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Introduction

We are delighted to present Volume 14 of the ANU Undergraduate Research Journal (AURJ). This edition continues our tradition of showcasing the exceptional research and writing of ANU undergraduate students, reflecting their dedication and scholarly excellence.

First, we wish to acknowledge the traditional custodians of the land on which this issue of AURJ was ideated, written, and compiled—the Ngunnawal and Ngambri people. We honour their Elders past and present, and extend our respect to all First Nations peoples of Australia.

This volume's articles address pressing concerns both close to home and in our wider region, particularly Southeast Asia. Spanning diverse topics such as political influence on judiciaries, the sustainability impacts of improving food security, heritage conservation in Canberra and social media's role in human rights violations, these papers underscore the impactful and varied nature of research conducted by ANU students.

We begin with a local focus: Cecilia Arsenović explores the historic and cultural significance of Hall Cemetery, one of Canberra's oldest cemeteries, and advocates for its inclusion on the ACT Heritage Register. From there, we zoom out to our regional neighbours. Jas Choo analyses strategies employed by political actors to influence judiciaries, using three postcolonial societies in East and Southeast Asia as case studies. Next, Christopher Gan investigates how Singapore's '30 By 30' food security plan impacts the island nation's environmental sustainability. Finally, Harrison Oates examines the role of Facebook in the Rohingya genocide in Myanmar, employing Stanton's Ten Stages of Genocide model to unpack Meta's contribution to this atrocity.

The creation of Volume 14 has been a collective effort, and we are grateful to everyone involved. We begin by thanking the authors for their unwavering commitment and hard work in revising their manuscripts through numerous reviews. Our sincere appreciation also goes to the Learning Adviser team for their contribution to the selection and review process. Special thanks to Edward Armstrong, Student Life, whose involvement and constructive feedback throughout has been crucial in enhancing this volume. We are also indebted to our copyeditor, Beth Battrick, for her meticulous work in the final stages of editing.

We hope Volume 14 of AURJ offers student perspectives that deepen your understanding of complex issues in Australia and our region and inspire further research to drive positive change. Happy reading!

Janet Davey and Jane McGettigan

Editors

About the authors

Cecilia Arsenović

Cecilia is a Bachelor of Arts (Honours) student in Classical Studies. She has previously completed a double degree, combining a Bachelor of Art History and Curatorship with a Bachelor of Arts (Archaeology), and a Diploma of Languages (Latin and Ancient Greek). She is interested in learning about the past, especially through cultural and natural objects.

Jas Choo

Jas Choo is a Bachelor of Laws (Honours) student at The Australian National University College of Law. She spent her childhood between Malaysia and Western Australia, which led to an academic interest in the differences in legal behaviours between jurisdictions that share a joint Commonwealth history. Outside of academic writing, Jas enjoys using words to write songs and poetry. As an English and literature tutor, she fervently hopes that there are limited grammatical errors in her writing.

Christopher Gan

Christopher Gan is currently a Project Officer at Plant Health Australia. He graduated in 2024 with a Bachelor of Politics, Philosophy and Economics, with Honours, from The Australian National University. His research interests include food security policy and contemporary political theory, as well as quantitative statistical methods.

Harrison Oates

Harrison Oates is currently completing a double degree in Advanced Computing (Research and Development) (Honours) and Politics, Philosophy and Economics, which he commenced in 2022. He aims to leverage his interdisciplinary background to address the societal implications of technological systems. His goal is to contribute to the development of equitable and sustainable technology policy frameworks.

About the editors

Janet Davey

Janet Davey is a PhD candidate at the Australian Centre on China in the World and the School of Literature, Languages & Linguistics at ANU. Her PhD research examines native Chinese speakers' understanding of *chengyu* 成语 (Chinese idiomatic expressions), using a psycholinguistics approach that is informed by her Bachelor of Science, Bachelor of Asian Studies (Honours), and Bachelor of Asia-Pacific Studies (Year in Asia) degrees. She has written, edited, and translated multiple academic papers for publication, and works with undergraduate students to enhance their academic writing as a Writing Coach with ANU Academic Skills. Janet spends most spare time at the gym, working as a group fitness instructor.

Jane McGettigan

Jane McGettigan brings over a decade of experience in the education sector, having worked in schools and universities across Australia, Singapore, Hong Kong, Japan, and Turkey. Her expertise spans a diverse range of disciplines, and she has successfully guided both undergraduate and graduate students. As an accomplished Learning Adviser, Jane provides invaluable support to students, fostering the development of their academic skills, confidence, and independent learning abilities.

About the artwork

The blue tree depicted in this artwork, located on the Acton campus by the banks of Sullivans Creek, is a familiar and cherished sight for both staff and students at the ANU. This vibrant symbol represents our participation in the Blue Tree Project, an initiative dedicated to raising awareness about mental health. The presence of the blue tree on our campus underscores the University's commitment to fostering the mental wellbeing of our community, alongside our pursuit of academic excellence.

This image is from the ANU photos gallery ([Blue tree on campus of the ANU]. (n.d.). [Digital Art]. Retrieved 15 January 2025. ANU photos. https://anuphotos.photoshelter.com/).

Reassessing heritage significance in the Australian Capital Territory: A cultural significance assessment of Hall Cemetery

CECILIA ARSENOVIĆ

Abstract

This paper is a reassessment of the heritage significance of Hall Cemetery, a historical cemetery in the Australian Capital Territory (ACT) on Ngunnawal and Ngambri Country. Historical cemeteries provide a valuable natural and cultural record of the region. Recognition in the ACT Heritage Register supports the preservation and management of these places. The ACT Heritage Register only identifies Hall Cemetery's natural significance for the endangered Tarengo Leek Orchid, within the collective historic and social values of the Hall Village Precinct. Unlike other historical cemeteries in the ACT, Hall Cemetery does not have an individual heritage registration and thus has not received the kind of conservation efforts that are provided for individually listed cemeteries.

As part of my assessment, I utilise the Burra Charter, the primary document that outlines the principles for assessing the cultural significance of places in Australia, and apply the two steps for determining significance: Step One: understand the place, and Step Two: assess cultural significance with the ACT *Heritage Act 2004*. I approach both steps through archival and on-site research, finding that Hall Cemetery encompasses not only natural significance but also cultural significance in its historic and social values that are worthy of individual recognition. In Step Two I find that Hall Cemetery meets four of the eight ACT heritage criterion points, when only one is required to establish heritage significance. I compare Hall Cemetery with the individually listed Weetangera Cemetery that reveals striking similarities in its historic value and genealogical record, which further demonstrates that Hall Cemetery should be individually recognised. This reassessment of heritage presents a strong case for an individual listing of Hall Cemetery for both its natural and cultural significance.

Introduction

Historical cemeteries in the Australian Capital Territory (ACT) are valued for their record of early settlement of the region, decades before the capital city of Canberra was established. Inclusion in the ACT Heritage Register supports the preservation and management of these places (Claoué-Long 2006: 6–7). Burials with individual heritage listing in the ACT include former churchyards Weetangera and St Paul's; a private cemetery, Cuppacumbalong; public general cemeteries Tharwa and Woden; and an Aboriginal burial, Onyong's Grave Site, consisting of both original headstones and unmarked graves. Hall Cemetery was submitted along with the Hall Village Precinct into the ACT Heritage Register following the ACT *Heritage Act of 2004*, acknowledged for the endangered Tarengo Leek Orchid habitat (ACT Heritage Council 2004b: 3). This rare species is found in limited places in New South Wales (NSW) and only known to occur at Hall Cemetery within the ACT (Environment, Planning and Sustainable Development Directorate 2019a: 192–93). While this registration is beneficial for the place, prior assessment of heritage has overlooked an individual heritage registration as provided for other historical cemeteries in the ACT, and individual historic and social values that have been acknowledged for collective places within Hall Village Precinct (ACT Heritage Council 2004b: 3). This paper reassesses the heritage significance of Hall Cemetery through archival and on-site research, finding that Hall Cemetery has not only natural significance but also cultural significance deserving of individual

heritage recognition. Comparison with the individually listed Weetangera Cemetery in the Belconnen district reveals striking similarities in its historic value and genealogical record (ACT Heritage Council 2004e).

This heritage reassessment follows the guidelines of the Burra Charter 2013, adopted by the Australian National Committee of the International Council on Monuments and Sites (Australia ICOMOS), which provides guidance for the conservation and management of places of cultural significance. There are seven steps in planning for and managing a place of cultural significance outlined in the Burra Charter. This paper covers the first two steps. The other five steps are beyond the scope of this paper as they deal with managing the site after heritage significance has been established. The first two steps are:

> **Step One: Understand the Place:** define the place and its extent, investigate the place: its history, use, associations, fabric.

> **Step Two: Assess Cultural Significance:** assess all values using relevant criteria, develop a statement of significance. (Australia ICOMOS 2013: 10)

The Burra Charter Article 1.2 defines the values that encompass cultural significance as:

> Aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

> Places may have a range of values for different individuals or groups. (Australia ICOMOS 2013: 2)

Values that are relevant to Hall Cemetery include a place having historic value 'because it typifies past practices, or because it may be the site of an important event', and social value 'in its association with a particular recognisable community, or parts of a community' (Smith & Burke 2007: 230–31). To assess the cultural significance of Hall Cemetery using the relevant criteria, the ACT *Heritage Act 2004* is the appropriate document. This legislation outlines heritage significance at the Territory level. A place has heritage significance if it meets one or more of the following points in the heritage significance criteria:

> (a) importance to the course or pattern of the ACT's cultural or natural history;

> (b) has uncommon, rare or endangered aspects of the ACT's cultural or natural history;

> (c) potential to yield important information that will contribute to an understanding of the ACT's cultural or natural history;

> (d) importance in demonstrating the principal characteristics of a class of cultural or natural places or objects;

> (e) importance in exhibiting particular aesthetic characteristics valued by the ACT community or a cultural group in the ACT;

> (f) importance in demonstrating a high degree of creative or technical achievement for a particular period;

> (g) has a strong or special association with the ACT community, or a cultural group in the ACT for social, cultural or spiritual reasons;

> (h) has a special association with the life or work of a person, or people, important to the history of the ACT. (ACT Government 2020: Part 2, 10)

This paper presents a strong case for individual heritage recognition, arguing that Hall Cemetery demonstrates not only natural significance but also cultural significance by meeting four of the eight criterion points, (b), (c), (g), and (h), which are evaluated in Step Two. This assessment leads to the 'statement of significance', a summary of the heritage value of a place and how it meets the relevant criteria, as required for heritage recognition in the Burra Charter process.

Step one: Understand the place

Hall Cemetery is located at Wallaroo Road, Hall, 2618, ACT, Ngunnawal and Ngambri Country, detached from the main village precinct of Hall across the Barton Highway. It is a public general

cemetery consisting of burial, cremation, and memorial sections of several church and faith groups including 'Church of England, Methodist, Catholic, Presbyterian, Jewish, Independent, and a non-sectarian section' (Hall Heritage Centre n.d.a). Hall Village was established in 1882 (ACT Heritage Council 2004b: 3) and Hall Cemetery a year later, acknowledged in the NSW Government Gazette. It is the oldest public general cemetery in the ACT still in use (Claoué-Long 2006: 28). The first recorded burial was in 1907, of infant Bessie Shumack (Hall Heritage Centre n.d.a). This was prior to the declaration of the Federal Capital Territory, now the Australian Capital Territory, in 1911 (Gillespie 1991: 249).

Twenty years after its establishment and prior to the first burial, there were public calls for Hall Cemetery to be better managed. In 1903 a publication in the *Goulburn Evening Penny Post* (28 July 1903) expressed support for the Hall Progress Committee's grant application to allow the cemetery to be 'cleared and fenced'. This request was reportedly accepted in 1908, one year after the first burial (Goulburn Evening Penny Post, 30 April 1908). Since then, several churches have tended to sections of the cemetery, including the Roman Catholic Church in 1910, and the Trustees of the Methodist Cemetery, who commenced maintenance plans from 1914 (Hall Heritage Centre n.d.a). The Canberra Public Cemeteries Trust took over responsibility of the cemetery from 1988 onwards (Claoué-Long 2006: 28). This was superseded by the independent ACT Public Cemeteries Authority, established from the *Cemeteries and Crematoria Act 2003*, which also manages Gungahlin and Woden cemeteries (ACT Public Cemeteries Authority 2014: 441).

Hall Village Precinct was submitted into the ACT Heritage Register following recognition in the 2001 Interim Heritage Place Register and the ACT *Heritage Act 2004*. Hall Cemetery has been acknowledged in this entry for the endangered Tarengo Leek Orchid (*Prasophyllum petilum*) habitat (ACT Heritage Council 2004b: 3). This species was identified in 1991 and declared endangered five years later. Small populations have been recorded in NSW and only at Hall Cemetery in the ACT (ACT Scientific Committee 2019: 4). The Hall Cemetery Management Plan was established in 2005 by Wildlife Research and Monitoring and Canberra Cemeteries for the conservation of the Tarengo Leek Orchid and updated by Conservation Research and Canberra Cemeteries in 2013. Management includes regulated mowing, weeding, use of fertiliser, eucalyptus growth, cockatoo disturbance, fire, grazing, motor vehicle access, and grave digging (Environment, Planning and Sustainable Development Directorate 2019a: 194–96). The 2019 *Conservation Advice for the Tarengo Leek Orchid* that was published under the *Nature Conservation Act 2014* outlined the conservation objective of the 'ACT Draft Action Plan for the Tarengo Leek Orchid': 'to preserve the Tarengo Leek Orchid in perpetuity in the wild across its natural geographic range in the ACT, including the need to maintain natural evolutionary processes' (ACT Scientific Committee 2019: 3). This action plan expanded on previous management procedures to conserve the threatened Yellow Box – Blakely's Red Gum Grassy Woodland and Natural Temperate Grassland as part of the orchid's habitat (Environment, Planning and Sustainable Development Directorate 2019a: 195). Further natural significance of Hall Cemetery is discussed in Step Two.

While the actions taken by the Hall Cemetery Management Plan to some extent benefit heritage conservation by managing the vegetation of the site, the Hall Village Precinct heritage register entry only acknowledges natural significance for containing the threatened Tarengo Leek Orchid. This assessment has not defined Hall Cemetery's 'historical and social associations with the early pioneers of Ginninderra and Hall District families' that has been acknowledged for collective places within Hall Village Precinct in the heritage entry's statement of significance (ACT Heritage Council 2004b: 3). Conservation requirements for cultural significance, as provided for individually listed cemeteries in the ACT, have not been devised for Hall Cemetery.

Step two: Assess cultural significance

Assessment of cultural significance informs the heritage value of a place and how it meets the relevant criteria for heritage registration. Individually listed cemeteries in the ACT exhibit a range of cultural significance values, including St Paul's Burial Ground (1872–1900)—a 'rare example of nineteenth century churchyard burial plots' (ACT Heritage Council 2011: 2), Cuppacumbalong (1876–1903)—a

'rare example of a nineteenth century pastoral station cemetery' (ACT Heritage Council 2004a: 2), Onyong's Grave Site (c. mid-nineteenth century) of a 'prominent figure in the history of the ACT with regards to the era of contact between Aboriginal people and European settlers' (ACT Heritage Council 2015: 3), and two public cemeteries; Tharwa (1911–), containing 'some of the early pioneer selectors of the Tidbinbilla/Tharwa areas' (ACT Heritage Council 2004d: 3), and Woden (1936–), 'part of the early planning and developing of Canberra as the national capital' (ACT Heritage Council 2008: 5). The case for individual cultural significance recognition of Hall, as discussed below, is strengthened by comparison with a related place listed individually on the ACT Heritage Register, Weetangera Cemetery (1875–1964). This cemetery, located in the Belconnen district, was established in 1873 alongside one of the earliest Methodist churches in the ACT region, now marked by a stone cairn. The first burial occurred two years later (ACT Heritage Council 2004e: 1, 5).

Both Weetangera and Hall cemeteries demonstrate the strong Methodist values introduced to the Ginninderra district by the Southwell family from the 1840s, who are buried throughout these cemeteries (Hall Heritage Centre n.d.c). European settlers Thomas and Eliza (née Cooke) Southwell arrived in the district in 1840 and are the first known Methodists in the region (Canberra Tracks n.d.b). Several Southwell brothers and their families, migrating from Sussex, England, had settled in the Ginninderra district by the 1860s. Members of the Southwell and Brown settler families were instrumental in introducing Methodism to the area, having established Methodist churches in the Canberra and Sydney regions (Brown 2020: 4, 8). Thomas Southwell, a lay preacher, established a wooden chapel at his 'Parkwood' homestead in 1863 (Claoué-Long 2006: 12), rebuilt as a stone church in 1880, which encouraged further Methodist settlement of the district (Canberra Tracks n.d.b). Weetangera Cemetery's statement of significance as part of the ACT Heritage Register entry consists of strikingly similar aspects of significance within Hall Cemetery, such as the following (ACT Heritage Council 2004e: 1):

> significant for its age, location, composition of its burials, and intact nature. The cemetery is one of the oldest in the ACT and its burials include early pioneers of the Canberra district … With little changes to the graves' architecture and headstones since construction, they present unaltered physical specimens of the prevailing cultural preferences of the period. The graves provide valuable genealogical information on individuals and families.

Every one of these points in Weetangera Cemetery's statement of significance apply to the following argument for Hall Cemetery's individual heritage significance. However, differences between these places are that Hall's burials began in the early twentieth century, from 1907, while Weetangera's first burial occurred three decades prior in 1875. Weetangera was a Methodist cemetery, while Hall is a general cemetery that contains a number of denominations. Furthermore, unlike Weetangera, Hall continues to have interments to this day. In turn, Hall has generational continuity with the Southwell family from Weetangera Cemetery. As well, Hall has natural significance, which has not been recognised for other cemeteries in the ACT Heritage Register including Weetangera. The following assessment argues that Hall Cemetery demonstrates not only natural significance but also has cultural significance worthy of individual heritage registration by meeting four of the eight ACT *Heritage Act 2004* criterion points: (b), (c), (g), and (h).

Hall Cemetery has been recognised for natural significance in the ACT Heritage Register, which relates to criterion (b): 'has uncommon, rare or endangered aspects of the ACT's cultural or natural history'. Hall Cemetery's contribution to the ACT's natural history is significant as other cemeteries in the ACT Heritage Register have not been recognised for any uncommon, rare, or endangered aspects, including Weetangera. Cemeteries are well recognised for being places of biodiversity conservation and preserving endangered species habitats (Villaseñor & Escobar 2019: 1044). Management such as mowing can encourage native and rare species to flourish (Canberra Tracks n.d.b). This is especially so for rural places such as Hall Cemetery. This place consists of several native species that are uncommon, rare, and endangered such as the only population of the Tarengo Leek Orchid in the ACT. As mentioned in Step One, the orchid's habitat at Hall Cemetery is the Yellow Box – Blakely's Red Gum Grassy Woodland. This type of woodland is nationally listed as endangered (Environment, Planning and Sustainable Development Directorate 2019b: 113). As acknowledged in the ACT Heritage Register, this woodland encompasses the cemetery and Hall Village Precinct as well. It also contains five bird

species declared vulnerable in the ACT (ACT Heritage Council 2004b: 3). Therefore, the current heritage listing provides a good assessment of Hall's heritage significance for uncommon, rare, and endangered natural aspects.

Historical cemeteries in NSW have been acknowledged for similar natural significance, including for the Tarengo Leek Orchid, which is found in limited places such as at Ilford Cemetery in Bathurst and Captains Flat Cemetery (Environment, Planning and Sustainable Development Directorate 2019a: 192–93). Furthermore, Hall Cemetery contains the rare and endangered grasshopper species Key's Matchstick (*Keyacris scurra*), endemic to Australia (ACT Scientific Committee 2023: 2) and also thought to occur at Murrumbateman Cemetery in NSW (Canberra Tracks n.d.a), which demonstrates additional value for containing uncommon, rare, and endangered aspects of the ACT's natural history beyond the current listing for Hall Cemetery.

Natural significance is further demonstrated with criterion (c): 'potential to yield important information that will contribute to an understanding of the ACT's cultural or natural history'. Fencing Hall Cemetery off from surrounding pastoral land during the early settlement era, as mentioned in Step One, has preserved an important record of the ACT's natural history for over a century. The cemetery's ongoing maintenance following recognition of endangered species and heritage listing has preserved unique native flora and fauna at Hall Cemetery (Canberra Tracks n.d.a). Thus, the current recognition of natural significance for Hall Cemetery is valuable and distinguishes it from other cemeteries in the ACT Heritage Register, including Weetangera, that have not been recognised for any natural significance.

While Hall Cemetery's recognition for natural significance is beneficial, as discussed above, this place also has cultural significance in its historic and social values. Hall holds historic value in its important record of rural burial practices in relation to the cultural history of European settlement in this region. The cemetery is part of one of the first villages established in the ACT region and is a remnant of late nineteenth-century society. It is valuable as the first official cemetery of the region outside of Queanbeyan and for being still in use today (Claoué-Long 2006: 25). With several original headstones intact, ranging from poor but identifiable condition (as demonstrated by Figures 1 and 2 below) to very good condition, this site preserves genealogical and historical information about the first settler families of the Ginninderra district and Hall Village. The place also preserves information about early twentieth-century rural burials, headstone construction, and religious practices in the ACT region since the first burial in 1907 (Hall Heritage Centre n.d.a). As seen in Figure 2, the headstone for three members of the Southwell family including John, who was the son of Thomas and Eliza Southwell, records the continuation of settlement in this region for three generations after the first settlers. Their religion is referenced with the inclusion of Christian bible verse and hymn quotes on the headstone. This record also has national significance as it notes John's son Raymond Southwell's involvement as part of the '8th Field Ambulance Corps' in the Australian Imperial Force 'AIF', which served during the First World War (Australian War Memorial n.d.). Therefore, an individual heritage recognition for Hall Cemetery would establish conservation requirements, which would attempt to preserve the important historic value of its headstones and burial sites, as has been done for other individually listed cemeteries such as Weetangera.

Weetangera Cemetery exhibits similar historic value to Hall, contributing important information to an understanding of the ACT's cultural history of historical burial practices and their record of early European settlement. The headstones of Thomas and his second wife Mary (née Croxton) Southwell at Weetangera (Figure 3) are particularly significant, as they are some of the oldest burials of Methodist settlers in this region and Thomas was an influential historic Methodist figure. Like Hall, reference to the religion of these settlers is seen in the inclusion of bible verse quotes on the headstones. Reference to their residency is included for their home at 'Parkwood', which Thomas built in 1863 (Canberra Tracks n.d.b). Information on the headstone construction can be derived from the inclusion of a name and location 'Duncan Goulburn' on both headstones, which can be linked to the work of a craftsman from the region. The very good condition of headstones that predate Hall Cemetery demonstrate the benefits of individual heritage recognition and conservation requirements. Cemeteries with an individual listing in the ACT Heritage Register have conservation requirements outlining that any changes should respect and not diminish a cemetery's heritage significance and be guided by a Conservation Management Plan. It is a requirement that 'Weetangera Cemetery be conserved and

appropriately maintained as a cemetery consistent with its heritage significance' (ACT Heritage Council 2004e: 2). Tharwa Cemetery's heritage entry recommends that 'permanent markers should be erected on the unmarked graves and those which have lost their headstones' (ACT Heritage Council 2004d: 4). This conservation practice has been observed at Weetangera Cemetery for several burials. Both Weetangera and Hall cemeteries contribute to a similar understanding of the cultural history of the ACT, and thus Hall Cemetery would benefit from individual heritage registration.

Figure 1. (Left) Rev. A Brown, d. 1913, Hall Cemetery.

Poor but identifiable condition. Conservation would preserve the cultural significance of the cemetery.

Photo by author.

Figure 2. (Centre) Southwell family burials, Hall Cemetery.

John Southwell d. 1912, Louisa Southwell d. 1926, Raymond Southwell d. 1942. Notes Raymond's wife Mary and son Peter—poor but identifiable condition. Conservation would preserve the cultural significance of the cemetery.

Photo by author.

Figure 3. (Right) Southwell burials, Weetangera Cemetery.

Thomas Southwell d. 1881, Mary Southwell d. 1885—very good condition. Conservation preserves the cultural significance of the cemetery.

Photo by author.

Yet, unlike cemeteries in the ACT Heritage Register that are no longer used, more recent burials at Hall Cemetery preserve a continuous history of settlement in this region and the changes in burial, cremation interment, and memorial practices. This is similarly demonstrated by the other twentieth-century public cemeteries, Tharwa and Woden. Hall Cemetery is relevant to the history of European settlement in the northern districts of the ACT that encompasses Weetangera Cemetery. Hall has a record of several generations of the Southwell family and has the potential for containing future burials from these families. Therefore, both the historical and more recent burials at Hall Cemetery contribute to the ACT's cultural history and are indicative of the cemetery's individual cultural significance.

Hall Cemetery exhibits further cultural significance in its social value by meeting criterion (g): 'has a strong or special association with the ACT community, or a cultural group in the ACT for social, cultural or spiritual reasons'. This is found in the continuing significant community engagement with Hall, unlike Weetangera, which is no longer used for interments. Social value has been strong for the community and surrounds of Hall, with several gatherings to mourn and pay tribute to community members. Several newspaper reports record the social and spiritual values of Hall Cemetery for the local community. The cortege at Hall Cemetery for Rev. Alfred Brown (Figure 1) in 1913 was reported in an extensive obituary in *The Queanbeyan Age* (21 November 1913). This included 'about 300 persons' with four ministers taking part in the service for the 'beloved Pastor of the Methodist Church' of Queanbeyan. An article from *The Canberra Times* (20 August 1956), with the headline 'Big Attendance at Funeral', reported the attendance at the Roman Catholic Church in Hall for the funeral

of Ginninderra resident Henry Rowland Joseph Curran, followed by a 'cortege extended over almost two miles … a large crowd at the graveside in the Hall General Cemetery'. The mourners were 'representative of most denominations and all sections of the community of the ACT'. As Hall Cemetery is still in use, there is a strong possibility of these types of events occurring in the future.

While Hall Cemetery contains interments for a number of faith and family groups, its social value is especially significant in the sectioning for two prominent Methodist families from the early local community, Southwell and Kilby (Claoué-Long 2006: 28). These same family groups who arrived in this region as Methodist settlers since the 1840s have a significant connection with family burials at Weetangera Cemetery (Hall Heritage Centre n.d.c). These families have had a strong community engagement with Hall Cemetery, as well as funeral services at the Wattle Park Methodist Church just outside the ACT border in NSW. *The Canberra Times* (24 July 1950) reported the attendance at the gravesite of James Kinlock Kilby, son-in-law of Thomas and Mary Southwell, at Hall. With a cortege of 'approximately 80 cars … more than 200 persons' in attendance, the 'majority of those present were connections of the family, which is closely linked with Canberra's best-known group, the Southwell family'. His funeral service at Wattle Park was also 'filled to over-flowing'. Hall not only preserves social value in relation to the faith and family groups of those buried at this place but also extends to a broader ACT community that encompasses Weetangera Cemetery.

There are several similar records of the social and spiritual values of Weetangera Cemetery and its special association with the ACT community. Twenty-one of the forty-four burials at Weetangera are from the Southwell family. A few others are of the related Brown and Kilby families (ACT Heritage Council 2004e: 5). As was reported in *The Queanbeyan Observer* (16 September 1902) following the death of Alice (née Somner) Southwell, wife of Thomas Southwell, who was the grandson of Thomas and Eliza:

> the Southwells are, perhaps, the most numerous family in the district, and the funeral cortege, as it wended its way to the Weetangera Methodist Cemetery … was the largest ever witnessed in that locality.

The burial service was conducted by the previously mentioned Rev. Alfred Brown (Figure 1). As it is no longer used, Weetangera Cemetery's community engagement has been passed on to Hall with its continuing burials including those of the Southwell, Kilby, and Brown families.

More recent association with the community at Hall Cemetery has been recognised with a plaque from the Minister for Finance and Urban Services, Mr Craig Duby MLA, dated 2 June 1990. This plaque is placed at the cemetery, dedicated to the 'Kilby family and past trustees' to acknowledge their voluntary and ongoing contribution to maintaining the place (Australian Cemeteries Index n.d.). Hall Cemetery has a history of strong community engagement and continues to have social value as a place for descendants of the earlier settlers to commemorate their heritage and the history of the region. Hall Cemetery's individual significance is further strengthened with community use today.

Hall Cemetery also demonstrates cultural significance in both historic and social value in relation to criterion (h): 'has a special association with the life or work of a person, or people, important to the history of the ACT'. The place is valuable for being associated with early settler families such as the Southwell, Kilby, and Brown families who are important to the history of Hall Village, as discussed above (Hall Heritage Centre n.d.a). Hall is significant not only for containing a number of historical burials but especially for being the resting place of several individuals from the first Methodist family of this region. Four of Thomas Southwell's children, John (Figure 2) with Eliza, Hannah and Beatrice with Mary, and a step-daughter from Mary's previous marriage, Ann, are buried at Hall Cemetery; all were born and raised at the Parkwood homestead and resided in the Hall district (Hall Heritage Centre n.d.b). Hannah (née Southwell) Brown in 1931 was commemorated in the *Yass Tribune-Courier*, which described her death as 'evidence of the fleetness of time and the reminder of the gradual passing away of men and women of the earlier pioneering days'. Following the service at Wattle Park, her interment at Hall 'despite the severe cold weather was largely attended' (Yass Tribune-Courier, 16 July 1931) 'by a wide circle of relatives and friends' (Yass Tribune-Courier, 9 July 1931). The article from 16 July lists more than 10 different families that provided floral tributes. Hannah is directly connected to Weetangera with the burial of her infant son in 1898. *The Canberra Times* (1 October 1947) published an obituary for Beatrice (née Southwell) Kilby, wife of the previously mentioned James Kinlock Kilby.

She was described as the 'last direct link with the late Mr. Thomas Southwell … daughter by his second wife, Mary, and the youngest of a family of 20'. Beatrice retains a reputation as a 'well known, noted horsewoman, and also one of the first music teachers in the area' (The Canberra Times, 1 October 1947). Hall Cemetery has a special association with the first Methodist family of the region that were important to the history of European settlement in the ACT.

Hall and Weetangera cemeteries are both linked to the burial of several Southwell family members, who were the first Methodist settlers in this region. Thomas, his second wife Mary, his brother John and wife Lucy are buried at Weetangera. Thomas' first wife Eliza is buried at St John's Churchyard in Reid (Canberra Tracks n.d.b), which is included in the ACT Heritage Register along with the St John the Baptist Church (ACT Heritage Council 2004c). There have been significant community engagements decades after their deaths to commemorate the life and legacy of these early Methodist settlers in the region. A gathering at the Parkwood homestead in 1938 celebrated 100 years since Thomas and Eliza arrived in Australia. Around 600 relatives and friends gathered, and 460 signed a roll book with the majority being descendants (The Canberra Times, 25 January 1938). Another family reunion in 1988 to mark 150 years was attended by over 2,000 people at The Australian National University. This event led to the formation of the Southwell Family Society, which keeps a record of genealogy and memorabilia (Southwell Family Society 2022). Thus, Hall and Weetangera cemeteries have comparable historic and social values in association with the same families, who are important to the history of European and Methodist settlement in the ACT.

However, while Weetangera Cemetery has been recognised for its association with early settlers, Hall Cemetery also has had more recent association with individuals important to the history of the ACT. Hall is the resting place of modern-day prominent community members, for example the notable South African–Australian author Bryce Courtenay AM, who was buried in 2012 (Canberra Memorial Parks n.d.). He had lived in Canberra and received an Honorary Doctorate from the University of Canberra in 2012 (University of Canberra n.d.). Thus, Hall Cemetery has an ongoing association with individuals important to the ACT throughout its cultural history. The cemetery maintains historic and social values for the community and individuals buried, and has the potential for future community use that is of cultural significance to the ACT.

This assessment, thus far, has shown how Weetangera Cemetery and other individually listed cemeteries possess similar heritage values to Hall Cemetery in containing historical and rural burials, preservation of headstones, genealogy records, and connection to early European settlement. As well, Weetangera shares an ongoing genealogical linkage with family members interred at Hall today. Overall, Hall Cemetery's continued use and connection across the ACT's cultural history demonstrates a stronger association with the ACT community and descendants of settler families today. Furthermore, natural significance, which has not been acknowledged for the other cemeteries in the ACT Heritage Register, strengthens the case for individual recognition.

Conclusion

Since heritage registration in the ACT requires meeting at least one of the points in the heritage criteria, by meeting four criterion points, Hall Cemetery more than meets the requirements for individual heritage recognition of its natural and cultural significance. The following concluding remarks are the statement of significance developed from the above assessment, as required by the Burra Charter process for heritage recognition.

Established in 1883, with the first burial in 1907, Hall Cemetery is the ACT region's oldest official public cemetery and is still used today. This place is encompassed by the value of the historic and heritage location of Hall Village Precinct. Hall Cemetery preserves aspects of the nineteenth-century landscape and natural history, having been cleared and fenced off from pastoral land for over a century. This place is significant for the burial of individuals of nineteenth-century early European settler families from the Hall and Ginninderra districts, most notably the Southwell, Kilby, and Brown families.

Inclusion within the Hall Village Precinct in the ACT Heritage Register and the Cemetery Management Plan for the Tarengo Leek Orchid habitat has only acknowledged part of the heritage significance of Hall Cemetery. Comparable cultural significance has been assessed and represented in the individual heritage listing of Weetangera Cemetery. Recognising and managing the individual cultural heritage significance of Hall Cemetery will preserve the historic value of nineteenth and twentieth-century community, rural burial practices, settler genealogy references, and early twentieth-century headstone construction. It will also acknowledge the social and spiritual values of funerary and commemorative engagements at the cemetery for descendants and the local community. Individual recognition will further conserve the cemetery's natural significance for containing the endangered Tarengo Leek Orchid and other threatened fauna and flora such as the endangered Key's Matchstick grasshopper and the surrounding woodland.

References

ACT Government 2020. *Heritage Act 2004. Republication No 29* [last accessed 1 June 2022]. Available from https://www.legislation.act.gov.au/View/a/2004-57/current/html/2004-57.html.

ACT Heritage Council 2004a. *Entry to the ACT Heritage Register Heritage Act 2004: Cuppacumbalong (De Salis) Cemetery.* ACT Government [last accessed 21 November 2024]. Available from https://www.environment.act.gov.au/__data/assets/pdf_file/0008/148499/cuppacumbalong-cemetery-entry-to-the-heritage-register.pdf.

ACT Heritage Council 2004b. *Entry to the ACT Heritage Register Heritage Act 2004: Hall Village Heritage Precinct.* ACT Government [last accessed 20 January 2025]. Available from https://www.act.gov.au/__data/assets/pdf_file/0006/148596/hall-village-heritage-precinct-entry-to-the-heritage-register.pdf.

ACT Heritage Council 2004c. *Entry to the ACT Heritage Register Heritage Act 2004: St. John the Baptist Church and Churchyard.* ACT Government [last accessed 22 December 2024]. Available from https://www.act.gov.au/__data/assets/pdf_file/0006/148470/st-john-baptist-church-entry-to-the-heritage-register.pdf.

ACT Heritage Council 2004d. *Entry to the ACT Heritage Register Heritage Act 2004: Tharwa Cemetery.* ACT Government [last accessed 27 December 2024]. Available from https://www.act.gov.au/__data/assets/pdf_file/0005/148496/tharwa-cemetery-entry-to-the-heritage-register.pdf.

ACT Heritage Council 2004e. *Entry to the ACT Heritage Register Heritage Act 2004: Weetangera Cemetery.* ACT Government [last accessed 20 January 2025]. Available from https://www.act.gov.au/__data/assets/pdf_file/0005/1328720/weetangera-cemetery-entry-to-the-heritage-register.pdf.

ACT Heritage Council 2008. *Heritage (Decision about Registration of Woden Cemetery, Philip) Notice 2008 (No 1).* ACT Government [last accessed 27 December 2024]. Available from https://www.legislation.act.gov.au/ni/2008-484.

ACT Heritage Council 2011. *Heritage (Decision about Registration for St Paul's Burial Ground, Evatt). Notice 2011.* ACT Government [last accessed 27 December 2024]. Available from https://www.legislation.act.gov.au/ni/2011-741.

ACT Heritage Council 2015. *Heritage (Decision about Registration of Onyong's Grave Site, Tharwa, Paddys River) Notice 2015.* ACT Government [last accessed 27 December 2024]. Available from https://www.legislation.act.gov.au/ni/2015-256.

ACT Public Cemeteries Authority 2014. *2013–14 Budget Paper No. 4.* ACT Government [last accessed 1 June 2022]. Available from https://www.treasury.act.gov.au/budget/previous-act-budgets/budget-2013-2014/budget-paper-4.

ACT Scientific Committee 2019. *Nature Conservation (Tarengo Leek Orchid) Conservation Advice 2019.* ACT Government [last accessed 1 June 2022]. Available from https://www.legislation.act.gov.au/View/ni/2019-711/current/html/2019-711.html.

ACT Scientific Committee 2023. *Nature Conservation (Key's Matchstick Grasshopper) Conservation Advice 2023.* ACT Government [last accessed 29 December 2024]. Available from https://www.legislation.act.gov.au/View/ni/2023-222/current/html/2023-222.html.

Australia ICOMOS 2013. *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance.* Australia ICOMOS Incorporated.

Australian Cemeteries Index n.d. *Cemetery 916 – Hall* [last accessed 18 May 2022]. Available from https://austcemindex.com/cemetery?cemid=916.

Australian War Memorial n.d. *8th Australian Field Ambulance* [last accessed 23 December 2024]. Available from https://www.awm.gov.au/collection/U51768.

Brown, C. 2020. *My Early Hall Days.* Hall School Museum and Heritage Centre.

Canberra Memorial Parks n.d. *Hall Cemetery* [last accessed 6 May 2022]. Available from https://www.canberramemorialparks.act.gov.au/visit/hall-cemetery.

Canberra Tracks n.d.a. *Hall Cemetery* [last accessed 11 May 2022]. Available from https://www.canberratracks.act.gov.au/heritage-trails/track-4-act-pioneers-cemetery/hall-cemetery.

Canberra Tracks n.d.b. Hall Cemetery, on-site information. Hall Cemetery, Wallaroo Road, Hall, 2618, ACT.

Claoué-Long, A. 2006. *Rural Graves in the ACT—A Historical Context and Interpretation.* Canberra: National Trust of Australia.

Environment, Planning and Sustainable Development Directorate 2019a. *Tarengo Leek Orchid: Prasophyllum Petilum Action Plan.* ACT Government [last accessed 7 December 2024]. Available from https://www.act.gov.au/environment/animals-and-plants/act-threatened-species/tarengo-leek-orchid-prasophyllum-petilum.

Environment, Planning and Sustainable Development Directorate 2019b. *Yellow Box-Blakely's Red Gum Grassy Woodland: Endangered Ecological Community Action Plan.* ACT Government [last accessed 7 December 2024]. Available from https://www.act.gov.au/environment/animals-and-plants/act-threatened-species/yellow-box-blakelys-red-gum-woodlands.

Gillespie, L. 1991. *Canberra: 1820–1913.* Canberra: Australian Government Publishing Service.

Goulburn Evening Penny Post, 28 July 1903. 'Notes From Gininderra', page 4 [last accessed 26 May 2022]. Available from https://trove.nla.gov.au/newspaper/article/98759592.

Goulburn Evening Penny Post, 30 April 1908. 'Notes From Gininderra', page 1 [last accessed 31 May 2022]. Available from https://trove.nla.gov.au/newspaper/article/98788541.

Hall Heritage Centre n.d.a. *Rediscovering Ginninderra: Hall Cemetery* [last accessed 22 May 2022]. Available from https://museum.hall.act.au/display/1939/place/3688/hall-cemetery.html.

Hall Heritage Centre n.d.b. *Rediscovering Ginninderra: Thomas Southwell* [last accessed 27 December 2024]. Available from https://heritage.hall.act.au/display/1939/person/2245/thomas-southwell.html.

Hall Heritage Centre n.d.c. *Rediscovering Ginninderra: Weetengera Church and Cemetery* [last accessed 29 May 2022]. Available from https://museum.hall.act.au/display/1939/place/2035/weetengera-church-cemetery.html.

Queanbeyan Age, 21 November 1913. 'Obituary. Rev. Alfred Brown. Aetat 44 years', page 2 [last accessed 23 December 2024]. Available from http://nla.gov.au/nla.news-article31399915.

Smith, C. and Burke, H. 2007. *Digging it up Down Under: Practical Guide to Doing Archaeology in Australia.* New York: Springer.

Southwell Family Society 2022. *About the Southwell Family* [last accessed 27 December 2024]. Available from https://southwellfamilysociety.org.au/.

The Canberra Times, 25 January 1938. 'Southwell Celebrations', page 2 [last accessed 26 December 2024]. Available from http://nla.gov.au/nla.news-article2450998.

The Canberra Times, 1 October 1947. 'Obituary. Mrs Beatrice Kilby', page 2 [last accessed 26 December 2024]. Available from http://nla.gov.au/nla.news-article2726381.

The Canberra Times, 24 July 1950. 'Tributes to the Late J. K. Kilby', page 2 [last accessed 29 May 2022]. Available from https://trove.nla.gov.au/newspaper/article/2790118.

The Canberra Times, 20 August 1956. 'Big Attendance at Funeral', page 7 [last accessed 29 May 2022]. Available from https://trove.nla.gov.au/newspaper/article/91220871.

The Queanbeyan Observer, 16 September 1902. 'The Late Mrs. Thomas Southwell', page 2 [last accessed 24 December 2024]. Available from http://nla.gov.au/nla.news-article237942879.

University of Canberra n.d. *Bryce Courtenay* [last accessed 25 January 2025]. Available from https://web.archive.org/web/20240811074909/https://www.canberra.edu.au/about-uc/governance/honorary-appointments/honorary-degree-holders-profiles/profiles/bryce-courtenay.

Villaseñor, N.R. and Escobar, M.A. 2019. 'Cemeteries and Biodiversity Conservation in Cities: How Do Landscape and Patch-level Attributes Influence Bird Diversity in Urban Park Cemeteries?', *Urban Ecosystems,* 22: 1037–1046. https://doi.org/10.1007/s11252-019-00877-3.

Yass Tribune-Courier, 9 July 1931. 'Late Mrs. Hannah Brown', page 2 [last accessed 26 December 2024]. Available from http://nla.gov.au/nla.news-article249505850.

Yass Tribune-Courier, 16 July 1931. 'Late Mrs. Job Brown', page 6 [last accessed 26 December 2024]. Available from http://nla.gov.au/nla.news-article249505985.

It's about drive, it's about power: Judicial control strategies

JAS CHOO

Abstract

In a healthy democracy, independent courts play an important role in holding the political branches of state accountable. To avoid executive corruption, it is therefore beneficial to facilitate the immunity of a judicial system from political influence. However, it is possible for political spheres to impose themselves upon judiciaries by strategically gaining control over judicial institutions. In this paper, I examine three methods by which political actors may gain control of the judiciary across three jurisdictions and consider the success of each strategy in its unique context. These three jurisdictions experience different forms of conflict respectively: external, internal, and an unhealthy lack of conflict. I posit that each form of conflict gives rise to a different judicial control strategy. First, by examining the relationship between Hong Kong and China, I explore how Mainland politics assert pressure on the Hong Kong courts by directing their behaviour. Second, I analyse how religious worldviews may influence secular judicial reasoning in Malaysia, enabling religious views to be established as legal precedent. Finally, I unpack the Singapore political system and note how a dominant government demands the agreement and compliance of its courts.

I   Introduction

It is a common-law truism that courts serve an accountability function against the political branches of state. In 'competitive party system[s]',[1] it is a shared interest for each party to be able to depend on the judiciary to constrain its opponent when it is not in power.[2] It is therefore desirable in such systems to uphold an independent, autonomous judiciary that is able to make its decisions without interference or influence. However, in jurisdictions where there is already a tilted power balance in favour of one party, there is subsequently no interest in such a judiciary. Instead, the party with the upper hand will aim to capture the judiciary through institutional control strategies.

Let us imagine a world where there was no separation of powers. The judiciary that exists in such a world is one that cannot prevent the embezzlement of public funds, ensure electoral fairness, or create an economic climate that is predictable to foreign investors.[3] In order to avoid such corruption and chaos, reform is important—to make sure that the judicial system is as immune to political influence as possible.[4] However, any such immunity is not foolproof, and it is possible for the political sphere to impose itself upon the judiciary by strategically gaining control over the judicial institution.

While judicial power is a commonly analysed topic of scholarship, conflicts between opposing ideological groups—particularly where one group has *succeeded* in gaining control over the exercise of judicial power and, perhaps, the judiciary itself—have not been examined in great detail. I posit that there are different methods to gain such control, and examine three such strategies. First, a political party in power may wish to direct the actions of its judicial bodies as a puppeteer may direct the movements of a marionette. Second, a hegemonic political worldview may influence judicial reasoning and subsequently solidify that ideology as precedent. Finally, a government may hold itself to be an

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[1] Alec Stone Sweet and Jud Mathews, 'Proportionality and Rights Protection in Asia: Hong Kong, Malaysia, South Korea, Taiwan—Whither Singapore?' (2017) 29 (Special Issue) *Singapore Academy of Law Journal* 774, 777.

[2] Ibid.

[3] Guilherme Lambais and Henrik Sigstad, 'Judicial Subversion: The Effects of Political Power on Court Outcomes' (2023) 217 *Journal of Public Economics* 1–11, 1 <doi.org/10.1016/j.jpubeco.2022.104788>.

[4] Ibid.

immovable and dominating presence that demands the agreement or compliance of its judiciary. I will analyse the exertion of pressure on the Hong Kong judiciary by its Mainland China counterpart, the influence of Islamist thinking in secular Malaysian courts, and the Singaporean strategy of judicial domination by its historically hegemonic politics. It is pertinent to note that the three jurisdictions share a common history of interactions between Britain and the East. However, the colonisation that occurred took different forms, thereby shaping a unique history for each jurisdiction. This paper will argue that different institutional control strategies are employed for different purposes, and that the effectiveness of each strategy in achieving its purpose can only be understood in the context of each relevant jurisdiction's historical development.

II   One country, two systems: The puppeteer and the puppet

In the Hong Kong jurisdiction, control over the judiciary is exerted externally from Mainland China. China's relationship with Hong Kong can be understood as one forged from 'humiliation'.[5] After Hong Kong was ceded to Britain following the Opium Wars in the mid-nineteenth century, China's priority was regaining sovereign control over its former territories and then maintaining territorial integrity once control had been reestablished.[6] Since the Handover in 1997, the Mainland attitude towards the Hong Kong legal system is summarised neatly by a belief that Hong Kong's state powers are 'derivative and come from the authorisation of the Central Authorities'.[7] Hence, while Hong Kong may enjoy a 'substantial measure of autonomy', it may only do so 'within parameters that are ultimately subject to the control of Chinese authorities'.[8] It is important to note that to Mainland China, this is entirely within the conditions of the Handover deal, with China regaining full jurisdictional control of Hong Kong in 2047. This means that any current Hong Kong power exercised is, in a way, delegated to Hong Kong from China through the Basic Law. Thus, it can be understood that the judicial autonomy of Hong Kong courts can only be exercised when China 'allows' it.[9] The relevant control is exercised through what can be viewed as a strategy of puppeteering—the exertion of control over, or directing the actions of, another entity—with China as the puppeteer, the Hong Kong judiciary as the puppet, and the Basic Law as the strings connecting the two.

From the common law perspective, one may be quick to condemn the puppeteer for controlling the judiciary—a branch of government that ought to be as free from interference as possible. But it is important to recognise that the meaning of judicial independence from China's perspective 'does not mean independence from the executive or legislative branches' but 'the ability to adjudicate within the parameters set by the supervisory organs'.[10] It could very well be that China 'believes it has already conceded an enormous amount of sovereignty'[11] by permitting the existence of a relatively autonomous Court of Final Appeal. However, it is equally likely that a fear of a 'truly independent' judiciary in Hong Kong that would 'itself constitute a threat' to Chinese sovereignty[12] is present in the Mainland point of view. It is against this backdrop that the Article 158[13] interpretation power is practised. The power vests ultimate interpretative authority in the Standing Committee of the National People's Congress to interpret Hong Kong's Basic Law—and override any Hong Kong judicial interpretation at its own whim and without referral from the Hong Kong judiciary. This provision therefore implies a

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[5] Guiguo Wang and Priscilla MF Leung, 'One Country, Two Systems: Theory into Practice' (1998) 7(2) *Pacific Rim Law & Policy Journal* 279, 280.

[6] Ibid 281.

[7] Ann D Jordan, 'Lost in Translation: Two Legal Cultures, the Common Law Judiciary and the Basic Law of the Hong Kong Special Administrative Region' (1997) 30(2) *Cornell International Law Journal* 335, 355.

[8] Sweet and Mathews (n 1), 787.

[9] Benny YT Tai, 'Judicial Autonomy in Hong Kong' (2010) 24(3) *China Information* 295, 309 <doi.org/10.1177/0920203X10379361>.

[10] Jordan (n 7), 345.

[11] Ibid 347.

[12] Ibid.

[13] *Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China* art 158.

freedom of Hong Kong courts to assume the powers of interpretation insofar as 'the Chinese government does not feel threatened by the court's decisions'.[14]

An instance where the Chinese government has demonstrated the supremacy of its interpretation powers is observed in *Ng Ka Ling v Director of Immigration*.[15] This case revolved around the right of abode in the context of Mainland-born children of Hong Kong permanent residents, for which the court held unanimously as a right existing independently of parental residency status at the birth of a child in Hong Kong. For our purposes, this case demonstrates a significant attempt by the Hong Kong Court of Final Appeal to exercise its independence and it controversially brought to light the legal and political tension between China and Hong Kong. The court's 'refusal'[16] to refer the constitutional matter to the Mainland Standing Committee can be understood as an 'unequivocal assertion of [its] judicial power [and autonomy]'.[17] This was viewed as judicial overreach and the judiciary was 'chastised by the Mainland'[18]—notable disciplinary language simulating a top-down 'talking to'—in the form of an Interpretation issued without referral. The Interpretation established two things: that the Mainland may issue an Article 158(1) Interpretation without a referral, and that Article 158(3) is to be understood as an imposition of duty rather than an option exercisable by choice on the Court of Final Appeal to refer relevant matters to the Mainland.[19] The judiciary, in turn, accepted that it 'cannot question … the authority of the National People's Congress or the Standing Committee',[20] and recognised the 'plenary powers'[21] of China in the interpretation of the Basic Law. The erosion of judicial autonomy in *Ng Ka Ling* is an excellent example of pressure exerted—like how a puppeteer tightens strings where the puppet has gone slack or astray.

Interestingly, *Ng Ka Ling* also reveals a more subtle form of puppeteering in effect. The initial challenge to the judiciary's exercise of its autonomy did not 'come from the sovereign state directly'[22] but from the executive branch of Hong Kong. This form of puppeteering can be understood as an indirect exertion of pressure over the judiciary by influencing the executive to act against it.[23] In *Ng Ka Ling*, instead of defending judicial autonomy, the Hong Kong government instead 'assisted the Chinese authorities'[24] in illustrating China's interpretation powers over Hong Kong, conveying the executive's attempt to pursue its own political agenda in the face of an undesirable judgement. This is perhaps testament to how successfully China has constructed itself to be in control. In order to achieve an end that suited the politics of the day, the Hong Kong government demonstrated preference towards approving Chinese sovereignty rather than supporting the autonomy of its judiciary. It chose to enhance the power of the puppeteer rather than support the freedom of the puppet.

III   One constitution, two courts: Islamist ideology in secular courts

Contrary to external pressure prevalent in our Hong Kong analysis, it is homegrown internal ideological division that subsequently fosters the insertion or incorporation of Islamist perspectives in the judicial reasoning of Malaysian secular courts. It is perhaps not surprising that the division is an internal one, considering that the Malaysian Constitution contains an irreconcilable contradiction that presents Islam

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[14] Jordan (n 7), 356.

[15] [1999] 2 HKCFAR 4.

[16] Po Jen Yap, 'Constitutional Review under the Basic Law: The Rise, Retreat and Resurgence of Judicial Power in Hong Kong' (2007) 37(2) *Hong Kong Law Journal* 449, 454 <doi.org/10.1350/clwr.2007.36.2.166>.

[17] Ibid, 456.

[18] Ibid 473.

[19] *Interpretation by the Standing Committee of the National People's Congress Regarding Paragraph 4 in Article 22 and Category (3) of Paragraph 2 in Article 24 of the Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China* (People's Republic of China) National People's Congress Standing Committee, 26 June 1999.

[20] *Ng Ka Ling v Director of Immigration (No 2)* [1999] 2 HKCFAR 141.

[21] Yap (n 16), 450.

[22] Tai (n 9), 309.

[23] Ibid.

[24] Ibid 303.

as the official religion of the Federation[25] while also providing for the freedom of religious practice and belief.[26] This contradiction manifests itself in 'urgent and divisive matters of political and legal controversy … involving jurisdictional disputes between *syariah* and the common law'.[27] The division of jurisdictional disputes is controversial because the boundary line between the jurisdictions of *syariah* law and secular law is not 'clear-cut'.[28] Hence, it is difficult for the judiciary to answer 'the legal question of how to manage [these] jurisdictional conflicts'.[29] It may be useful to visualise a game of tug-of-war with the Islamists that support the expansion of *syariah* law on one end and the secularists who oppose said expansion on the other. The game is at a stalemate, with no constitutional solution allowing the victory of one side over the other.

In *Lina Joy v Islamic Religious Council of the Federal Territory and Ors*,[30] it is clear that Islamist[31] ideology has been inserted in common law through the endorsed requirement of Syariah Court approval in matters of apostasy—that is, religious conversion out of Islam. This case was controversial as it involved a Malay person attempting to convert to Christianity by applying for the religious conversion to be recognised by secular Malaysian courts. For context, the Malaysian Constitution sets out that common law courts 'shall have no jurisdiction in respect of any matter within the jurisdiction of the Syariah Courts'.[32] However, as the highest court of the land, the Federal Court may decide on the jurisdictional allocation of a matter. Here, the secular courts at first instance and at appeal rejected the matter and referred it to the Syariah Court, ruling that one must renounce one's religion according to the existing practices of the religion and, therefore, the case fell within the purview of the court with the power to adjudicate Islamic matters. The decision in *Lina Joy* is indicative of a conscious choice to remove the matter of Islamic apostasy from the purview of the secular judiciary. This may be interpreted as an act of submissiveness by the secular judges in yielding to the Islamic Courts.

It is integral to this analysis to recognise that *syariah* law applies only to Muslims in the Malaysian legal context as a practical consequence of the constitutional assertion of religious freedom.[33] Accordingly, the secular decision to allocate apostasy as a religious Islamic matter is arguably problematic from a cogency standpoint: one might wish to ask *how* Islamic law could possibly apply to a person who has renounced the religion of Islam. This case is demonstrative of the extent to which a secular court will partake in logical gymnastics for the goal of issuing an Islamist judgement. Further, this decision upholds the Islamist viewpoint that 'the position of Islam … is different from the position of other religions'[34] and hence should be afforded a special status and an acknowledgement of said special status from the secular courts. This Islamist viewpoint, shared by the majority judgement,[35] is founded upon the belief that the special position of Islam, established by special mention in the Constitution, has the effect of constructing Malaysia as an Islamic state.[36]

It is notable that the secularist stance firmly denies the construction of Malaysia as an Islamic state, with certain perspectives believing that 'in spite of being given a special position … Islamic law is subordinate to the civil law'.[37] However, history appears to suggest otherwise. In the colonial period,

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[25] *Federal Constitution* (Malaysia) art 3(1).

[26] *Federal Constitution* (Malaysia) art 11(1).

[27] Amanda Whiting, 'Secularism, the Islamic State and the Malaysian Legal Profession' (2010) 5(1) *Asian Journal of Comparative Law* 1, 2 <doi.org/10.2202/1932-0205.1287>.

[28] Ibid 9.

[29] Ibid 34.

[30] (Federal Court of Malaysia, 30 May 2007).

[31] The term 'Islamic' means that which is related to the religion of Islam, whereas 'Islamist' refers to an ideological stance that promotes the influence of Islam over legal or political systems.

[32] *Federal Constitution* (Malaysia) art 121(1A).

[33] *Federal Constitution* (Malaysia) art 11(1).

[34] *Lina Joy* (n 30), [17.4].

[35] *Lina Joy* (n 30), [17.2]–[17.4].

[36] Muhammad Haniff Bin Hassan, 'Explaining Islam's Special Position and the Politic of Islam in Malaysia' (2007) 97(2) *The Muslim World* 287, 293 <doi.org/10.1111/j.1478-1913.2007.00174.x>.

[37] Azmi Aziz and AB Shamsul, 'The Religious, the Plural, the Secular and the Modern: A Brief Critical Survey on Islam in Malaysia' (2004) 5(3) *Inter-Asia Cultural Studies* 341, 352 <doi.org/10.1080/1464937042000288651>.

the British maintained a stance of 'non-interference in religious matters'.[38] This policy 'reflected the British self-interested tolerance towards the practice of Islam among its subjects, its flexibility in policy making for the maintenance of its power, and also its recognition of "the force of Islam"'.[39]

Further, 'the position of Islam was also institutionalised through legal and judicial means'[40] in an effort by the British to maintain the support of Malays. It can therefore be understood that the historical development of Malaysia is one characterised by accommodation of the Islamist stance.

This trend of accommodating Islamic ideology has remained after independence, with the 'institutionalisation of Islam' having great 'significance in the public domain'.[41] The Islamist stance is most evidently perceptible in the executive branch. Public funds are used to promote and protect Islam.[42] It is an implicit rule that the Prime Minister of Malaysia should be a Malay Muslim from the ruling party.[43] A former Prime Minister even made a 'public pronouncement that Malaysia is already an Islamic government based on what it had been accorded by the Constitution and the definition of its role in the government'.[44] The government's firm Islamism is of great significance due to the judiciary's 'deferential attitude'[45] to the executive. The Malaysian judiciary is 'marked by insularity',[46] and is 'far from vigorous in protecting [individual rights against executive infringement]'.[47] It can thus be understood that secular court deference to both Islamic and Islamist institutions of state results from the influence of Islamic ideology.

IV   One dominant, two branches: Demanding deference

On the other hand, a total lack of ideological conflict between parties may pose a problem for the separation of powers. In Singapore, the judiciary is characterised as embedded with the ideological values of its executive counterpart. This may be because the Singaporean political and legal landscape is characterised by the same party having maintained majority in Parliament since Malaya's independence from colonial rule in 1957. Conventionally, and perhaps theoretically, the executive branch is held to account by both legislative and judicial mechanisms. In practice, the Singaporean executive is largely unchecked and plays a dominant role in presiding over the other branches. The legal system in Singapore is 'designed to ensure that it is conducive to continued [dominant party] political control',[48] and demands that the judiciary assists with the suppression of 'political opposition and [the] perpetuation of the [dominant party's] regime'.[49] Hence, the institutional control strategy observable in this jurisdiction is the domination by the political branch and the submission of a judiciary that has been captured by the policies and ideology of the dominant political party. In practice, Singaporean courts have 'consistently acknowledged the doctrine of curial deference'[50]—which we may understand to mean a deferential judicial attitude towards the executive branch. It is non-contentious that *some* curial deference may be positive: for example, where deference arises out of realising different functions, acknowledging institutional competence and expertise of the other branches, or the democratic mandate

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[38] Bin Hassan (n 36), 289.

[39] Ibid.

[40] Bin Hassan (n 36), 290.

[41] Ibid 287.

[42] Ibid.

[43] Ibid.

[44] Ibid.

[45] Yvonne Tew, 'On the Uneven Journey to Constitutional Redemption: The Malaysian Judiciary and Constitutional Politics' (2016) 25(3) *Washington International Law Journal* 673, 692.

[46] Ibid 694.

[47] Ibid.

[48] Ross Worthington, 'Between Hermes and Themis: An Empirical Study of the Contemporary Judiciary in Singapore' (2001) 28(4) *Journal of Law and Society* 490, 517 <doi.org/10.1111/1467-6478.00200>.

[49] Ibid 519.

[50] Eugene KB Tan, 'Cultural Deference in Singapore Public Law: Autochthonous Evolution to Buttress Good Governance and the Rule of Law' (2017) 29(Special Issue) *Singapore Academy of Law Journal* 800, 804.

of the executive.[51] However, some legal scholars argue that judicial deference is 'bad when it is either excessive or inadequate'[52] and exists as a result of submission rather than respect.[53]

The judgement in *Lim Meng Suang*[54] solidly conveys the judiciary's acceptance and perpetuation of possibly *too* much deference to the dominant political branches. This case involved a constitutional challenge of s 377A of the Singaporean Penal Code and had significant implications for those in same-sex relationships in Singapore, which, at the time, criminalised sex between consenting male adults.[55] In order 'not to become a "mini-legislature"',[56] the court declared that there was nothing it could do to 'remedy the situation'[57] at hand when dealing with a matter involving the infringement of an individual's right to engage in private sexual activity. The Court of Appeal asserted that the court has no 'legitimate jurisdiction'[58] to weigh arguments it considered 'extra-legal'.[59] It outlined that if a 'substantively fair result'[60] may only be achieved through extra-legal consideration, the correct jurisdiction lies within 'the legislative sphere'.[61] The irony is that the court itself has '*Kompetenz-Kompetenz*'[62]—the power to determine 'what is "legal" and what is not'[63]—but instead *chooses* to defer to the legislature. Hence, the domination of the political branch can be understood as one that has not only demanded but successfully *convinced* the judiciary to defer to it.

Those who oppose the deference shown by Singaporean courts may argue that too much judicial deference results in 'individual rights being ridden roughshod over'.[64] While this may be true, it is crucial to acknowledge that the Singaporean fear is 'not so much that too much power will be abused, but that there might not be enough power'[65] for the executive to 'exercise its earned democratic mandate to further governmental objectives without unnecessary interference from the courts'.[66] The Singaporean government may fear that any separation of powers comes at a cost, involving a 'weakening of the collective power of the state to formulate and carry out its policies',[67] that undermines the democratic mandate and executive efficacy. But political concerns should not come at the cost of judicial independence: courts have the 'imperative to protect the rights of an individual'[68] against state encroachment, and 'over-deference' will lead the undermining of this judicial function.

The implicitness of this control strategy is important to understand. Judges are not 'forced … to meet the political outcomes required of [and by] the executive'[69] via instruction, but instead willingly rise to the expectation 'according to convention and political culture'.[70] The political culture of the dominant political branches and its judicial reach is of particular relevance here. It is notable that, in Singapore, almost half of those appointed to the Supreme Court are drawn from public service and, in the private

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[51] Jaclyn L Neo, 'Autonomy, Deference and Control: Judicial Doctrine of Separation of Powers in Singapore' (2018) 5(2) *Journal of International and Comparative Law* 461, 465.

[52] Tan (n 50), 825.

[53] Neo (n 51), 465.

[54] *Lim Meng Suang and another v Attorney-General and another appeal and another matter* [2014] SGCA 53 ('*Lim*').

[55] *Singapore Penal Code 1871* (Singapore) Article 377A.

[56] *Lim Meng Suang* (no 54) [189].

[57] Ibid [12].

[58] Ibid.

[59] Ibid.

[60] Ibid.

[61] Ibid.

[62] Benjamin Joshua Ong, 'New Approaches to the Constitutional Guarantee of Equality before the Law: *Lim Meng Suang v Attorney-General* [2015] 1 SLR 26 (CA); [2013] 3 SLR 118 (HC); *Tan Eng Hong v Attorney-General* [2013] 4 SLR 1059 (HC); [2012] 4 SLR 476 (CA)' (2016) 28(1) *Singapore Academy of Law Journal* 320, 324.

[63] Ibid 324.

[64] Tan (n 50), 801.

[65] Michael Hor, 'The Independence of the Criminal Justice System in Singapore' (2002) *Singapore Journal of Legal Studies* 497, 499.

[66] Tan (n 50), 801.

[67] Hor (n 65), 499.

[68] Tan (n 50), 801.

[69] Worthington (n 48), 514.

[70] Ibid.

sector, very few judges are appointed who are not affiliated with the ruling party.[71] The few that *are* appointed are often recruited on an as-required basis for technical expertise.[72] The majority of judges are, instead, affiliated with the ruling party.[73] It follows that the majority of the bench would likely be familiar with—or are proponents of—the political culture and ideology of the government, which results in a bench that 'appears increasingly non-political yet stays firmly under executive control'.[74]

V   Conclusion

This paper questioned who possesses political power, how power is obtained, and why power is sought in jurisdictions lacking genuine democratic competition by examining three judicial control strategies used in Hong Kong, Malaysia, and Singapore.

First, the question of which institution possesses the power in the relevant jurisdiction is answered through analysis of the institutional control strategies used. In Hong Kong, the control strategy of puppeteering employed by China is used both directly, via exercise of plenary interpretation powers, and indirectly, via executive imposition upon the judiciary. In Malaysia, control of the secular court can be observed in accommodating Islamists through the restriction of secular judicial power in favour of the Islamic Courts. In Singapore, the political dominant demands curial deference from its judicial counterpart who gives it willingly.

Second, how the power is obtained is best answered simply: by controlling the judiciary. The Hong Kong judiciary, playing the role of a puppet, is afforded autonomy only when the puppeteer chooses not to pull its strings. Malaysian courts with a secular voice are encouraged to speak ideas of Islamism, narrowing the powers and purview of secular judicial review. Singapore, in having moulded its judiciary into a secondary and submissive branch of government, upholds the executive political agenda at the expense of individual rights.

The third question of why power is sought after can only be answered with historical understanding. China would, in the case of Hong Kong, rather act as a puppeteer than suffer the humiliation of losing sovereignty again. Islamism in the current Malaysian legal context is a continuation of the historical accommodation of Islamist views. Singaporean executive dominance is justified by its never-ceasing democratic mandate and a fear of losing efficiency or efficacy. Subsequently, the use—or choice—of control strategies used to obtain power can only be adequately assessed by understanding the jurisdiction in which they are deployed. Mainland China's treatment of Hong Kong as an entity requiring supervision and direction may be attributed to Hong Kong's history as a colony, which constructs Hong Kong as an outsider to the Mainland's practices and policies. The unique entrenchment of the special status of Malays in the Malaysian Constitution gives rise to the foundation of the Islamist perspective that Islam ought to be embedded into secular law—and the constitutional avenue through which the Islamist perspective may be embedded. In Singapore, it is a matter of familiarity: the Singaporean executive has become accustomed to the ease and convenience of political domination, and the Singaporean judiciary has concomitantly become accustomed to submitting to policy.

Therefore, the three jurisdictions share a common circumstance of differing perspectives held by different branches of government, whether that entails pressure from an external government, an internal ideological conflict, or perhaps a lack thereof. However, each of the three jurisdictions possesses a unique legal and political history. Each context forms different purposes and reasons behind a shared desire to control the courts. Each context also facilitates the use of different institutional control strategies—that which is an effective strategy in one jurisdiction may not be so effective in another. Thus, the success of a control strategy is contingent and dependent upon the jurisdictional context in which it is used.

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[71] Ibid 500.

[72] Ibid.

[73] Ibid.

[74] Ibid.

Bibliography

A   Articles/books/reports

Aziz, Azmi and AB Shamsul, 'The Religious, the Plural, the Secular and the Modern: A Brief Critical Survey on Islam in Malaysia' (2004) 5(3) *Inter-Asia Cultural Studies* 341 <doi.org/10.1080/1464937042000288651>

Bin Hassan, Muhammad Haniff, 'Explaining Islam's Special Position and the Politic of Islam in Malaysia' (2007) 97(2) *The Muslim World* 287 <doi.org/10.1111/j.1478-1913.2007.00174.x>

Hor, Michael, 'The Independence of the Criminal Justice System in Singapore' (2002) *Singapore Journal of Legal Studies* 497

Jordan, Ann D, 'Lost in Translation: Two Legal Cultures, the Common Law Judiciary and the Basic Law of the Hong Kong Special Administrative Region' (1997) 30(2) *Cornell International Law Journal* 335

Lambais, Guilherme and Henrik Sigstad, 'Judicial Subversion: The Effects of Political Power on Court Outcomes' (2023) 217 *Journal of Public Economics* 1–11 <doi.org/10.1016/j.jpubeco.2022.104788>

Neo, Jaclyn L, 'Autonomy, Deference and Control: Judicial Doctrine of Separation of Powers in Singapore' (2018) 5(2) *Journal of International and Comparative Law* 461

Ong, Benjamin Joshua, 'New Approaches to the Constitutional Guarantee of Equality before the Law: *Lim Meng Suang v Attorney-General* [2015] 1 SLR 26 (CA); [2013] 3 SLR 118 (HC); *Tan Eng Hong v Attorney-General* [2013] 4 SLR 1059 (HC); [2012] 4 SLR 476 (CA)' (2016) 28(1) *Singapore Academy of Law Journal* 320

Stone Sweet, Alex and Jud Mathews, 'Proportionality and Rights Protection in Asia: Hong Kong, Malaysia, South Korea, Taiwan—Whither Singapore?' (2017) 29(Special Issue) *Singapore Academy of Law Journal* 774

Tai, Benny YT, 'Judicial Autonomy in Hong Kong' (2010) 24(3) *China Information* 295 <doi.org/10.1177/0920203X10379361>.

Tan, Eugene KB, 'Cultural Deference in Singapore Public Law: Autochthonous Evolution to Buttress Good Governance and the Rule of Law' (2017) 29(Special Issue) *Singapore Academy of Law Journal* 800

Tew, Yvonne, 'On the Uneven Journey to Constitutional Redemption: The Malaysian Judiciary and Constitutional Politics' (2016) 25(3) *Washington International Law Journal* 673

Wang, Guiguo and Priscilla MF Leung, 'One Country, Two Systems: Theory into Practice' (1998) 7(2) *Pacific Rim Law & Policy Journal* 279

Whiting, Amanda, 'Secularism, the Islamic State and the Malaysian Legal Profession' (2010) 5(1) *Asian Journal of Comparative Law* 1 <doi.org/10.2202/1932-0205.1287>

Worthington, Ross, 'Between Hermes and Themis: An Empirical Study of the Contemporary Judiciary in Singapore' (2001) 28(4) *Journal of Law and Society* 490 <doi.org/10.1111/1467-6478.00200>

Yap, Po Jen 'Constitutional Review under the Basic Law: The Rise, Retreat and Resurgence of Judicial Power in Hong Kong' (2007) 37(2) *Hong Kong Law Journal* 449 <doi.org/10.1350/clwr.2007.36.2.166>

B   Cases

Lim Meng Suang and another v Attorney-General and another appeal and another matter [2014] SGCA 53

Lina Joy v Islamic Religious Council of the Federal Territory and Ors (Federal Court of Malaysia, 30 May 2007)

Ng Ka Ling v Director of Immigration [1999] 2 HKCFAR 4

Ng Ka Ling v Director of Immigration (No 2) [1999] 2 HKCFAR 141

C   Legislation/constitutions

Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China

Federal Constitution (Malaysia)

Singapore Penal Code 1871 (Singapore)

D   Other

Interpretation by the Standing Committee of the National People's Congress Regarding Paragraph 4 in Article 22 and Category (3) of Paragraph 2 in Article 24 of the Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China (People's Republic of China) National People's Congress Standing Committee, 26 June 1999

Assessing the sustainability of Singapore's food security plans

CHRISTOPHER GAN

Abstract

The Republic of Singapore faces existential food security challenges due to its lack of agricultural land and heavy reliance on food imports. Acknowledging these limitations, the Singaporean government introduced the '30 by 30' Plan in 2019 to better support its local urban agriculture industries. The plan aims to produce 30 per cent of the nation's nutritional needs domestically by 2030 through urban agricultural industries and innovative food technologies. However, the plan's impacts on the nation's sustainability goals are less well understood. Considering this, this paper evaluates the impacts of Singapore's '30 by 30' Plan on the Republic's sustainability goals. In this paper, I situate Singapore's food security challenges within its geographic and economic context by focusing on its heavy reliance on food imports and limited agricultural land. I then assess the environmental impacts of the plan, specifically water consumption and energy consumption, and its implications for Singapore's sustainability efforts. The findings indicate that urban agriculture industries positively contribute to Singapore's sustainability efforts, significantly reducing both water and energy consumption by shortening supply chains and employing advanced farming technologies. While initial study of the plan proves promising, further research is necessary to assess the long-term sustainability impacts of the upstream and downstream production processes of Singapore's urban farms. Accordingly, I provide several recommendations that Singapore businesses and the government could adopt to complement and support the plan in advancing Singapore's sustainability goals. These recommendations include further research into the plan's sustainability impacts, researching water- and energy-efficient production processes, addressing market inefficiencies, and ensuring the economic viability of the country's agrifood companies.

Introduction

The Republic of Singapore faces serious food security challenges due to its small land area. Its ecological footprint—that is, the amount of land required to house, sustain, and manage the waste of its population—is alarmingly large (Fanning et al. 2022). In fact, Singapore is so small that it imports more than 90 per cent of its food (SFA 2023a). Moreover, Singapore is one of the most water-stressed nations in the world, making it heavily reliant on water imports to survive (Taylor and Accheri 2020). This vulnerability has motivated the Singapore Food Agency (SFA) to introduce food security policies to reduce Singapore's dependency on volatile global food markets (SFA 2023a). At the centre of its plans is the Republic's '30 by 30' Plan. The plan aims to produce 30 per cent of the nation's nutritional needs domestically by 2030 so as to strengthen its food security (SFA 2019). On top of these policies, Singapore has the added challenge of ensuring it meets its sustainability goals for the future. These sustainability goals are motivated by Singapore's extreme vulnerability to the negative impacts of climate change. By assessing the plan's contribution to both Singapore's agriculture industry and its sustainability efforts, I hope to shed light on how food security and climate change are deeply intertwined with Singapore's future. Given Singapore's pledge towards sustainability (Ang and Mohan 2021), I argue that Singapore's urban agricultural industry can contribute positively to the country's water and energy sustainability efforts. I also propose several recommendations that Singapore's agrifood companies and the government can undertake to ensure the economic and environmental sustainability of Singapore's urban agriculture industry.

The paper is structured as follows. I first outline Singapore's broader food security context, highlighting how the '30 by 30' Plan is primarily designed to overcome the Republic's geographic and economic

limitations by expanding the capacities of local urban agriculture industries (UAIs) and subsidising the development of urban agriculture technology. With these developments in mind, I compare the water consumption of urban agricultural methods with that of traditional farming methods. Encouragingly, I find that the technological innovations used by UAIs are more water-efficient compared to traditional farming methods. I subsequently assess the plan's impact on the strength of Singapore's plant-based and cultured meat industry, with a particular emphasis on these industries' potential contributions to Singapore's overall energy consumption. I find that by investing in local plant-based meat producers, energy consumption could potentially fall by more than two-thirds compared to traditional meat farming processes. Additionally, I argue that the plan's focus should shift towards researching and developing energy-efficient cultured meat technologies to reap the potential rewards of a more sustainable meat production process. While I find that the '30 by 30' Plan has great potential to reduce Singapore's water and energy consumption, two challenges threaten the success of the plan. First, information asymmetry increases the cost of transactions between consumers and Singaporean farmers, making it harder for agrifood companies to achieve financial sustainability. Secondly, low demand for locally produced foods means agrifood companies often find it difficult to generate enough operating revenue.

Food security and sustainability in the Singaporean context

Singapore's geographic and economic vulnerabilities make it increasingly food insecure. This has prompted the government to introduce the '30 by 30' Plan to mitigate the challenges of food insecurity. To understand Singapore's food insecurity challenges, I first situate my argument within the context of Singapore's geography and economic background. Singapore is one of the most densely populated countries in the world (Ritchie and Mathieu 2023). As a result of its small geographic size and large population, more than 77 per cent of its land is dedicated to human activities such as housing, education, healthcare, and basic amenities in 2015 (CEIC Data, n.d.; Masoudi, Tan, and Fadaei 2021). This number is expected to rise to 86 per cent by 2030 under the Government's 2013 Land Use Plan (Ministry for National Development 2013). Consequently, less than 1 per cent of its land is used to produce food (SFA 2023b). Singapore's lack of natural resources means that it is unable to grow enough food to feed its own population; this scarcity makes the country increasingly reliant on the global economy to survive. Singapore imports more than 90 per cent of its food from overseas, making it incredibly dependent on a stable global food market for food security. Moreover, Singapore's small size means that it does not possess its own natural fresh water sources. Singaporeans consume roughly 141 litres of water per day (Begum 2024), making the country the most water-stressed country in Southeast Asia (Euromonitor International 2019). As a point of comparison, Singaporeans consume a similar level of water to their counterparts in England (Salas 2024), but half as much as their Malaysian neighbours (Syawal 2023).

Recognising the country's geographic and economic limits, the Singapore government introduced the '30 by 30' Plan in 2019 to enhance the country's food production capacity (Lee and Lim 2019; SFA 2019). Under the plan, the Singapore government hopes to produce 30 per cent of the country's nutritional needs by 2030 (SFA 2019). The plan allocates more than SGD$300 million towards three main strategies: research and development for agrifood companies, subsidising start-up costs and upgrading costs for these companies, and generating domestic demand for local produce (SFA 2019). This has been touted by academics as an important policy in Singapore's fight against food insecurity, one that should bolster food security through the use of advanced urban agriculture technologies (Teng 2020; Tortajada and Lim 2021).

However, it would be counterproductive for Singapore to implement food security policies that actively contribute to climate change, especially since Singapore is already bearing the cost of climate change. Over the past few years, Singapore has experienced heavy rains and flooding (Andres 2024; CNA 2024), rising sea levels (Ng and Mendelsohn 2005; Jamieson 2024), and higher daily average temperatures (Li, Zhang, and Babovic 2019; Jiang et al. 2021). There is therefore a strong incentive for Singapore to ensure its food security policies operate within the sustainable environmental boundaries

in which it finds itself. This begs the question: how sustainable is Singapore's '30 by 30' Plan? Using sustainability metrics, I aim to evaluate how Singapore's '30 by 30' Plan impacts the country's water and energy consumption.

Before assessing the plan's impacts on Singapore's sustainability efforts, it would be useful to understand the ecological context which shapes Singapore's sustainability goals. Although measuring sustainability is challenging, the ecological footprint metric provides us with one viable framework from which we can measure Singapore's level of sustainability (Nilashi et al. 2023). An ecological footprint refers to the amount of regenerative land that a nation needs to house its people, to keep them sustained, and to manage their waste (Lim 2022; Raworth 2019, 44–45). It is measured in gigahectares per person (gha/person) (Fanning et al. 2022). One gha/person is the optimal footprint for a country; too high and it would mean more land is required to care for a person than necessary, resulting in environmental degradation (Raworth 2019). As of 2021, Singapore has an ecological footprint of 5.74 gha/person. This implies that Singapore would require 5.74 times more land than it has to house, sustain, and manage the waste of its population sustainably (Global Footprint Network 2023). Using the ecological footprint metric, we can see that Singapore's food security is inherently tied to its sustainability goals. For Singapore to feed its population without any additional costs to its environment it requires additional land—land which it does not have. It appears then that the best way for Singapore to improve food security is to increase the capacity of its food producers, namely its UAIs.

The plan's impact on Singapore's water consumption

As one of the world's most water-stressed countries, Singapore has an urgent need to produce water-efficient food locally. The '30 by 30' Plan helps tackle this challenge by fostering the research and development of water-efficient farming methods used by Singapore's UAIs. Theoretically, urban farms use less water because of advanced hydroponic farming technology, which lowers the amount of water needed to grow the same amount of crops as traditional farming (Hong 2023). Moreover, in urban agriculture farms, crops are not affected by outside weather phenomena and are using closed irrigation systems that recycle water (Al-Kodmany 2018; Carotti et al. 2023). By fostering the growth of urban farms, the plan should then improve Singapore's sustainability in relation to water consumption. To test this, I adopt Dorr et al.'s (2021) model of upstream, midstream, and downstream farming practices to assess water consumption throughout an urban farm's lifecycle (see Figure 1).
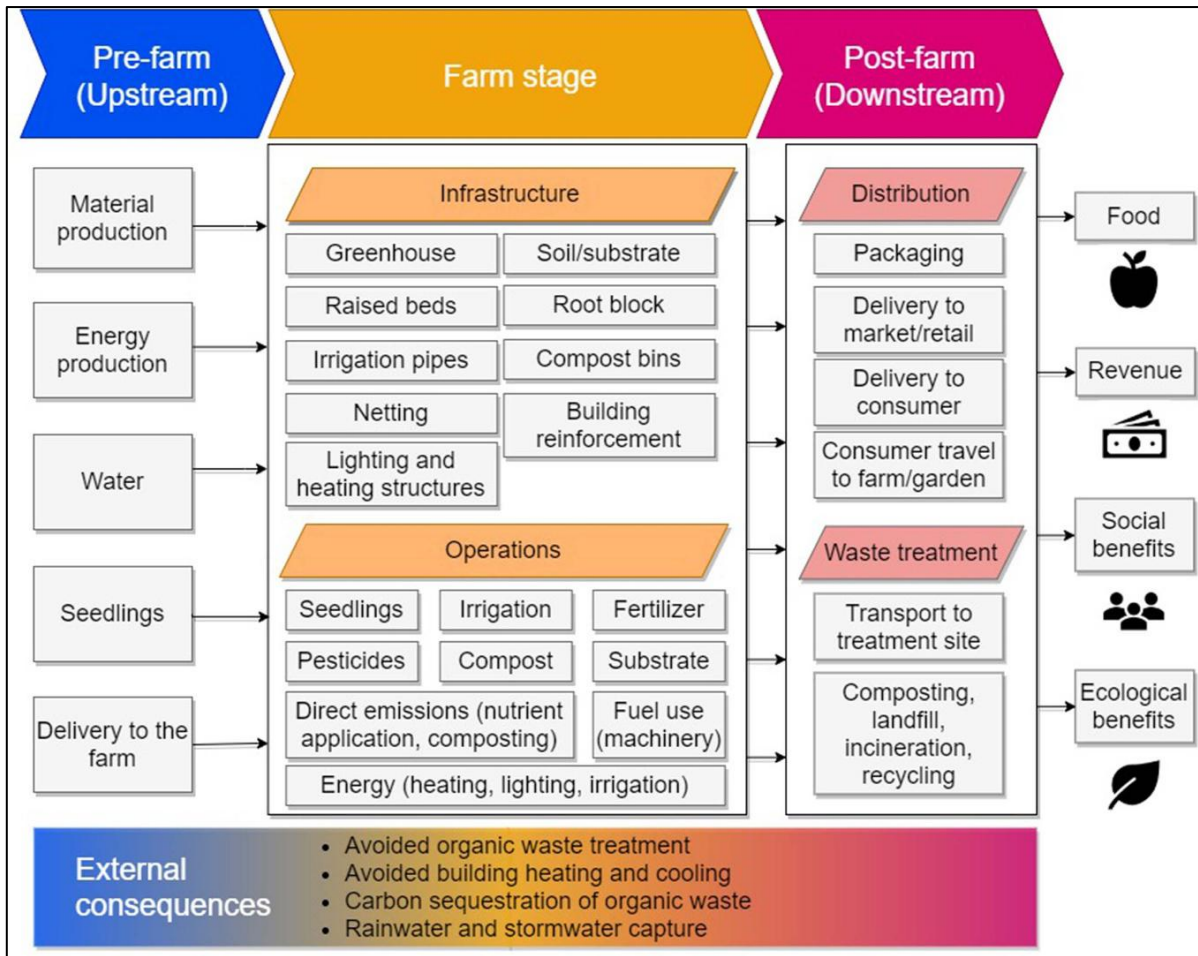
Figure 1. Dorr et al.'s framework for assessing resource consumption in UAIs.

Source: Dorr et al. 2021.

As seen in Figure 1, Dorr et al.'s (2021) framework helps us understand the environmental consequences of farming by keeping track of all environment-related activities during the farming process. Water is seen as a vital component of farming and is used throughout all three processes as a raw material. Under their framework, Dorr et al. found that average water consumption for UAIs was between 107 litres of water per kilogram of food grown (L/kg) and 121 L/kg (see Figure 2). This is a third of the water required for traditional agriculture farming (Armstrong 2023), indicating that urban farms can play an important role in reducing Singapore's water consumption.
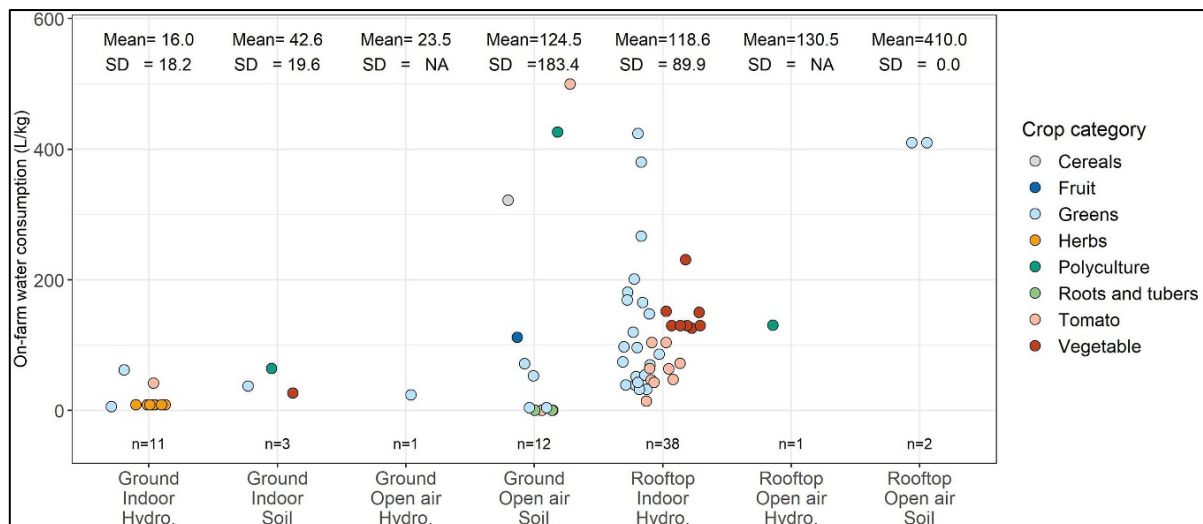
Figure 2. Water use for UAIs for urban farming systems.

Source: Dorr et al. 2021.

Dorr et al.'s (2021) and Armstrong's (2023) assessments suggest that urban farming methods not only ease the demand for water but could enable Singapore to produce high-yield foods. This is corroborated by estimates that certain urban farming methods (specifically vertical farming methods like those used in Singapore) use up to 90 per cent less water than traditional farming techniques (Han 2023; Naus 2018). Additionally, innovative solutions to obtaining and reusing water can be employed, such as rainwater capture (Jurga et al. 2021), or water recycling through closed irrigation systems (Carotti et al. 2023). It therefore stands to reason that urban farms could promote sustainability. This would help bolster Singapore's sustainability efforts, especially in its food security policies.

This is not a silver bullet, however. Many water-efficient urban farms exist in controlled environments which use more energy to regulate climate variables such as humidity and temperature. Additionally, indoor urban farms are exposed to little sunlight, meaning that farmers must use energy-intensive light-emitting diodes to cultivate plants (Avgoustaki and Xydis 2021). Avgoustaki and Xydis (2020) found that lighting costs contribute to nearly 80 per cent of urban farm electricity demands (Avgoustaki and Xydis 2020). Water-efficient farming methods thus appear to be a double-edged sword, trading water efficiency for higher energy consumption. Thus, water consumption should not be the only factor considered when assessing how the plan contributes to Singapore's sustainability goals. The plan's impact on energy consumption should also be examined.

The plan's impact on Singapore's energy consumption

By fostering UAI development, the '30 by 30' Plan hopes to reduce Singapore's energy consumption during the food production process. It seeks to achieve this with two strategies: shortening the supply chain for distributing crops and fostering low-energy meat production methods. Through these strategies, Singapore hopes to reduce overall energy consumption. This is extremely important because energy consumption is inherently linked to the production of greenhouse gas (GHG) emissions (Intergovernmental Panel On Climate Change 2023). GHGs trap heat in the atmosphere, warming the climate and contributing to rising global temperatures (Intergovernmental Panel On Climate Change 2023; Le Quéré et al. 2021). Singapore, as a result of increasing GHG emissions over the last few years, has been experiencing higher average air temperatures (Begum 2023), rising sea levels (Shaw 2023), and worsening air pollution (Listiyorini and Cheng 2023). By assessing the plan's two strategies for reducing energy consumption, we can determine whether the plan contributes to Singapore's overall sustainability goals.

Strategy one: Shortening supply chains to reduce energy consumption

First, the plan hopes to reduce energy consumption by shortening the supply chain for producing and distributing crops. By raising the food-producing capacity of urban farms, Singapore would be able to reduce imports of certain foods. Replacing imported foods with locally produced ones is, on paper, a good idea, as vehicle fuel consumption during the downstream distribution phase contributes significantly to the energy consumption of the entire farming process (Kafle, Hopeward, and Myers 2023). A 2019 report jointly published by Deloitte and Singapore's Agency for Science, Technology and Research (A*STAR) found that importing overseas fish consumed 30.93 kilowatt-hours (kWh) per kilogram. By contrast, transporting locally produced fish consumed only two-thirds the required energy, at 19.96 kWh per kilogram (see Figure 3). Similarly, the energy required to import eggs and vegetables into Singapore is less than that of producing them locally (17.22 kWh and 1.80 kWh for imported eggs and vegetables respectively, compared to 16.92 kWh and 1.6 kWh for local eggs and vegetables). This is mainly due to reduced distribution requirements and Singapore's small geographic size, which makes it easier to distribute food around the country (Deloitte and A*STAR 2019). By encouraging the growth of Singapore's agriculture industry, energy consumption should decrease as the industry becomes more energy efficient, thereby aiding sustainability efforts.
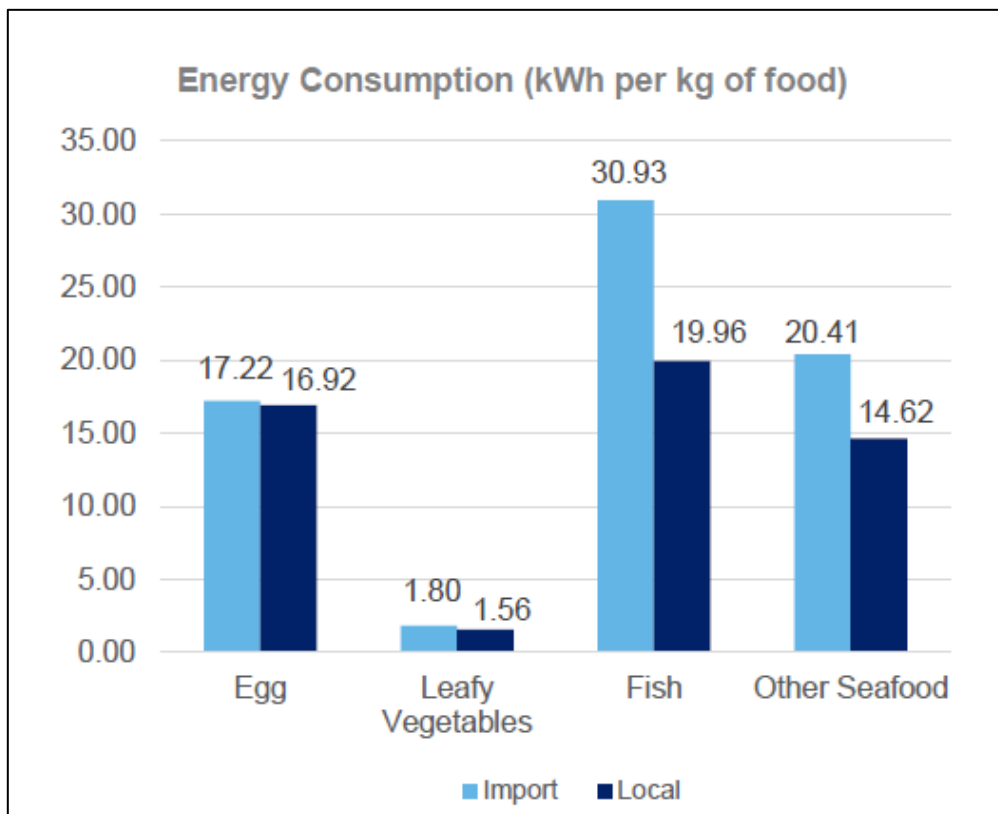

Figure 3. The energy consumed to transport imported food compared to locally produced food.

Source: Deloitte and A*STAR 2019.

However, while producing food locally reduces transport-related energy consumption, transporting food is only one part of the food production process. Another part is the actual production and processing of food. Food items such as red meat, fish, and poultry require significant amounts of energy for production as compared to vegetables and fruit. Moreover, raising cattle for beef produces large quantities of methane and carbon dioxide through grazing and manure, contributing to GHG emissions (Tan et al. 2020). Figure 4 shows the average energy consumed and amount of GHG emissions produced per one kilogram of meat. As shown below, traditional meats consume the most energy out

of all food groups, with pork consuming 49.4 kWh per kilogram, beef consuming 42.6 kWh per kilogram, and mutton consuming 32.8 kWh per kilogram. Likewise, pork, mutton, and beef emit more GHG emissions than other food groups, at 12.0, 16.4, and 24.4 kilograms of carbon dioxide-equivalent ($kgCO_2$-eq) per kilogram of food respectively.
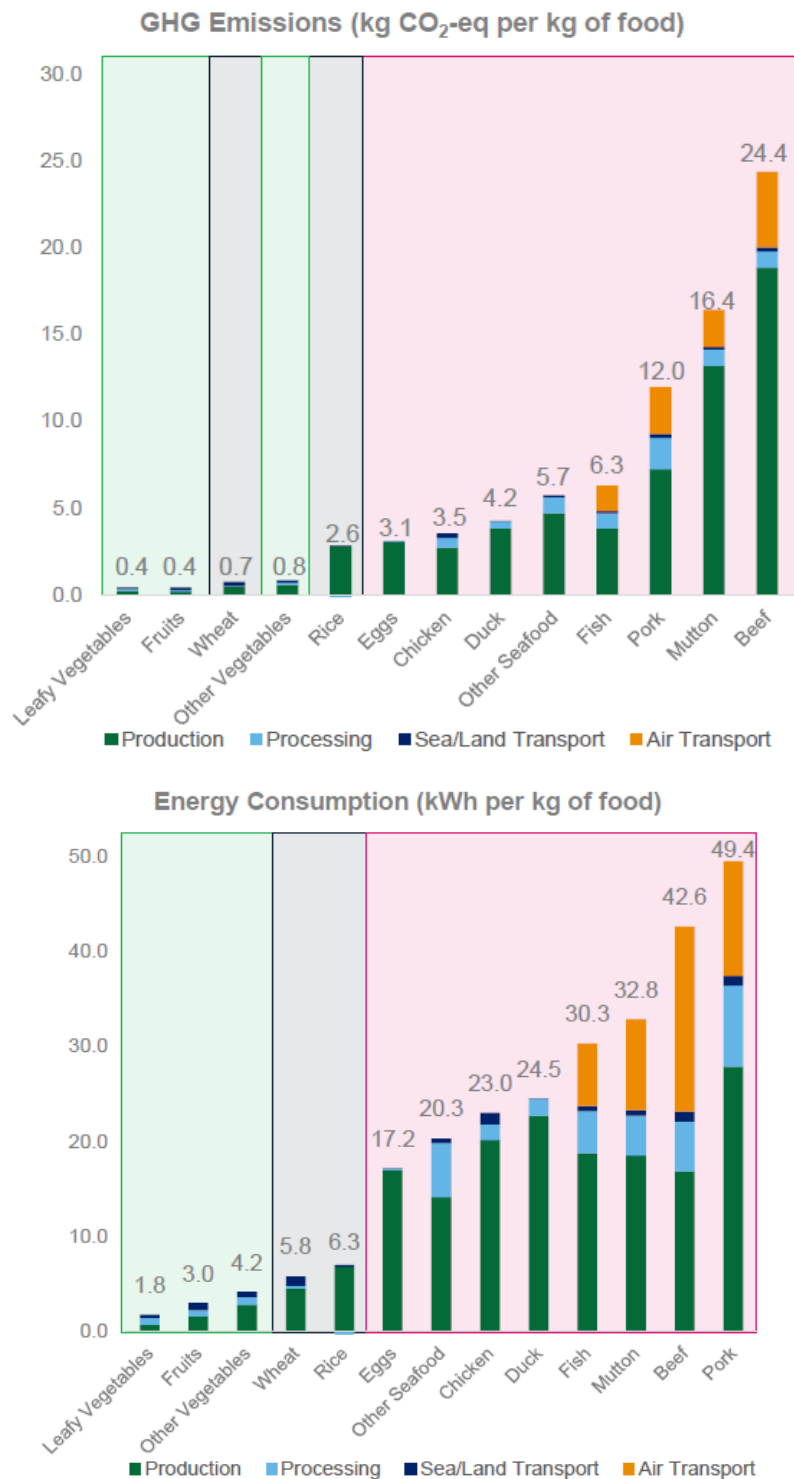

Figure 4. GHG emissions (top) and energy consumption (bottom) of major food items consumed in Singapore.

Source: Tan et al. 2020.

Strategy two: Using plant-based and cultured meat to reduce energy consumption

Considering the high amounts of energy required to produce meat, the plan's second strategy concerns supporting the growth of plant-based meat industries to substitute imported meat products. Plant-based meats, including soy products like tofu and tempeh, are a good alternative to meat because they consume less energy, and subsequently emit less GHG emissions, than real meat. As shown in Figure 5, plant-based meats produce 3.9 $kgCO_2$-eq of GHG, three times less than the emissions produced by pork (12.0 $kgCO_2$-eq), and five times less than that of beef (24.4 $kgCO_2$-eq) (Deloitte and A*STAR 2019; Keoleian and Heller 2018). Promoting the consumption of plant-based meat should help lower consumer demand for real meat, thereby reducing Singapore's overall energy consumption.
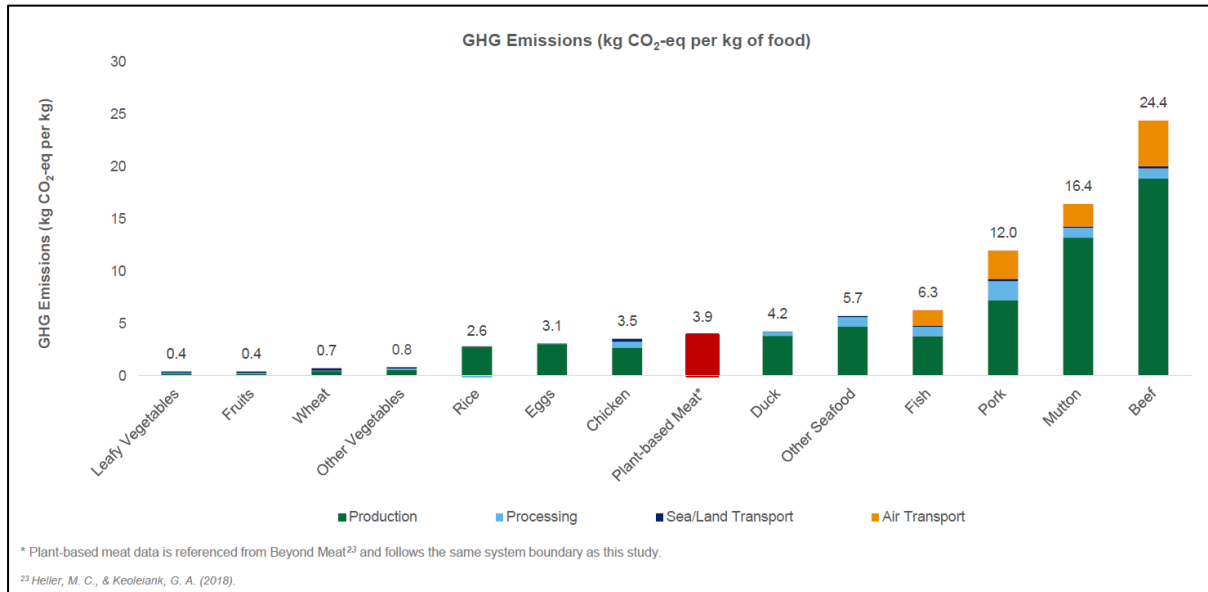

Figure 5. GHG emissions for different food types, including plant-based meat.

Source: Keoleian and Heller 2018.

One advantage of plant-based meat is that it is already a substantial component of the Singaporean diet; this decreases the reluctance that consumers might have when trying new foods. Survey results by Rakuten Insight (2024) found that more than two thirds of Singaporeans actively consume plant-based meat alternatives (Hirschmann and Rakuten Insight 2024). Moreover, a 2022 report by GlobalData (2022) found that soy products contribute to more than 5 per cent of the Singaporean meat-alternative market (GlobalData 2022). This implies that Singaporeans have started to embrace meat alternatives such as soy products. While plant-based products such as tempeh and tofu have established themselves as good meat alternatives, this does not take away from the fact that a majority of the meat consumed by Singaporeans is not plant-based. The plant-based meat industry still has a long way to go before it can overtake the meat industry as Singaporeans' primary choice for protein. The government would do well to introduce complementary campaigns to influence Singaporeans' perception of plant-based meat. Promoting plant-based meat as a legitimate primary source of protein in schools and in the healthcare system could shift Singaporeans' perception of these products, thereby increasing its consumption.

Aside from plant-based meat, cultured meat is a novel method of cultivating animal cells to create products identical in taste, texture, and nutrition to meat products (Jahir et al. 2023). Cultured meat consumes 45 per cent less energy than traditional farming methods, and emits 90 per cent less GHGs. (ibid.). In light of these benefits, Singapore approved the sale of cultured meat in December 2020 (Marsh 2023). However, while cultured meat might appear to promote sustainability, there is reason to be cautious. Hocquette et al. (2024) point out that, owing to the technology's relative nascency, we do not fully understand the real impact of cultured meat on the environment. Similarly, Rodríguez Escobar et al. (2021) note that there is 'extremely limited' information about the environmental impact of the

cultured meat production process. In light of these uncertainties, it is not surprising to see conflicting findings about the environmental impact of cultured meat. For instance, Risner et al.'s (2023) preprint paper argues that cultured meat, when produced under certain conditions, has the potential to produce 10 times more GHGs than traditional farming methods. Similarly, Lynch and Pierrehumbert's (2019) assessment found that continuous and high levels of global consumption of cultured meat may result in higher energy consumption and carbon emissions than cattle farming.

Overall, it is difficult to undertake a conclusive assessment of the impact of cultured meat on Singapore's sustainability goals. On one hand, we do see some evidence that the production of cultured meat consumes less energy compared to traditional farming. However, the nascency of the technology and the lack of industrial-level production processes means that we are not yet able to measure the true impact of cultured meat. Clearly, additional research is needed to identify energy-efficient methods of producing cultured meat and other meat alternatives. Considering how the plant-based meat industry is already well established in Singapore, I recommend that the local cultured meat industry continue to take advantage of the plan's SGD$300 million fund for research and investment. These funds could be allocated to research and develop energy-efficient cultured meat production processes, helping Singapore progress towards its sustainability goals.

Challenges and recommendations for achieving sustainable food security in Singapore

While initial assessment of the impact of Singapore's '30 by 30' Plan on its sustainability goals in the agriculture industry appears promising, increasing environmentally sustainable local food production will rely on overcoming two key economic challenges. First, information asymmetry between local consumers and local farmers heaps additional costs onto the transaction process. Information asymmetry happens when either producer or consumer contains incomplete information during the transaction process (Lee 2023). If Singaporean farmers wish to sell their produce, they must search for buyers who are able and willing to pay for their crops. A lack of information about these buyers and the prices they can pay would mean both farmers and their consumers know very little about each other. This results in a misalignment in the prices consumers pay, and the quantity of crops grown for consumption. This harms both consumers and producers in the long term. Public and private actors in the market are important in acting as intermediaries to relay preferences and information between producers and consumers, in maintaining consumer confidence, and in lowering the production costs for agrifood companies (APEC 2009; Teng et al. 2019; Zecca and Rastorgueva 2016). Complementary policies to the plan should provide consumers and producers within the urban agriculture industry with more information so that they can make more informed transactions. One complementary policy is the demand-supply initiative that was signed by Singapore Agro-Food Enterprises Federation Limited, a non-governmental agency, and At Fresh and Seafood Industries Association, a food distributor, in October 2023. The initiative is designed to simplify the processing and distribution of local produce in the market by aggregating demand and matching it with supply (Lee 2023). The initiative reduces information asymmetry by providing both farmers and consumers with more information about the level of demand and supply within the agrifood market. Programs such as these help complement the '30 by 30' Plan by smoothing the transaction process between consumers and farmers, reducing any additional costs to both parties.

The second challenge to Singapore's dual sustainability and food security objectives is a lack of local demand for locally produced foods. Drumming up demand for locally produced foods is an equally important step in building up UAIs because it allows them to become financially sustainable. I advance two ideas that the Singapore government could employ to grow demand for locally produced foods. First, the government could engage in education campaigns aimed at changing the perception of local consumers, with the aim of convincing Singaporeans that locally grown foods are healthy and support Singapore's sustainability goals. Second, the government could directly contribute to the demand for locally grown food by contracting local agrifood companies to supply their produce to government

institutions such as hospitals, schools, and military bases. These strategies not only help local firms to be financially viable but also help grow demand among local Singaporeans.

More broadly, I propose three recommendations that the Singapore government could introduce to improve both the environmental and economic sustainability of the urban agriculture industry. First, agrifood companies should take advantage of the plan's $300 million research and development fund to help increase water and energy efficiency in their production processes. By further developing the water and energy efficiency of urban agriculture technologies, agrifood companies help ensure that Singapore's domestic agricultural industry positively contributes to the nation's sustainability efforts. This ties into my second recommendation. Given the plan's nascency, further research should be done to analyse the long-term impacts of the plan on Singapore's water and energy consumption. This not only supports the development of urban agriculture technologies, but also helps Singapore ensure that its food security policies are helping, rather than hindering, its sustainability efforts. Finally, the Singapore government should introduce complementary policies with the aim of shaping consumption habits so that Singaporeans have more of an appetite for locally produced food. Such policies would complement the plan's efforts to support industrial capacity by creating demand for locally produced food, thus ensuring the long-term economic viability of agrifood companies.

Conclusion

Singapore's geographic and economic limitations make it increasingly vulnerable to food insecurity. The government's '30 by 30' Plan prioritises the growth of the local food industry and UAIs to strengthen food production. In this paper, I have assessed the sustainability impact of the '30 by 30' Plan and identify three main findings. First, urban farming methods significantly reduce water usage, alleviating water stress in Singapore. Second, investing in domestic food production allows Singapore to shorten its domestic supply chain and reduce transport-related energy consumption. Third, the adoption of plant-based and cultured meat has the potential to reduce the energy consumption of the meat production and consumption process by up to 40 per cent. Overall, I found that the '30 by 30' Plan has generally positively contributed to the sustainability efforts of Singapore. Nonetheless, the plan is not a silver bullet in Singapore's efforts to ensure its food security. Economic factors such as information asymmetry and low local demand pose challenges to making the country's agrifood companies financially sustainable. In light of this, I put forward five recommendations that have the potential to advance Singapore's sustainability goals. First, promote plant-based meat products such as tofu and tempeh as legitimate alternative sources of protein in both schools and hospitals. Second, urban farms should take advantage of the plan's funding to invest in water- and energy-efficient production processes. Third, Singaporean cultured meat companies should specifically take advantage of the plan's substantial funding to research and develop more energy-efficient cultured meat production processes. Fourth, further research should be done to understand the long-term impacts of the plan on Singapore's sustainability efforts. Finally, the government should make intentional and meaningful steps to promote the consumption of locally produced foods in the country. Examples could include serving locally produced foods in schools, hospitals, and even in military bases.

References

Al-Kodmany, Kheir. 2018. 'The Vertical Farm: A Review of Developments and Implications for the Vertical City' in 'Sustainable Vertical Urbanism', special issue, *Buildings* 8 (2): 24. https://doi.org/10.3390/buildings8020024.

Andres, Gabrielle. 2024. 'Flash Flood Hits Bukit Timah Rd amid Heavy Downpour; Warnings Issued for Several Places'. *The Straits Times*, 17 November, sec. Singapore. https://www.straitstimes.com/singapore/flash-flood-warnings-issued-for-several-places-amid-heavy-downpour.

Ang, Hwee Min, and Matthew Mohan. 2021. 'Singapore Unveils Green Plan 2030, Outlines Green Targets for Next 10 Years'. *Channel News Asia*, 10 February, sec. Singapore. https://www.channelnewsasia.com/singapore/singapore-green-plan-2030-targets-10-years-1883021 (site discontinued).

APEC. 2009. *Improving Food Markets in APEC Economies: Can the Cost of Food Be Lowered?* Policy Research Report. Singapore: Asia-Pacific Economic Cooperation. https://www.apec.org/docs/default-source/Publications/2009/12/Improving-Food-Markets-in-APEC-Economies-Can-the-Cost-of-Food-be-Lowered-September-2009/09_psu_foodstudy_R.pdf.

Armstrong, Martin. 2023. 'How Thirsty Is Our Food?' Water Footprint Network. Statista. https://www.statista.com/chart/9483/how-thirsty-is-our-food/.

Avgoustaki, Dafni Despoina, and George Xydis. 2020. 'Plant Factories in the Water-Food-Energy Nexus Era: A Systematic Bibliographical Review'. *Food Security* 12: 253–68. https://doi.org/10.1007/s12571-019-01003-z.

———. 2021. 'Energy Cost Reduction by Shifting Electricity Demand in Indoor Vertical Farms with Artificial Lighting'. *Biosystems Engineering* 211 (November): 219–29. https://doi.org/10.1016/j.biosystemseng.2021.09.006.

Begum, Shabana. 2024. 'Household Water Consumption Falls to Pre-Pandemic Levels in 2023'. *The Straits Times*, 9 March, sec. Singapore. https://www.straitstimes.com/singapore/household-water-consumption-falls-to-pre-pandemic-levels-in-2023.

Begum, Yasmin. 2023. 'Temperature Soars to 37°C in Singapore, Equals Record for Daily High Set in 1983'. *Channel News Asia*, 13 May, sec. Singapore. https://www.channelnewsasia.com/singapore/heat-hot-temperature-37-degrees-celsius-record-highest-daily-maximum-3486581.

Carotti, Laura, Alessandro Pistillo, Ilaria Zauli, Davide Meneghello, Michael Martin, Giuseppina Pennisi, Giorgio Gianquinto, and Francesco Orsini. 2023. 'Improving Water Use Efficiency in Vertical Farming: Effects of Growing Systems, Far-Red Radiation and Planting Density on Lettuce Cultivation'. *Agricultural Water Management* 285 (July). https://doi.org/10.1016/j.agwat.2023.108365.

CEIC Data. n.d. *Singapore Land Use: % of Land Area: Other*. Information Report. CEIC Data. Accessed 24 August 2023. https://www.ceicdata.com/en/singapore/environmental-land-use-non-oecd-member-annual/land-use--of-land-area-other.

CNA. 2024. 'Trees Felled by Strong Winds as Heavy Rain Hits Singapore'. *Channel News Asia*, 17 September, sec. Singapore. https://www.channelnewsasia.com/singapore/fallen-trees-strong-winds-heavy-rain-singapore-monsoon-squall-met-service-4613661.

Deloitte and A*STAR. 2019. *Environmental Impact of Key Food Items in Singapore*. Deloitte and the Agency for Science, Technology, and Research Singapore. Ecosperity. https://www.ecosperity.sg/content/dam/ecosperity-aem/en/reports/Environmental-Impact-of-Key-Food-Items-in-Singapore_Oct2019.pdf.

Dorr, Erica, Benjamin Goldstein, Arpad Horvath, Christine Aubry, and Gabrielle Benoit. 2021. 'Environmental Impacts and Resource Use of Urban Agriculture: A Systematic Review and Meta-Analysis'. *Environmental Research Letters* 16 (August): 1–29. https://doi.org/10.1088/1748-9326/ac1a39.

Euromonitor International. 2019. 'Euromonitor International'. Policy Research Blog. *Water Scarcity in Southeast Asia* (blog). 10 February. https://www.euromonitor.com/article/water-scarcity-in-southeast-asia.

Fanning, Andrew L., Daniel W. O'Niell, Jason Hickel, and Nicolas Roux. 2022. 'The Social Shortfall and Ecological Overshoot of Nations'. *Nature Sustainability* 5 (January): 26–36. https://doi.org/10.1038/s41893-021-00799-z.

Global Footprint Network. 2023. 'Country Trends'. Footprint Network. https://data.footprintnetwork.org/#/countryTrends?cn=5001&type=BCpc,EFCpc.

GlobalData. 2022. *Singapore Meat Substitutes Market Opportunities, Trends, Growth Analysis and Forecast to 2027*. Market Report GDCG240081CS-ST. Singapore: GlobalData. https://www.globaldata.com/store/report/singapore-meat-substitutes-market-analysis/.

Han, Danyang. 2023. 'Water Demand for Vertical Farming – Advantages and Challenges'. Major Project—Master of Land and Water System 2020. Vancouver: University of British Columbia. https://lfs-mlws-2020.sites.olt.ubc.ca/files/2022/05/Han-2020-Water-Demand-for-Vertical-Farming.pdf.

Hirschmann, R., and Rakuten Insight. 2024. 'Share of Respondents That Have Consumed Plant-Based Food Alternatives in Singapore as of February 2024, by Age'. Survey data. Statista. https://www.statista.com/statistics/1076284/singapore-plant-based-food-consumers-by-age.

Hocquette, Jean-François, Sghaier Chriki, Dominique Fournier, and Marie-Pierre Ellies-Oury. 2024. 'Review: Will "Cultured Meat" Transform Our Food System towards More Sustainability?' *Animal*, March, 101145. https://doi.org/10.1016/j.animal.2024.101145.

Hong, Alex. 2023. 'Securing Singapore's Future (I/II): The 30 by 30 Food Security Initiative'. *IlluminemX* (blog). 27 October. https://illuminem.com/illuminemvoices/securing-singapores-future-the-30-by-30-food-security-initiative.

Intergovernmental Panel On Climate Change. 2023. *Climate Change 2021 – The Physical Science Basis: Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. 1st ed. Cambridge University Press. https://doi.org/10.1017/9781009157896.

Jahir, Nur Rasyidah, Seeram Ramakrishna, Amirul Abdullah, and Sevakumaran Vigneswari. 2023. 'Cultured Meat in Cellular Agriculture: Advantages, Applications and Challenges'. *Food Bioscience* 53 (June). https://doi.org/10.1016/j.fbio.2023.102614.

Jamieson, William. 2024. 'Reclaiming Resilience Through Granular Arbitrage: Anticipating Sea Level Rise in Singapore'. *Critical Asian Studies* October: 1–21. https://doi.org/10.1080/14672715.2024.2414376.

Jiang, Rengui, Wen Li, Xi Xi Lu, Jiancang Xie, Yong Zhao, and Fawen Li. 2021. 'Assessment of Temperature Extremes and Climate Change Impacts in Singapore, 1982–2018'. *Singapore Journal of Tropical Geography* 42 (3): 378–96. https://doi.org/10.1111/sjtg.12384.

Jurga, Anna, Anna Pacak, Demis Pandelidis, and Bartosz Kazmierczak. 2021. 'A Long-Term Analysis of the Possibility of Water Recovery for Hydroponic Lettuce Irrigation in an Indoor Vertical Farm. Part 2: Rainwater Harvesting' in 'Fundamentals and Recent Advantages in Heating, Ventilation, and Air-Conditioning Systems (HVAC)', special issue, *Applied Sciences*, 11 (1). https://doi.org/10.3390/app11010310.

Kafle, Arun, James Hopeward, and Baden Myers. 2023. 'Modelling the Benefits and Impacts of Urban Agriculture: Employment, Economy of Scale and Carbon Dioxide Emissions'. *Horticulturae* 9 (1). https://doi.org/10.3390/horticulturae9010067.

Keoleian, Gregory, and Martin Heller. 2018. 'A Comprehensive Comparison of Plant-Based and Animal-Based Protein Sources: Beyond Meat's Beyond Burger Life Cycle Assessment'. CSS18-10. Center for Sustainable Systems: University of Michigan. https://css.umich.edu/publications/research-publications/beyond-meats-beyond-burger-life-cycle-assessment-detailed.

Le Quéré, Corinne, Glen P. Peters, Pierre Friedlingstein, Robbie M. Andrew, Josep G. Canadell, Steven J. Davis, Robert B. Jackson, and Matthew W. Jones. 2021. 'Fossil CO_2 Emissions in the Post-COVID-19 Era'. *Nature Climate Change* 11 (3): 197–99. https://doi.org/10.1038/s41558-021-01001-0.

Lee, Joshua, and Jonathan Lim. 2019. 'S'pore Wants to Produce 30% of Our Food Needs by 2030'. *Mothership,* 7 March. https://mothership.sg/2019/03/30-by-30-food-security-singapore-food-agency/.

Lee, Li Ying. 2023. 'New Demand-and-Supply Initiative to Help Boost Sales of Local Vegetables and Fish'. *The Straits Times*, 27 October, sec. Singapore. https://www.straitstimes.com/singapore/new-demand-and-supply-initiative-to-help-boost-sales-of-local-vegetables-and-fish.

Li, Xin, Ke Zhang, and Vladan Babovic. 2019. 'Projections of Future Climate Change in Singapore Based on a Multi-Site Multivariate Downscaling Approach'. *Water* 11 (11): 2300. https://doi.org/10.3390/w11112300.

Lim, Alane. 2022. 'What Is Ecological Footprint? Definition and How to Calculate It'. *Treehugger* (blog), 25 February. https://www.treehugger.com/what-is-ecological-footprint-4580244.

Listiyorini, Eko, and John Cheng. 2023. 'Singapore Air Turns Unhealthy as Indonesia Denies Causing Haze'. *Bloomberg*, 7 October, sec. Green. https://www.bloomberg.com/news/articles/2023-10-07/air-quality-in-east-singapore-hits-unhealthy-level-nea-says.

Lynch, John, and Raymond Pierrehumbert. 2019. 'Climate Impacts of Cultured Meat and Beef Cattle' in 'Cellular Agriculture', special issue, *Frontiers in Sustainable Food Systems* 3 (February). https://doi.org/10.3389/fsufs.2019.00005.

Marsh, Nick. 2023. 'Why Singapore Is the Only Place in the World Selling Lab-Grown Meat'. *British Broadcasting Corporation (BBC)*, 8 June, sec. Asia Business Correspondent. https://www.bbc.com/news/business-65784505.

Masoudi, Mahyar, Puay Yok Tan, and Marjan Fadaei. 2021. 'The Effects of Land Use on Spatial Pattern of Urban Green Spaces and Their Cooling Ability', *Urban Climate* 35 (January). https://doi.org/10.1016/j.uclim.2020.100743.

Ministry for National Development. 2013. *Land Use Plan: A High Quality Living Environment for All Singaporeans*. Government Report. Singapore: Ministry for National Development. https://www.mnd.gov.sg/docs/default-source/mnd-documents/publications-documents/land-use-plan.pdf.

Naus, Tessa. 2018. 'Is Vertical Farming Really Sustainable?' *European Institute for Innovation and Technology Food* (blog), 29 August. https://www.eitfood.eu/blog/is-vertical-farming-really-sustainable.

Ng, Wei-Shiuen, and Robert Mendelsohn. 2005. 'The Impact of Sea Level Rise on Singapore'. *Environment and Development Economics* 10 (2): 201–15. https://www.jstor.org/stable/44379136.

Nilashi, Mehrbakhsh, Ooi Keng Boon, Garry Tan, Binshan Lin, and Rabab Abumalloh. 2023. 'Critical Data Challenges in Measuring the Performance of Sustainable Development Goals: Solutions and the Role of Big-Data Analytics'. *Harvard Data Science Review* 5 (3). https://doi.org/10.1162/99608f92.545db2cf.

Raworth, Kate. 2019. *Doughnut Economics*. 1st ed. Chelsea Green Publishing.

Risner, Derrick, Yoonbin Kim, Cuong Nguyen, Justin Siegel, and Edward Spang. 2023. 'Environmental Impacts of Cultured Meat: A Cradle-to-Gate Life Cycle Assessment'. *bioRxiv*, April. https://doi.org/10.1101/2023.04.21.537778.

Ritchie, Hannah, and Edouard Mathieu. 2023. 'Which Countries Are Most Densely Populated?' *Our World in Data* (blog), 6 September. https://ourworldindata.org/most-densely-populated-countries.

Rodríguez Escobar, María Ignacia, Erasmo Cadena, Trang T. Nhu, Margot Cooreman-Algoed, Stefaan De Smet, and Jo Dewulf. 2021. 'Analysis of the Cultured Meat Production System in Function of Its Environmental Footprint: Current Status, Gaps and Recommendations'. *Foods* 10 (12): 2941. https://doi.org/10.3390/foods10122941.

Salas, Erick Burgueño. 2024. 'Average Water Usage per Person per Day in England and Wales 2016–2023'. Graph. Statista. https://www.statista.com/statistics/1211708/liters-per-day-per-person-water-usage-united-kingdom-uk/.

SFA. 2019. '30 by 30'. *Singapore's Food Supply* (blog). 2019. https://www.ourfoodfuture.gov.sg/30by30/ (site discontinued).

———. 2023a. *Singapore Food Statistics 2022*. Statistical report. Singapore: Singapore Food Agency. https://www.sfa.gov.sg/docs/default-source/publication/sg-food-statistics/singapore-food-statistics-2022.pdf.

———. 2023b. *Singapore Food Statistics 2023*. Statistical report. Singapore: Singapore Food Agency. https://www.sfa.gov.sg/news-publications/publications/sgfs.

Shaw, Timothy. 2023. 'Commentary: The Urgency of Addressing Rising Sea Levels in Singapore'. *Channel News Asia*, 5 October, sec. Commentary. https://www.channelnewsasia.com/commentary/singapore-how-high-sea-level-rise-melting-ice-sheet-future-past-3816866.

Syawal, Shahrizan bin Mohd Adam Das. 2023. 'Addressing Malaysia's Water Woes'. *Addressing Malaysia's Water Woes* (blog). 2023. https://pemandu.org/addressing-malaysias-water-woes/.

Tan, Daren, Cadence Hsien, Chuan Kai Foo, Rachel Yang, Ruisheng Ng, and Jonathan Low. 2020. 'Trend and Future Scenario Analyses of Singapore's Food System through the Lens of Life Cycle Environmental Impact'. *Procedia CIRP* 90: 203–8. https://doi.org/10.1016/j.procir.2020.02.006.

Taylor, Michael, and Claudio Accheri. 2020. 'How Singapore Is Putting a Stop to Water Running Out'. *Global Center on Adaptation* (blog). 17 January. https://gca.org/how-singapore-is-putting-a-stop-to-water-running-out/.

Teng, Paul. 2020. 'Assuring Food Security in Singapore, a Small Island State Facing COVID-19'. *Food Security* 12 (4): 801–4. https://doi.org/10.1007/s12571-020-01077-0.

Teng, Paul, Jose Montesclaros, Rob Hulme, and Andrew Powell. 2019. 'The Evolving Singapore Agrifood Ecosystem'. Insights Paper IN19-03. Singapore: S. Rajaratnam School of International Studies. https://www.jstor.org/stable/pdf/resrep26807.pdf.

Tortajada, Cecilia, and Nicole Sher Wen Lim. 2021. 'Food Security and COVID-19: Impacts and Resilience in Singapore'. *Frontiers in Sustainable Food Systems* 5 (December): 740780. https://doi.org/10.3389/fsufs.2021.740780.

Zecca, Francesco, and Natalia Rastorgueva. 2016. 'Trends and Perspectives of the Information Asymmetry Between Consumers and Italian Traditional Food Producers'. *Recent Patents on Food, Nutrition, and Agriculture* 8 (1): 19–24. https://doi.org/10.2174/221279840801160304124251.

Digital colonialism: An analysis of Facebook's role in the Rohingya genocide

HARRISON OATES

Abstract

The Rohingya genocide demonstrates how modern technology can exacerbate historical ethnic tensions and facilitate severe human rights abuses. In 2016–17, Myanmar's military orchestrated clearance operations that forced over 700,000 Rohingya to flee to Bangladesh. Meta, Facebook's parent company, played a critical role in this crisis through systematic failures in content moderation and platform design. The company's inadequate investment in Burmese-speaking moderators and culturally appropriate algorithmic systems allowed hate speech to flourish, while its engagement-based recommender system amplified anti-Rohingya content. Using Stanton's Ten Stages of Genocide model, this paper demonstrates how these platform dynamics catalysed the progression of offline violence against the Rohingya. These failures highlight a stark disparity in safety measures applied to Global South and Global North users.

This case exemplifies a broader pattern of digital colonialism, where Meta's Internet.org initiative drove users to Facebook while prioritising data extraction and market influence over local population safety. Similar patterns of Facebook-amplified ethnic violence have emerged in other Global South nations, including Ethiopia and Sri Lanka. The paper argues that this systematic neglect of user safety in favour of economically valuable data collection perpetuates colonial power structures, challenging the assumption that technology platforms are neutral intermediaries in protecting human rights.

Introduction

The Rohingya genocide is a stark example of how twenty-first-century technology can intersect with historical ethnic tensions to exacerbate human rights abuses. In late 2016 and early 2017, Myanmar's military, the Tatmadaw, commenced a crackdown against the Muslim Rohingya people of Rakhine state, razing villages and killing thousands (Maizland, 2022). This spilled over into widespread extrajudicial killings by Buddhist nationalists, resulting in more than 700,000 Rohingya fleeing to Bangladesh to seek asylum. The United Nations' Independent International Fact-Finding Mission on Myanmar (IIFFMM) found the Tatmadaw to be behind a network of Facebook pages that helped incite the violence. Meta, Facebook's parent company,[75] was ill-prepared to moderate content in the country (IIFFMM, 2018), lacking both sufficient Burmese-speaking human moderators and culturally appropriate algorithmic moderation systems. While the roots of this conflict stretch back decades, the role of social media in amplifying hate speech and facilitating violence demands critical examination. The situation in Myanmar is not an isolated incident but rather exemplifies a broader pattern of social media platforms enabling violence in the Global South. Similar patterns of Facebook amplifying ethnic violence have emerged in Ethiopia (Mackintosh, 2021) and Sri Lanka (Taub and Fisher, 2018), while online disinformation has fuelled lynchings in Indonesia, India and Mexico (Taub and Fisher, 2018).

This paper argues that Meta catalysed the progression towards the Rohingya genocide through algorithmic amplification of hate speech and systematic economic exploitation of Myanmar's digital sphere. Specifically, Facebook's recommender system, optimised for engagement, systematically

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[75] Facebook, Inc. was renamed Meta in late 2021 (Isaac, 2021). In this paper, *Facebook* refers to the social media platform, while *Meta* denotes the parent company overseeing broader strategic aims.

amplified anti-Rohingya content while the company aggressively pursued user data extraction for commercial gain, exemplifying a broader pattern of digital colonialism (Kwet, 2019). Analysis through Gregory Stanton's Ten Stages of Genocide framework, a model of the processes that lead to genocide, reveals that Facebook's platform design and content moderation practices enabled multiple stages of genocide to unfold simultaneously, demonstrating how online harms can lead to offline violence.

The analysis proceeds as follows. First, I provide an overview of Myanmar's historical context and the marginalisation of the Rohingya ('Background'). Next, I explore the concept of digital colonialism and its manifestation through Meta's Internet.org initiative, examining how the company's motivations and expansion strategies in the Global South parallel historical colonial patterns ('Routers are the new railways'). I then examine how these dynamics manifested in concrete harms through Facebook's platform design and content moderation practices, which infringed upon the rights of the Rohingya ('Engagement drives hate speech'). Building on this analysis, I apply Stanton's genocide model to elucidate Facebook's role in the progression of violence against the Rohingya. Finally, I challenge the defence of Facebook as a neutral intermediary, arguing that algorithmic curation and Meta's own acknowledgement of responsibility fundamentally undermine this claim.

Background

The persecution of the Rohingya is not isolated to Facebook; rather, it is a longstanding cultural phenomenon stemming from colonial-era ethnic tensions and Buddhist nationalism. Myanmar, formerly known as Burma, has a population that is overwhelmingly Buddhist, comprising about 88 per cent of its 54 million inhabitants. Buddhist nationalism has long been a significant force in Burmese politics, with anti-colonial movements before independence from British colonial rule in 1948 often focused more on preserving Buddhist culture than outright mobilisation (International Crisis Group, 2017). The British colonial strategy of 'divide and rule' employed in Burma, like in many other colonies (Bless, 1990), intentionally exacerbated ethnic tensions that persist to this day. Since independence, Myanmar has been embroiled in the world's longest-running civil war, with various ethnic militias fighting for self-determination. The conflict between the Rohingya and the Rakhine Buddhists, who are primary actors in the genocide, exemplifies these tensions. During World War Two, the British promised the Rohingya a Muslim state in exchange for fighting against the Axis-aligned Rakhine (Beech and Cai, 2024). This helped to exacerbate the already-existing division along ethnic lines in the region.

The passage of the Citizenship Law in 1982 created a new tiered system that effectively restricted citizenship of Myanmar, and the associated privileges, to 135 state-recognised ethnic groups (Rhoads, 2022). The Rohingya are considered 'Bengali' by the state, implying them to be illegal immigrants from Bangladesh, and are thus not recognised under the law. Not only does the law effectively render them stateless, but it has also been used to justify restrictions on their freedom of movement, access to education, and employment opportunities (Alam, 2019). These institutionalised forms of exclusion and discrimination, born from colonial-era divisions, would later find new expression through Facebook.

Routers are the new railways

Meta's Internet.org initiative, launched in Myanmar in July 2016, represents a modern form of colonial infrastructure designed to extract valuable user data from emerging markets. Like Britain's colonial railways in Burma that facilitated extraction of natural resources (Baillargeon, 2020), Internet.org's Free Basics program provided Burmese users with access to Facebook and a small number of additional services without data charges (IIFFMM, 2018; Global Voices, 2017). While marketed as a humanitarian endeavour to promote connectivity (Solon, 2017), this initiative—previously introduced across Africa, Latin America, and Asia (Liao, 2017; Nothias, 2020)—primarily serves to expand Meta's data collection capabilities in the Global South (Nothias, 2020). Data forms the foundation of the digital economy (Zuboff, 2019), with high-quality datasets being critical for training predictive algorithms such targeted advertising or generative AI. In 2017, for instance, Meta saw revenues of

US$40.65 billion, 98 per cent of which came from advertising (Facebook, 2018). To generate better predictions from these algorithms and hence more economic value, more data is required. Consequently, corporations are incentivised to extract data from platform users at an ever-increasing scale. Zuboff (2019) calls this quest for profit maximisation the 'extraction imperative'. Internet.org's provision of infrastructure for restricted internet access allows Meta to control data streams not otherwise available to the company, giving it a strategic advantage in the development of its predictive products (Coleman, 2019). The aim of providing free internet access to developing nations is therefore not truly driven by the belief that 'connectivity is a human right' (Zuckerberg, 2014), but rather by the intent to generate shareholder value through data extraction. Focusing on Myanmar, Meta's expansion has clearly worked. In 2011, following the downfall of the military junta, internet penetration was 0.23 per cent. By 2017, 26 per cent of Burmese were online, with over 10 million Facebook users (Amnesty International, 2022). The 2015 launch of a Myanmar-specific Facebook saw the platform quickly become a primary online gateway, with 95 per cent of internet users on the platform (Samet, Arriola, and Matanock, 2024). This rapid increase in connectivity and Facebook usage across such a relatively short period of time would likely be less pronounced in the absence of Internet.org and the profit incentives arising from the extraction imperative.

The exploitative logic of data extraction mirrors the extractivism of British colonial rule, remnants of which persist today. The Burmese colonial economy was structured to facilitate the export of goods to the metropole, with mineral and lumber extraction, processing of primary products, trade, and banking dominated by a few international firms. These firms prioritised Indian and European labour over Burmese, thereby limiting the benefit that Burma and its population gained from international trade (Fenichel and Huff, 1975). Like Internet.org today, colonial Burma's economy generated economic value for the Global North with negligible benefits for the local population through the exploitation of local resources. Thus, Internet.org perpetuates a modern form of colonialism, mirroring the exploitative economic structure of British rule in Burma. Kwet (2019) dubs this form of economic domination 'digital colonialism', observing how the monopoly power of multinational corporations creates technological dependencies that further consolidate data resource extraction and its benefits in the hands of foreign powers. Digital colonialism is manifest in the decision to introduce Internet.org to Myanmar in order to control previously untapped, economically valuable data sources. As I will show shortly, Meta's actions once in Myanmar reinforced digital colonial power structures with disastrous impacts on the Rohingya.

Engagement drives hate speech

Having established Meta's entry into Myanmar as colonial in nature, I now analyse how Facebook was abused by Buddhist nationalist groups and the Myanmar government to infringe upon the rights of the Rohingya. The platform became a vehicle for calls to violence, exemplified by a September 2017 post from General Min Aung Hlaing of the Tatmadaw. In the midst of 'clearance operations' displacing Rohingya from their villages, he wrote that under British colonial rule 'the Bengali population exploded […] All must be loyal to the State in serving their duties, so that such cases will never happen again' (IIFFMM, 2018, p. 14). The case illustrates the fundamental tension between competing human rights. While the General's post could be viewed as an exercise of right to free speech under Article 19 of the Universal Declaration of Human Rights (UN General Assembly, 1948a), it directly threatens the Rohingya's right to equality and non-discrimination guaranteed by Articles 2 and 26 of the International Covenant on Civil and Political Rights (UN General Assembly, 1966). As Debeljak (2009) argues, these rights must be balanced against one another. However, in this instance the right to free speech is clearly prioritised, to the detriment of the Rohingyan right to equality. This imbalance between free speech and protection from discrimination was not incidental—it was the consequence of specific platform design choices. To understand this failure, we must examine two related questions: how Facebook actively contributed to hate speech proliferation, and why the company failed to prevent its spread.

Internal documents from the Facebook Papers, leaked by whistleblower Frances Haugen (Cameron et al., 2023), offer insight into how the platform directly undermined Rohingya rights through specific platform design choices and operational practices. They reveal that Meta actively contributed to the

amplification of anti-Rohingya content by building Facebook's recommender system to maximise user engagement over user safety or information quality. In general, recommender systems filter a stream of online information into a set of relevant items based on users' preferences, behaviour, or other characteristics (Roy and Dutta, 2022). Facebook's system suggests content for the home page primarily on how much interaction, or *engagement*, it generates from users. An engaged user keeps using the platform, which increases the amount of data that they generate. Internal Meta researchers acknowledged in the leaked document *What is Collateral Damage?*, that these 'core product mechanics' are a 'significant part' of why hate speech flourishes on the platform (Cameron et al., 2023). Misinformation and inflammatory content are more likely to drive engagement (Munn, 2020), leading the recommender system to spread such content far and wide (Amnesty International, 2022). In following the extraction imperative to maximise data harvesting, Facebook's recommender system proactively facilitated the amplification of anti-Rohingya content.

Meta's content moderation systems failed to prevent the spread of hate speech in Myanmar, compounding the harm caused by the recommender system's amplification of inflammatory content. These systems, which combined human moderators with algorithmic tools, were inadequately designed and resourced to prioritise the safety of Burmese users despite the country having a history of ethnic violence. In April 2018, well after the genocide started, some reports suggest that there were only five content moderators for Myanmar, with none based in the country (Kang and Frenkel, 2021). According to Haugen (2021), 87 per cent of spending on combatting misinformation and hate speech through algorithmic means by Meta is spent on English-language content when English speakers comprise only 9 per cent of the platform. Accordingly, the standard systems intended to keep users safe are far less effective in the Global South than they are in the Global North (Debre and Akram, 2021).

While the Universal Declaration of Human Rights (1948a) proclaims equity, Meta's operational practices reflect and reinforce existing global inequities. Amnesty International (2022, p. 37) quotes a former Meta employee as stating in an interview that, within the organisation 'different countries are treated differently. If 1000 people died in Myanmar tomorrow, it is less important than if 10 people in Britain die'. While hyperbolic in its presentation, the quote highlights that the internal approach treats countries according to their perceived importance, where countries in the Global North are given preferential treatment. Chouliaraki positions this indifference to lives in the Global South as a phenomenon perpetuated by Western media: the media positions Western audiences as superior spectators, reinforcing the idea that the West is the centre of moral authority and global importance (Iqani and Molokomme, 2017). This imbalance perpetuates colonial attitudes of racial superiority, like the ones stoked under British rule, and positions Rohingyan lives as less worthy of Facebook's protection than English speakers. The treatment of Global South audiences as peripheral concerns manifests in Meta's operational practices in multiple ways. First, it is reflected in the decision to spend 87 per cent of the trust and safety budget on the 9 per cent of English speakers (Haugen, 2021). Second, it is apparent from Meta's 'reluctan[ce] to hire specific staff for every one of the 195 countries in the world' (Amnesty International, 2022, p. 37), instead choosing to only staff 'important' countries . Finally, the treatment of Global South users as peripheral appears in Meta's continued operation in the country without adequate safety systems. This is despite the fact that concerns were raised as early as 2013 by Australian academic and journalist Aela Callan in a meeting with Meta's most senior policy executive (Solon, 2018). Even the Myanmar government, which 'contributed to the commission of atrocity crimes' against the Rohingya (IIFFMM, 2018, p. 18), held a 'crisis meeting' with Facebook in mid-2014 (Solon, 2018). The meeting followed deadly riots in Mandalay incited by false rumours of the rape of a Buddhist woman by a Muslim man (Fuller, 2014). Meta's lack of action in Myanmar suggests that Burmese lives are viewed as a resource to be exploited, rather than something to be protected.

Meta's systematic undervaluation of Rohingyan lives—reflected in Meta's decisions to provide inadequate moderation of an inherently unsafe form of content curation, and allocate disproportionate resources to an English-speaking minority—epitomises the extractive logic of digital colonialism. The extraction of data resources from Burmese users serves the Global North by fuelling lucrative prediction products, while neglecting their basic safety and human rights. This process actively reproduces historical colonial attitudes, placing the Global South's needs as peripheral and inferior to those of the

metropole. Thus, Meta's conduct in Myanmar represents more than a series of operational failures; it is a manifestation of digital colonial power driven by the extraction imperative.

Digital colonialism and genocide

Digital colonialism, driven by market forces and the extraction imperative, mirrors historical colonialism in its annexation of territory (in this case, users' attention) and the exploitation of local populations for the benefit of the metropole. I have demonstrated that digital colonialism was an underlying motivator to Meta's actions in Myanmar. Using Stanton's Ten Stages of Genocide (Table 1). I now show how the platform catalysed the progression of the Rohingya genocide.

Table 1: Stanton's Ten Stages of Genocide

1. Classification	2. Symbolisation
3. Discrimination	4. Dehumanisation
5. Organisation	6. Polarisation
7. Preparation	8. Persecution
9. Extermination	10. Denial

Source: Stanton, 2012.

The purpose of Stanton's model is to organise established genocide risk factors—such as previous genocides, political instability, exclusionary ideology, and massive human rights violations (Harff, 2003)—into a structured framework for understanding and preventing genocide. While Ten Stages of Genocide is recognised as the leading processual model in genocide studies (Theriault, 2021), it builds upon earlier frameworks like Fein's five-stage Holocaust analysis (Rosenberg, 2012). Stanton's model distinguishes itself through its non-sequential approach to stages (Hossain, 2021), offering broad applicability across different contexts. This practical utility is evidenced by its adoption by both the United Nations and the US State Department for genocide prevention efforts (Charny, 2024).

Classification of people by ethnicity, race, religion, or nationality is the first stage of the model. Without classification, there are no subsequent stages because there is no out-group to genocide (Stanton, 2012). These classifications are given names or other symbols (such as the yellow star for Jews under Nazi rule) in the next stage, *Symbolisation*. In the third stage, *Discrimination,* a dominant group uses their power to prevent other groups from exercising their rights (Stanton, 2012). These stages help fuel the fourth stage, *Dehumanisation*, where the dominant group denies the humanity of the other group by equating them with animals or diseases. These stages collectively define victims as the 'other', legitimising them as an enemy and thus deserving of their victimisation (Waller, 2002).

The fifth stage, *Organisation*, is when hate groups or militias organise against the targets. During *Polarisation*, the groups are driven apart through the use of propaganda, and the dominant group may silence moderates and pass laws giving them control over the targeted group (Stanton, 2012). *Polarisation* is closely followed by *Preparation*, where plans are made, perpetrators are trained and armed, and the populace is indoctrinated with fear of the target group to make the acts that may follow more palatable. *Persecution* sees the targeted group identified and separated out based on their otherness, with their human rights violated through extrajudicial killings, sterilisation, deliberate deprivation of food and water, and other disruptive acts (Stanton, 2012) that are outlawed by the Genocide Convention (UN General Assembly, 1948b). The ninth stage, *Extermination*, is the intentional destruction, in whole or in part, of the targeted group. *Denial*, the tenth and final stage, can be seen as the continuation of genocide as a 'continuing attempt to destroy the victim group psychologically and culturally' (Stanton, 2012).

Facebook's actions correspond to all but the final three stages of Stanton's model of genocide, playing a major role in the progression of violence against the Rohingya. The first four stages—*Classification*, *Symbolisation*, *Discrimination*, and *Dehumanisation*—are evident in how the Rohingya were portrayed

and treated on the platform. Classified as a Muslim 'other', they were symbolised as a threat to national unity (Chowdhury and Sifat, 2024) and discriminated against, a process long in place offline (Rhoads, 2022). Posts compiled by the IIFFMM show how Facebook played a role in dehumanising the Rohingya, with widespread use of slurs like *Kway kalar* ('Muslim dog') (Amnesty International, 2022), which further entrenched their portrayal as subhuman. In the absence of adequate safety systems, the subsequent stages of *Organisation* and *Polarisation* were supported by Facebook's engagement-based recommender system, which amplified divisive content and allowed nationalist groups (International Crisis Group, 2017), the government, and the Tatmadaw to organise and spread their message (IIFFMM, 2018). As Zimmerman (2008) argues, such hate speech and propaganda prepare populations for potential atrocities by creating a persecutory environment that normalises extreme actions, and therefore Facebook's role in spreading such content contributed to stage seven, *Preparation*. The final three stages—persecution, extermination, and denial—are largely offline acts, although Facebook has been used to disseminate genocide denial (UNESCO, 2022). Driven by digital colonialism, Facebook hence catalysed the escalation of violence against the Rohingya.

Theriault (2021) contends that Stanton's model is hindered by key inaccuracies that limit its predictive utility.[76] He argues that the model excludes an endpoint he calls *Consolidation*, where the aftermath of destruction becomes permanent through actions like the laundering of expropriated wealth and demographic engineering. He also argues that denial functions as a tool within consolidation rather than an independent stage and that stages may reflect outcomes rather than causal conditions. For example, Nazi concentration camps dehumanised victims through hyper-sadistic practices rather than following prior dehumanisation. Additionally, Theriault (2007) highlights a key complexity: that stages and their inversions can coexist. For instance, perpetrators may either dehumanise victims or 'superhumanise' themselves to justify violence. This duality complicates the model, potentially leading to legitimate genocides being overlooked.

In response, Stanton (2020) emphasises that the model is future-focused and identifies social processes predictive of genocide, rather than serving as a strict causal framework. Stages are contributive, not determinative, and their presence signals the need for preventative action rather than confirming ongoing genocide. Stanton also highlights the model's adaptability and non-exhaustive nature, pointing to the addition of *Discrimination* and *Persecution* to the original Eight Stages (Stanton, 2012). Processes like *Consolidation* or *Superhumanisation*, as raised by Theriault (2007), can coexist with the model without undermining its utility.

Challenging the neutrality of technology

My analysis suggests that Facebook helped to progress the Rohingya genocide because Meta's digital colonial focus put trust and safety second to data extraction. This conclusion appears at first glance to be at odds with a common defence of social media platforms, which frames them as neutral communication infrastructure not to be held legally liable for their users' content. Jaitly (2007), writing about proposed amendments to India's *Information Technology Act* of 2000 on behalf of Google, for instance, highlights that telephone companies are not usually held liable when their systems are used to plan a crime. This view is consistent with Section 230 of the United States' *Communications Decency Act 1996*, which provides immunity to social media companies and other online services so long as they engage in good faith moderation (Citron and Wittes, 2017). According to this perspective, it would be ridiculous to claim an intermediary service contributed to a genocide.

I argue that this position ignores two important considerations. First, Facebook is more similar to a news outlet than a neutral communication tool like the telephone network, as the content users see is algorithmically curated by the recommender system in partnership with content moderation. Publishers of newspapers have previously been found guilty of crimes against humanity for publishing hateful content and inciting genocide, as in the case of Julius Streicher and *Der Stürmer* in Nazi Germany

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[76] Theriault had previously signalled his key criticisms of Stanton's model in a 2020 op-ed (Theriault, 2020). While Stanton's response (2020) to this criticism primarily addresses Theriault's op-ed, it also engages with the core arguments that Theriault would later expand upon in his 2021 article (Theriault, 2021).

(Bytwerk, 2015). Streicher both published and edited the virulently anti-Semitic newspaper, which while not an official publication of the Nazi Party was nonetheless a 'major organ of the National Socialist press' (Showalter, 1983, p. 174), and regularly called for the destruction of the Jews (Bytwerk, 2006). I stress that Meta lacks the intent of Streicher, however, the case does highlight that publishers can be held responsible for what they publish. Algorithmic curation functions similarly to a human editor (Peukert, Sen, and Claussen, 2024), and so it is not a great leap to consider Meta a publisher and thus ascribe it some level of moral and legal responsibility for its role in the genocide. Further, Meta has previously argued in court that it is a publisher, despite a long-held public position that it is merely a neutral platform (Levin, 2018), which lends credibility to my argument.

The second consideration moves beyond publisher status to Meta's explicit acknowledgement of platform responsibility. In a 2018 testimony before a joint congressional committee in the United States, Zuckerberg admitted that Meta is 'responsible for the content' on Facebook (Associated Press, 2018). This declaration of responsibility is supported by the UN Guiding Principles on Business and Human Rights, which establish that companies should have ongoing and proactive due diligence processes to identify, prevent, mitigate, and account for their human rights impacts (Forrer and Seyle, 2016). Meta neglected these obligations in Myanmar by failing to build adequate safety systems, instead treating Burmese users merely as sources of extractable data. It is hence responsible for the resulting harms to the Rohingya population.

Thus, the defence of Facebook as a neutral intermediary platform fails on both theoretical and practical grounds. Algorithmic curation fundamentally distinguishes Facebook from traditional communication infrastructure, placing it closer to a publisher than a neutral carrier. Moreover, the company's own acknowledgement of content responsibility, coupled with its legal positioning as a publisher, undermines any claim to mere intermediary status.

Conclusion

This paper has demonstrated that Meta, driven by the extractive logic of digital colonialism, played a catalytic role in the Rohingya genocide. While the groundwork for the violence was laid by the historical and political context of Myanmar, Facebook's platform design and operational practices exacerbated existing tensions and facilitated the progression of the genocide. Facebook's recommender system, optimised for engagement, actively amplified anti-Rohingya content, while Meta's inadequate investment in content moderation did little to protect against the spread of such content. These technological failures form part of a broader digital colonial system which positions users in the Global South as mere resources to be exploited, rather than as human beings deserving the same protection as their Global North counterparts.

Based on this case, I challenge the notion that technology is neutral with regards to human rights. The situation in Myanmar exemplifies a broader pattern of social media platforms contributing to real-world violence, as seen in Sri Lanka, Ethiopia, and other countries where Facebook has operated without sufficient safeguards. Facebook did not merely reflect existing ethnic tensions; it contributed to their escalation by prioritising user engagement over human safety. We must move beyond abstract notions of neutrality to adopt a more nuanced understanding of how technological systems can perpetuate and exacerbate systemic violence, and reconsider how we develop, deploy, and moderate software in order to uphold the rights of users and those around them.

References

Alam, J. (2019) 'The current Rohingya crisis in Myanmar in historical perspective', *Journal of Muslim Minority Affairs*, 39(1), pp. 1–25. Available at: https://doi.org/10.1080/13602004.2019.1575560.

Amnesty International (2022) 'The social atrocity: Meta and the right to remedy for the Rohingya'. Available at: https://www.amnesty.org/en/documents/ASA16/5933/2022/en/ (Accessed: 26 July 2024).

Associated Press (2018) 'Facebook is "responsible for the content" on its platform, Zuckerberg says'. Available at: https://www.pbs.org/newshour/nation/facebook-is-responsible-for-the-content-on-its-platform-zuckerberg-says (Accessed: 17 August 2024).

Baillargeon, D. (2020) '"On the road to Mandalay": The development of railways in British Burma, 1870–1900', *The Journal of Imperial and Commonwealth History*, 48(4), pp. 654–678. Available at: https://doi.org/10.1080/03086534.2020.1741838.

Beech, H. and Cai, W. (2024) 'What's happening in Myanmar's civil war?', *New York Times*, 20 April. Available at: https://www.nytimes.com/interactive/2024/04/20/world/asia/myanmar-civil-war.html (Accessed: 28 July 2024).

Bless, R. (1990) *Divide et impera?: Britische minderheitenpolitik in Burma 1917–1948*. Franz Steiner Verlag (Beiträge zur kolonial- und Überseegeschichte).

Bytwerk, R.L. (2006) 'The argument for genocide in Nazi propaganda', *Quarterly Journal of Speech*, 91(1), pp. 37–62. Available at: https://doi.org/10.1080/00335630500157516.

Bytwerk, R.L. (2015) 'Believing in "inner truth": The *Protocols of the Elders of Zion* in Nazi propaganda, 1933–1945', *Holocaust and Genocide Studies*, 29(2), pp. 212–229. Available at: https://doi.org/10.1093/hgs/dcv024.

Cameron, D., Wodinsky, S., DeGeurin, M. and Germain, T. (2023) 'Read the Facebook papers for yourself'. Available at: https://gizmodo.com/facebook-papers-how-to-read-1848702919 (Accessed: 28 July 2024).

Charny, I.W. (2024) 'A personal autobiographical essay on the origins and beginning years of genocide studies, and some reflections on the field today', *Genocide Studies and Prevention: An International Journal*, 17(3), pp. 1–18.

Chowdhury, A.N. and Sifat, R.I. (2024) 'The impact of islamophobia on the persecution of Myanmar's Rohingya: A human rights perspective', *Journal of Human Rights and Social Work*, 9(2), pp. 185–199. Available at: https://doi.org/10.1007/s41134-024-00309-z.

Citron, D.K, and Wittes, B. (2017) 'The internet will not break: Denying bad Samaritans § 230 immunity', *Fordham Law Review*, 86(2), pp. 401-423. Available at: https://ir.lawnet.fordham.edu/flr/vol86/iss2/3.

Coleman, D. (2019) 'Digital colonialism: The 21st century scramble for Africa through the extraction and control of user data and the limitations of data protection laws', *Michigan Journal of Race & Law*, 24(2), p. 417. Available at: https://doi.org/10.36643/mjrl.24.2.digital.

Debeljak, J. (2009) 'Balancing rights in democracy: The problems with limitations and overrides of rights under the Victorian *Charter of Human Rights and Responsibilities Act 2006*'. *Melbourne University Law Review*, 32(2), pp. 422–469.

Debre, I. and Akram, F. (2021) 'Facebook's language gaps weaken screening of hate, terrorism'. Available at: https://apnews.com/article/the-facebook-papers-language-moderation-problems-392cb2d065f81980713f37384d07e61f (Accessed: 10 August 2024).

Facebook (2018) 'Facebook reports fourth quarter and full year 2017 results'. Available at: https://investor.atmeta.com/investor-news/press-release-details/2018/Facebook-Reports-Fourth-Quarter-and-Full-Year-2017-Results/default.aspx (Accessed: 23 January 2024).

Fenichel, A. and Huff, G. (1975) 'Colonialism and the economic system of an independent Burma', *Modern Asian Studies*, 9(3), pp. 321–335. Available at: http://www.jstor.org/stable/311725 (Accessed: 10 August 2024).

Forrer, J. and Seyle, C. (2016) 'Overview: The role of business in R2P', in J. Forrer and C. Seyle (eds), *The role of business in the responsibility to protect*. Cambridge University Press, pp. 1–8. Available at: https://doi.org/10.1017/CBO9781316659397.001.

Fuller, T. (2014) 'Mandalay's Chinese Muslims chilled by riots', *The New York Times*, 12 July. Available at: https://www.nytimes.com/2014/07/13/world/asia/mandalays-chinese-muslims-chilled-by-riots.html (Accessed: 21 November 2024)

Global Voices (2017) 'Free Basics in real life'. Available at: https://advox.globalvoices.org/wp-content/uploads/2017/08/FreeBasicsinRealLife_FINALJuly27.pdf (Accessed: 17 November 2024).

Harff, B. (2003) 'No lessons learned from the Holocaust? Assessing risks of genocide and political mass murder since 1955', *American Political Science Review*, 97(1), pp. 57–73. Available at: https://doi.org/10.1017/S030554030522.

Haugen, F. (2021) 'Protecting kids online: Testimony from a Facebook whistleblower', *Testimony before the United States Senate Committee on Commerce, Science and Transportation, Subcommittee on Consumer Protection, Product Safety, and Data Security,* 5 October. Available at: https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower (Accessed: 19 November 2024).

Hossain, M.P. (2021) 'Stages of the Rohingya genocide: A theoretical and empirical study', *Holocaust and Genocide Studies*, 35(2), pp. 211–234. Available at: https://doi.org/10.1093/hgs/dcab033.

Independent International Fact-finding Mission on Myanmar (IIFFMM) (2018) 'Report of the independent international fact-finding mission on Myanmar', *United Nations Human Rights Council*. Available at: https://www.ohchr.org/Documents/HRBodies/HRCouncil/FFM-Myanmar/A_HRC_39_64.pdf (Accessed: 20 July 2024).

International Crisis Group (2017) 'Buddhism and state power in Myanmar', *Crisis Group Asia Report* (Report no. 290), pp. 1–35. Available at: https://www.crisisgroup.org/asia/south-east-asia/myanmar/290-buddhism-and-state-power-myanmar.

Iqani, M. and Molokomme, D. (2017) 'The ironic spectator: Solidarity in the age of post-humanitarianism, by Lilie Chouliaraki', *Southern Communication Journal*, 82(1), pp. 54–56. Available at: https://doi.org/10.1080/1041794X.2016.1244557.

Isaac, M. (2021) 'Facebook renames itself Meta', *The New York Times,* 28 October. Available at: https://www.nytimes.com/2021/10/28/technology/facebook-meta-name-change.html (Accessed: 7 November 2024).

Jaitly, R. (2007) 'Intermediary liability and the future of the Internet in India', *Google Public Policy Blog*, 14 October. Available at: https://publicpolicy.googleblog.com/2007/10/intermediary-liability-and-future-of.html (Accessed: 19 November 2024).

Kang, C. and Frenkel, S. (2021) *An ugly truth: Inside Facebook's battle for domination*. Bridge Street Press.

Kwet, M. (2019) 'Digital colonialism: US empire and the new imperialism in the global south', *Race & Class*, 60(4), pp. 3–26. Available at: https://doi.org/10.1177/0306396818823172.

Levin, S. (2018) 'Is Facebook a publisher? In public it says no, but in court it says yes', *The Guardian*, 3 July. Available at: https://www.theguardian.com/technology/2018/jul/02/facebook-mark-zuckerberg-platform-publisher-lawsuit (Accessed: 19 November 2024).

Liao, S. (2017) 'Facebook's Free Basics violates net neutrality and isn't even that good, says report', *The Verge*. Available at: https://www.theverge.com/2017/7/27/16050446/facebook-net-neutrality-digital-colonialism-internet-org (Accessed: 17 November 2024).

Mackintosh, E. (2021) 'Facebook knew it was being used to incite violence in Ethiopia. It did little to stop the spread, documents show', *CNN*. Available at: https://edition.cnn.com/2021/10/25/business/ethiopia-violence-facebook-papers-cmd-intl/index.html (Accessed: 19 December 2024).

Maizland, L. (2022) 'Myanmar's troubled history: Coups, military rule, and ethnic conflict', *Council on Foreign Relations*. Available at: https://www.cfr.org/backgrounder/myanmar-history-coup-military-rule-ethnic-conflict-rohingya (Accessed: 20 July 2024).

Munn, L. (2020) 'Angry by design: Toxic communication and technical architectures', *Humanities and Social Sciences Communications*, 7(1). Available at: https://doi.org/10.1057/s41599-020-00550-7.

Nothias, T. (2020) 'Accessed granted: Facebook's Free Basics in Africa', *Media, Culture & Society*, 42(3), pp. 329–348. Available at: https://doi.org/10.1177/0163443719890530.

Peukert, C., Sen, A., and Claussen, J. (2024) 'The editor and the algorithm: Recommendation technology in online news', *Management Science*, 70(9), pp. 5816–5831. Available at: https://doi.org/10.1287/mnsc.2023.4954.

Rhoads, E.L. (2022) 'Citizenship denied, deferred and assumed: A legal history of racialized citizenship in Myanmar', *Citizenship Studies*, 27(1), pp. 38–58. Available at: https://doi.org/10.1080/13621025.2022.2137468.

Rosenberg, S.P. (2012) 'Genocide is a process, not an event', *Genocide Studies and Prevention*, 7(1), pp. 16–23. Available at: https://doi.org/10.3138/gsp.7.1.16.

Roy, D. and Dutta, M. (2022) 'A systematic review and research perspective on recommender systems', *Journal of Big Data*, 9(1). Available at: https://doi.org/10.1186/s40537-022-00592-5.

Samet, O., Arriola, L.R., and Matanock, A.M. (2024) 'Facebook usage and outgroup intolerance in Myanmar', *Political Communication*, 41(6), pp. 1–21. Available at: https://doi.org/10.1080/10584609.2024.2333408.

Showalter, D. (1983) 'Letters to "Der Stürmer": The mobilization of hostility in the Weimar Republic', *Modern Judaism*, 3(2), pp. 173–187. Available at: https://www.jstor.org/stable/1396079.

Solon, O. (2017) '"It's digital colonialism": How Facebook's free internet service has failed its users'. *The Guardian*, 27 July. Available at: https://www.theguardian.com/technology/2017/jul/27/facebook-free-basics-developing-markets (Accessed: 11 August 2024).

Solon, O. (2018) 'Facebook's failure in Myanmar is the work of a blundering toddler'. *The Guardian*, 17 August. Available at: https://www.theguardian.com/technology/2018/aug/16/facebook-myanmar-failure-blundering-toddler (Accessed: 20 November 2024).

Stanton, G. (2012) 'The ten stages of genocide'. Genocide Watch. Available at: https://www.genocidewatch.com/tenstages (Accessed: 11 August 2024).

Stanton, G. (2020) 'A rebuttal to Theriault's open letter regarding Genocide Watch', *The Armenian Weekly*, 2 December. Available at: https://armenianweekly.com/2020/12/02/a-rebuttal-to-theriaults-open-letter-regarding-genocide-watch/ (Accessed: 10 November 2024).

Taub, A., and Fisher, M. (2018) 'Where countries are tinderboxes and Facebook is a match', *The New York Times*, 21 April. Available at: https://www.nytimes.com/2018/04/21/world/asia/facebook-sri-lanka-riots.html (Accessed: 19 December 2024).

Theriault, H.C. (2007) 'Rethinking dehumanization in genocide', in *The Armenian genocide : Wartime radicalization or premeditated continuum.* 1st edition. New York: Routledge. pp. 27–40.

Theriault, H.C. (2020) 'An open letter to members of the International Association of Genocide Scholars', *The Armenian Weekly*, 4 November. Available at: https://armenianweekly.com/2020/11/04/an-open-letter-to-members-of-the-international-association-of-genocide-scholars/ (Accessed: 11 January 2025).

Theriault, H.C. (2021) 'Is denial the final stage of genocide? Consolidation, the metaphysics of denial, and the supersession of stage theory', in *Denial: The final stage of genocide?* 1st edition. United Kingdom: Routledge. pp. 11–26. Available at: https://doi.org/10.4324/9781003010708-1.

UN General Assembly (1948a) 'Resolution 217A (III), universal declaration of human rights'. Available at: https://www.un.org/en/about-us/universal-declaration-of-human-rights.

UN General Assembly (1948b) 'Resolution 260A (III), Convention on the Prevention and Punishment of the Crime of Genocide'. Available at: https://www.un.org/en/genocideprevention/documents/publications-and-resources/Genocide_Convention_75thAnniversary_2023.pdf.

UN General Assembly (1966) 'Resolution 2200A (XXI), International Covenant on Civil and Political Rights'. Available at: https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights.

UNESCO (2022) 'History under attack: Holocaust denial and distortion on social media'. Paris, France: United Nations Educational, Scientific and Cultural Organization.

Waller, J. (2002) 'Perpetrators of genocide: An explanatory model of extraordinary human evil', *Journal of Hate Studies*, 1(1). Available at: https://doi.org/10.33972/jhs.2.

Zimmerman, W. (2008) 'Counteracting hate speech as a way of preventing genocidal violence', *Genocide Studies and Prevention: An International Journal*, 3(3). Available at: https://doi.org/10.1353/gsp.2011.0006.

Zuboff, S. (2019) *The age of surveillance capitalism*. London: Profile Books.

Zuckerberg, M. (2014) 'Is connectivity a human right?'. Facebook. Available at: https://www.facebook.com/isconnectivityahumanright (Accessed: 11 August 2024).