-wits-largest-first-year-course-in-its-history.html, as accessed on17 March 2023).

[63] South African Government, "From the desk of the President" October 2021 (accessed at https://www.gov.za/blog/desk-president-88, as accessed on 7 April 2023).

[64] Reliefweb, "South Africa: KwaZulu-Natal floods – Emergency appeal No. MDRZA012 – Operational strategy", June 2022 (available at https://reliefweb.int/report/south-africa/south-africa-kwazulu-natal-floods-emergency-appeal-no-mdrza012-operational-strategy, as accessed 7 April 2023).

here with us".[65] While this paper does not estimate the extent to which climate change contributed to the KZN floods, the fact that the earth is experiencing global warming is not in doubt, and "… as the earth warms, it will generate longer droughts, more intense downpours, more frequent heatwaves and more severe storms".[66] This is consistent with the Kwa-Zulu-Natal floods and other climate and weather hazards within South Africa and the rest of the region.

Second, the South African media has also raised concerns about climate change. Since November 2018, the *Daily Maverick* newspaper has published a climate change series entitled 'Our Burning Planet', critically examining South Africa's response to climate change. The inaugural editorial column of November 2018 focussed on 'Day Zero'; the water crisis that hit Cape Town in 2017, and it queried the city's failure to plan for this, despite 30 years of evidence that the Western Cape "had been drying and heating up".[67] The second was an interview with a renowned South African meteorologist, Professor Francois Engelbrecht, which sheds light on the negative impact of global warming on health, livelihoods, food security, water supply and the economy in general.[68] What came from this interview is that climate change affects everyday lives and livelihoods. Hence, this is a theme that deserves studying in schools.

Third, artists have also been coming on board. A case in point is the modification of Barry McGuire's song, '*Eve of Destruction*', the number one USA protest song produced in the 1960s against the Vietnam War, into a climate anthem, with the purpose of "articulating all the grief and rage of living in our fossil-fuelled world".[69] Anneli Kamfer sang about the world on the eve of destruction in the adapted song, where she laments how oil-powered cars are smoking and burning the world and bemoans climate change, which is leading to the drying of rivers. She worries that when the threshold is reached, the world will go aflame and at that point, there will be nothing left to save, "…this would mark the end of the world".[70] The lyrics are accompanied by 55 horrendous video clips of natural and artificial disasters: factory pollution in the United Kingdom, car pollution in India, dead animals in

[65] T Monana, "Climate change is here, warns Dlamini Zuma", *News24,* 19 April 2022.

[66] T Jeyaretnam, et. Al, Jared Diamond, *Collapse*…, p. 43.

[67] Editorial, "Our burning planet, The Earth is on fire, it is time to start worrying", *The Daily Maverick*, 6 November 2018.

[68] K Bloom, "Our burning planet" Interview: South Africa, Climate change 'hot spot', *The Daily Maverick*, 7 November 2018.

[69] T Walters and B Brkic, "A short history of a new climate anthem, 20Twenties: Eve of destruction – how it came into being", *Daily Maverick*, 4 October 2022.

[70] Daily Maverick, "20Twenties: Eve of destruction", Anneli Kampher, (available at https://www.youtube.com/watch?v=REeWvTRUpMk, as accessed on 17 February 2023).

the drying Ngami lake in Botswana, destructive Durban floods in South Africa, disastrous forest/ bush fires in the USA and Australia, hurricane Florence of North Carolina, massive destructions of the Ukraine war, Covid-19 induced mass burials in Indonesia, among others.[71] A glimpse at the audience's comments is informative,

> *"This hit to the core", "eye-opening", "hugely powerful", "Heartbreaking call… we have tried being polite protestors, tried everything within legal parameters to get our governments to stop getting into bed with the fossil fuel criminals."*[72]

This demonstrates the extent of humanity's worries about climate change, to which history teaching can play a role, too.

The fourth example relates to the South African youth. In March 2019, for instance, hundreds of students in Cape Town joined the global students strike against governments inaction on climate change. The youth partnered with various organisations, schools and university groups across South Africa and drafted a climate change action document titled, "*South African Youth Climate Plan*".[73] The draft raised five issues, including environmental sustainability, which called for sustainability over profit, and the need to address concerns over water scarcity, biodiversity and ecosystems, agriculture and the infamous fossil fuel industry and pollution.

The preceding demonstrates that the world is facing an environmental emergency dominated by climate change. This has become a concern among various stakeholders, including the UN and some of its agencies. As noted earlier, as many stakeholders engage with this topic, climate change has become part of South Africa's public discourse. This takes us to Diamond's argument that humans can curtail environmental damage in the same way that they have contributed to it.[74] History teaching can play a role in this endeavour by including socio-environmental history in the FET history curriculum. This would conscientious learners on how human's past interactions with the planet have contributed to the Anthropocene and in that process, instil skills, attitudes, and values of environmentalism among the country's young citizens. The following section focusses on the strategies for infusing socio-environmental history into South Africa's FET history curriculum.

[71] Daily Maverick, "20Twenties: Eve of destruction", Anneli Kampher …, https://www.youtube.com/watch?v=REeWvTRUpMk

[72] Daily Maverick, "20Twenties: Eve of destruction", Anneli Kampher …, https://www.youtube.com/watch?v=REeWvTRUpMk

[73] O Ngcuka, "Pillars of an action plan: South Africa's youth step up to the climate challenge", *Daily Maverick*, 3 October 2021.

[74] J Diamond, *Collapse: How societies choose to fail…*, 2011, p. 521.

Opportunities for 'greening' the South African FET history curriculum

The current CAPS FET history curriculum came into use in 2012. It has six topics for Grade 10, five topics for Grade 11 and another six topics for Grade 12, totalling 17 topics.[75] This section builds on intersectionality and all-inclusive ecologies of knowledge approach. While Crenshaw first used the concept to give voice to the marginalised women in the USA,[76] this section of the study uses intersectionality to understand interconnections and demonstrate that socio-environmental history intersects with other history topics already part of South Africa's FET history curriculum. This section analyses these topics in detail and assesses how much socio-environment history content they carry. Where missing, the section suggests how this can be infused. Towards the end, the section suggests stand-alone environmental history topics that can be included in the FET history curriculum. Table 1 shows the Grade 10 topics of the FET history curriculum.

Table 1: Grade 10 topics

Topic	Title	Comment
1	The world around 1600	World history
2	European expansion and conquest during the 15th-18th centuries	Political and war history
3	The French Revolution	Political, military and social history
4	Transformations in Southern Africa after 1750	Political, economic and social history
5	Colonial expansion after 1750	Political and military history
6	The South African War and Union	Military and political history

As shown in Table 1, the first three of the six Grade 10 history curriculum topics, namely, the World around 1600, European expansion and conquest during the fifteenth and eighteenth centuries and the French Revolution, deal with various aspects of world political and economic histories. The first topic can be 'greened' by infusing content relating to climate science, navigation and shipping history. Similarly, the topic covering European conquests of South America can include aspects of migration and disease and

[75] For detailed study, please see, Department of Basic Education, *National Curriculum and assessment policy statement: Further education and training phase,* Grades 10-12 History, 2011.

[76] K Crenshaw, "Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics", *University of Chicago Legal Forum*, 1(8), 1997, pp. 139-167.

the demographic tragedies that accompanied European settlement in Latin America, popularly known as the "Columbian Exchange".[77] This would enlighten learners about migrations, the spread of disease and immunities. The topic of the French Revolution could be enriched by an in-depth coverage of the drought and natural disasters of 1788 and how these contributed to the French Revolution, demonstrating the nexus between nature, economies and politics.[78]

The remainder of the Grade 10 topics focus on the political, economic and military histories of South Africa. These are, firstly, transformations in Southern Africa after 1750; secondly, colonial expansion after 1750 and thirdly, the South African War and the Union of South Africa. It is possible to 'green' a topic, such as transformation in Southern Africa after 1750, by infusing environmental factors that contributed to the Mfecane upheavals, as has been explored by Jeff Guy.[79] In the process, learners can be educated about the correlation between societies, land and carrying capacities. Hence, learners can be made aware of how overpopulation can drive resource conflict, war and death, which resonates with the Malthusian crisis.[80] The topic of colonial expansion after 1750 offers an opportunity to draw links between the environment, human settlement and livelihood options, including the repercussions of unregulated exploitation of natural resources. This is illustrated by over-hunting in South Africa, which led to the extinction of the quagga by the late nineteenth century.[81] On the other hand, a detailed study of the mid- to late nineteenth century encounters between the Boer communities of the then Orange Free State with King Moshoeshoe of the Kingdom of Lesotho, demonstrates the significance of the Thaba Bosiu mountain in the defence of that kingdom against Boer encroachment. This shows the relationship between war, landscapes and national defence.[82] Lastly, the South African War of 1899-1902 can be taught not just as war history, but also to demonstrate how war can negatively interfere with human-environment relations. While it saved a war objective of starving the Boer commandos, the scorched earth policy and introduction of

[77] See, for example, N Nunn and N Qian, "The Columbian exchange: A history of disease, food and ideas", *Journal of Economic Perspectives, and Ideas*, 24(2), 2010, pp. 163-188.

[78] N Plack, "Environmental issues during the French Revolution: Peasants, politics and village common land", *Australian Journal of French Studies*, 47(3), 2010, pp. 290-303.

[79] J Guy, *Ecological factors in the rise of Shaka…*

[80] See TR Malthus, *An Essay on the Principle of Population (1798).* The works of Thomas Robert Malthus, London, Pickering & Chatto Publishers, 1, pp. 1-139.

[81] See R de Vos, Stripes faded, barking silenced: Remembering Quagga, *Animal Studies Journal*, 3(1) 2014, pp. 29-45.

[82] See, EA Eldredge, *A South African Kingdom: The pursuit of security in nineteenth century Lesotho*, (Cambridge, Cambridge University Press, 1993).

concentration camps led to food insecurity, the rampant spread of disease and the death of approximately 45 000 individuals who had been forced into the concentration camps.[83]

Table 2: Grade 11 topics

Topic	Title	Comment
1	Communism in Russia from 1900 to 1950	Political and economic history
2	Capitalism in the USA from 1900 to 1940	Political and economic history
3	Ideas of race in the late 19th and 20th centuries	Ideological and social history
4	Nationalism: South Africa, Middle East and Africa	Political and military history
5	Apartheid in South Africa 1940s to 1960s	Political and military history

Table 2 shows the five topics that are offered in Grade 11. The first two topics focus on the ideologies that dominated twentieth-century politics and economies, namely, communism and capitalism. There is room to infuse socio-environmental history content when teaching Stalin's agricultural collectivisation and industrialisation programmes in Russia. These include short- and long-term environmental effects of large-scale mining of coal and iron, industrialisation programmes, large-scale construction of dams and reservoirs along the major rivers, land clearances and irrigation systems across arid and semi-arid parts of central Asia, among other issues. The same is true of the capitalist boom of the 1920s in the USA and Franklin Roosevelt's New Deal of the 1930s. To revive the USA's economy after the Great Depression, Roosevelt passed several public work programmes that dealt with soil erosion control, water conservation, the prevention of wildfires and other environmental protection measures.[84] These demonstrate how political imperatives and economic needs of societies can, on the one hand, lead to environmental damage and disruption of ecologies while on the other hand, it shows that humans can repair the damages caused.

The other three Grade 11 topics focus on power, domination and resistance. One topic focusses on ideas of race, domination and resistance in the nineteenth and twentieth centuries in the USA, Australia, Namibia, South Africa and Germany. A similar theme underlies topics 4 and 5, which deal with nationalism, segregation and resistance in South Africa, the Middle East and Ghana. Arguably, there is minimal socio-environmental history content contained in these topics.

[83] J de Reuck, "Social suffering and the politics of pain: Observations on the concentration camps in the Anglo-Boer War of 1899-1902", *English in Africa*, 26(2), 1999, p. 80.

[84] NM Maher, "A New Deal body politic: Landscape, labor and the civilian conservation corps", *Environmental History*, 7(3) 2002, pp. 435-461.

Table 3: Grade 12 topics

Topic	Title	Comment
1	Cold War	Political and diplomatic history
2	Independent Africa	Political history
3	Civil Society protests 1950s to 1990s	Social and political history
4	Civil resistance 1970s to 1980s in South Africa	Social and political history
5	The coming of democracy in South Africa	Political and diplomatic history
6	The end of the Cold War and the new global order in 1989	Political and economic history

Grade 12 begins with a topic on the Cold War, which encompasses diplomatic and political contestations, primarily between the Union of Soviet Socialist Republics (USSR) and her allies and the USA and Western Europe. This links with topic 6 of the same grade, which is about the 1989 events which led to the collapse of the USSR and thereafter, the end of the Cold War. Nevertheless, topic 2 is interesting in that it focusses on the political, economic and social challenges experienced by Tanzania and the Democratic Republic of Congo in the context of the Cold War. It further requires studying the manifestation of the Cold War, using the case study of Angola, which was embroiled in a civil war involving the governing party's Popular Movement for the Liberation of Angola (MPLA) and an opposition National Union for the Total Independence of Angola (UNITA), which were supported by Socialist and Capitalist blocks respectively. There is an opportunity to infuse the socio-environmental effects of war on the environment, such as planting landmines and its impact on civilians, including displacement, disabilities and death.[85]

Once more, the rest of the Grade 12 topics deal with domination and resistance. While topic 3 is about civil society protests in the USA from the 1950s to 1990s, topic 4 is about civil resistance in South Africa from the 1970s to 1990s. The significant difference is that the former focusses on African Americans who resisted racism in the USA, while the latter focusses on Blacks who opposed Apartheid in South Africa. There is room to expand this topic by incorporating resistance against environmental injustices and forced removals in South Africa, as demonstrated by Kgari-Masondo's case study on the forced removals from

[85] S Roberts and J William, *After the guns fall silent: The enduring legacy of landmines*, (Washington, Vietnam Veterans of American Foundation, 1995).

Lady Shelborne to Ga-Rankuwa highlighted earlier.[86] Topic 5 is on diplomatic history and focusses on negotiations that led to the attainment of South African democracy in 1994.

From the preceding, the existing CAPS FET history topics have been analysed. The missing socio-environmental history concepts and content have been explored and suggestions made on how these could be infused into existing issues. Hereafter, the study suggests possible standalone socio-environmental history topics that can be taught in the FET history curriculum.

Table 4: Standalone socio-environmental history topics

Topic	Comment
Topic 1: Africa: The continent, its people and the environment • North Africa: the Sahara Desert, the Nile River and water conflicts since 1900. • West Africa: oil conflict and war in Nigeria since the 1950s. • Diamond mining, the Angolan civil war and the socio-environmental issues, 1975 – 2002. • Central Africa: Copper mining, socio-environmental degradation and pollution in post-colonial Zambia. • Southern Africa: Tobacco farming, profits and environmental degradation on the Zimbabwean Highveld since the 1950s. • Impact of colonisation on the socio-environmental history of Africa.	The topics give an overview of Africa's natural heritage: climates, soils, water, minerals, pastures, forests, etcetera. Covering the period since 1900, it begins with a general outline of these themes. It later takes a case study approach to examine the history of the commercial exploitation of these natural resources. This includes the history of water in North Africa, oil in Nigeria, diamonds in Angola, copper in Zambia and tobacco production in Zimbabwe. It seeks to examine how these natural resources' exploitation and use have shaped these regions' social, environmental and political histories.

[86] See MC Kgari-Masondo, "The usable past and socio-environmental justice…", *New Contree,* 2013, p.120.

Topic	Comment
Topic 2: Socio-environmental history of South Africa • The Minerals Revolution and socio-environmental impacts since the 1870s. • Commercial agriculture and its effects on societies and the environment. • Socio-environmental history of South Africa's 'Homelands' from 1951 to 1993. • Industrialisation and the South African societies and the environment. • The Lesotho Highland Water Project and South African societies since the 1980s.	The topic deals with various aspects of the South African socio-environmental history since the 1870s. These include the history of mining, especially gold mining, the history of land and commercial agriculture and that of industrialisation. The focus will be on the socio-environmental effects of these processes, including water and air pollution and their impact on communities, land degradation and disease as well as an assessment of measures to curb these adverse effects. The socio-environmental history of 'Homelands' and environmental issues associated with this subject. The problems of water scarcity in urban and rural South Africa, as well as water imports from Lesotho and the impacts on South African economies and society.

Socio-environmental history content can be infused into South Africa's existing FET history curriculum. It can also be included in this curriculum on a standalone basis. This has the potential to equip learners with a sound knowledge and an appreciation of natural and artificial processes that have informed the socio-environmental histories at local, regional and continental platforms and in the process, inculcate skills, attitudes and values about caring for the planet.

Conclusion

Therefore, prompted by the environmental and climate crisis confronting planet Earth, also known as the Anthropocene, this paper has argued for including socio-environmental history in the South African FET history curriculum. The paper has shown that since the 1960s, planet Earth has been experiencing various forms of environmental deterioration, including climate change and its effects, such as global warming and frequent natural hazards like destructive floods, diseases and unusual droughts, all contributing to the disastrous impacts on livelihoods. It has traced the origins and development of environmental history as an academic subject and analysed some measures adopted by world leaders, various UN agencies, and other stakeholders towards dealing with this ecological crisis and its effects.

The paper has demonstrated that this environmental crisis is also a South African one. It requires the efforts of various stakeholders, including politicians, academics, the media and lobby groups, to work towards mitigating this emergency. This leads to the current paper's argument that teaching history can contribute to environmental sustainability by educating learners about how humanity has contributed to the Anthropocene. To do this, the FET history curriculum, which has been in use since 2012 and is dominated by political, military, social, economic and diplomatic histories, should be revised to include appropriate socio-environmental history, demonstrating that history and nature are intertwined. This will educate learners on human-environment interactions and their results. The young citizens will learn that as humans work to eke out a living from the land, carrying out mining operations, cultivating and growing plants and manufacturing commodities in factories and industries, they variously interfere with the natural world, in the process interfering with the physical and non-physical components of the planet. This 'all-inclusive ecologies of knowledge approach' will inculcate, amongst the young citizens, the skills, attitudes and values that promote stewardship of the earth and its resources.