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# **Author Queries & Comments:**

**Q1 :** The distinction between surnames can be ambiguous, therefore to ensure accurate tagging for indexing purposes online (e.g. for PubMed entries), please check that the highlighted surnames have been correctly identified, that all names are in the correct order and spelt correctly.

Response: Resolved

Q2: Is a bio needed for this type of article? One was not provided.

Response: I provided one when submitting the draft. If needed, here is a short bio: Aaron Hiltner is a lecturer at the Institute of the Americas, University College London. He is the author of Taking Leave, Taking Liberties: American Troops on the World War II Home Front.

Q3: Is "chilled" meant?

Response: Resolved

CM1: Does you have a preference on whether to use "U.S." or "US"?

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Into the Stacks[Q2]
Nature and Environment
Empire and Imperialism
Foreign Relations
Business and Capitalism
Gender and Sexuality

# Cowboys and the Imperial Ecology of Beef

Verso running head: Aaron Hiltner

**Recto running head:** Modern American History

Aaron Hiltner[Q1]

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#### **Keywords**

- Nature and Environment
- Empire and Imperialism
- Foreign Relations
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- Gender and Sexuality

Beef creates an emotional resonance that far outstrips its place within the market. In the 2000s, chicken may have dethroned beef as the most common meat on American plates, ending its reign since the 1940s, but most people do not seem to associate chicken breasts or poultry farmers with national identity the way Americans see ribeyes and cowboys as symbols of the nation's muscular, frontier past.<sup>1</sup>

This emotional resonance has made beef an effective political totem in fights over extraction, gender, and the climate. After Representative Alexandria Ocasio-Cortez and Senator Ed Markey put forward their proposed Green New Deal, conservatives seized on a defense of hamburgers to oppose the climate initiative. At the Conservative Political Action Conference in 2019, Donald Trump Jr. and then Liberty University President Jerry Falwell Jr. took the stage to riff on the imagined effects of the proposed legislation before promising bloody reprisals. "My boys always had guns in their hands ... that's not something you teach them, that's something they're born with," remarked Falwell, attempting to cast heteronormativity and male violence as natural phenomenon. "But as far as those cows you mentioned," Falwell said to Trump, "I've got 100 cows, you just let Alexandria Cortez show up at my house and try to take my cows away." Trump cheerily chimed: "I love cows, Jerry, they're delicious." Sebastian Gorka, former deputy assistant to President Trump, followed up with his own call to arms, warning the audience that the Democrats "want to take away your hamburgers! This is what Stalin dreamt about, but never achieved."<sup>2</sup>

Gorka's dire prediction and Falwell's violent fantasy welded Friedrich Hayek's cautions in *The Road to Serfdom* about tyrannical central governments crushing capitalistic enterprise with a gunslinger vision of masculinity, in which a well-armed man puts down the insidious interlopers threatening his family and property. In that sense, Falwell's attempt to refashion himself as an individualistic, fearless cowboy merged the old frontier vision of hard, righteous bloodshed with the home invasion narrative that has prevailed in debates over crime, gun rights, and the shape of cities and neighborhoods. The individual right to consume a hamburger or steak connected these strands of masculinity, extraction, and consumption into another rejection of climate change legislation.

Joshua Specht's *Red Meat Republic* offers a timely analysis of how beef became such a central part of our politics and diets. In this "hoof-to-table" history of the "cattle-beef complex" between the end of the Civil War and the mid-twentieth century, Specht demonstrates how meatpackers, large-scale ranches, and federal officials worked together to violently drive American Indians off their lands, develop an industrialized cattle trade, and create a national market for chilled [Q3] beef as the protein of choice for the rich and upwardly mobile. *Red Meat Republic* convingely rejects a technologically determinist explanation of beef's rise, noting that the modern slaughterhouse "and innovative management techniques made cheap beef possible, but they did little to determine who would benefit most from this new regime (meatpackers and investors) or bear its heaviest costs (workers, small ranchers, and American Indians)."<sup>3</sup>

Specht also explains that the late-nineteenth-century flurry of land acquisitions for largescale operations and subsequent surplus beef production had been made possible by a boom of international investment in U.S. ranches. But otherwise he paints mostly a domestic picture of the rise of modern beef politics. Stockmen and packers do not venture far beyond the western ranches or Chicago yards, and the cattlemen do not spend too much time thinking about competitors and cattlelands in other parts of the world. Meatpacking houses in Specht's story sell a big shipment to the French army, but this transnational exchange is limited to purchase orders and advertisements seeking to convince European customers of the safety of canned beef.<sup>4</sup>

Red Meat Republic's domestic focus makes sense in light of the enduring popular image of the simple cowpoke. From Billy the Kid to the Marlboro Man, iconic images trafficked by dime novels, films, and advertising campaigns have celebrated this romanctic, heroic, and manly figure born on the frontier and tragically destined to die as industry and capital rode in on the railroad. Scholars have largely agreed and consigned the cowboy to a pre-modern place in the historiography, divorced from transnational currents of capital and empire that remade the political economy and ecology of lands across the Global South during the late nineteenth and early twentieth centuries.

Yet promising new directions of research on the history of the cowboy have begun. Andrew Sluyter's *Black Ranching Frontiers: African Cattle Herders of the Atlantic World, 1500–1900* (2012) and other recent works examine how African and European ranching traditions influenced the development of herding in the Americas.<sup>5</sup> Michael M. Miller's study of the XIT cattle empire in Texas and Montana meanwhile reveals how cowboys and ranch managers, far from provincial cowpunchers, employed sophisticated surveying and accounting procedures—how else could they count thousands of steers scattered across ranches the sizes of small countries? They were professionals comfortable in both the saddle and the boardroom, ready to expertly push

thousands of head across a river ford and then negotiate a complex freight contract at the railhead.<sup>6</sup>

The longstanding perception that the cowboy dies when the range closes and the international cattle trade begins has greatly obscured how cattlemen emerged as the dual agents of empire and capital in the Rio de la Plata, Southern Africa, and Australasia at the turn of the century. Likewise, bringing these internationally based cowboys to the center of the story can capture how investors and governments treated beef more like crucial strategic resources such as oil, coal, water, or drugs, and less like pork or poultry. The imperial competition to wrest control of beef exports reflects the use of hard and soft power by the United States and the United Kingdom to manage and shape the ecology of subject nations. Cowboys were the linchpin operators in this process, and their actions have greatly influenced the structure, and consequences, of the global beef trade today.

## **Imperial Ecology**

Historians have, of course, long recognized how empires used animals, plants, and other organisms to seize land and subjugate peoples. Alfred W. Crosby established this connection between environmental change and colonial exploitation in his foundational study, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900*(2004).<sup>7</sup> In that work, Crosby framed the European introduction and management of animals as fundamentally a kind of biological invasion. Describing the Europeans "seeding" "horses, cattle, pigs, goats, sheep, asses, chickens, and cats" in the Americas and Australia, he argues that "because these animals are self-replicators, the efficiency and speed with which they can alter environments, even continental environments, are superior to those for any machine we have thus far devised."<sup>8</sup>

This concept of biological invasion remains an almost reflexive way of framing imperial ecological dynamics. Colonizers, scientists, and capitalists arrive to plant "weedy" animals, soon lose control of their herds, and watch as the destructive ecological transfer unfolds. Ulrike Kirchberger and Brett M. Bennett's edited volume*Environments of Empire: Networks and Agents of Ecological Change* (2020) offers compelling chapters on such imperial ecological transfers (phytopathology in Cameroon and Togo, the collection of hippo skins in Liberia, mud worms infesting Eastern Australian oysters). Kirchberger and Bennett, however, also generally accept the invasion biology model, noting that European scientists "often realized the limits of ecological engineering and then turned into helpless bystanders who had to observe the unintended consequences of their initiatives." The introduction of non-native animals like cows was an invasion in some sense, too. Cattle rooted and eroded the soil, ate all kinds of plant material, generally flourished in the abundant plains and grasslands of the Americas, and adapted to the variable weather conditions. The desire to create a new landscape for the cow also partly drove the campaign to nearly eradicate the American bison and force Indigenous peoples off their lands.

Yet, this model of invasion only works so well, and can fail to grasp the interplay between empires and the ecology of the places that hosted imperial animals. Rebecca J. H. Woods's *The Herds Shot Round the World: Native Breeds and the British Empire, 1800–1900* (2017) tweaks the usual invasion ecology script by following British attempts to breed and maintain "native" Hereford cattle and Merino sheep in North America and Australasia. Acknowledging that these breeds were changed and shaped by their environments, Woods nevertheless stresses the use of these breeds as "hoof-soldiers in the great agropastoral expansion of the British Empire." She uncovers how much more conscious and deliberate officials and agriculturalists were in using animals to control imperial ecologies, as well as how successful they were in channeling the movement of global foodstuffs. The metropole's fear that its "native" breeds were being diluted and creolized mirrored and influenced the demand that "English purity and nativeness" be protected from the "successive waves of immigration of former colonial subjects." <sup>11</sup> Woods's study—and others such as Lizzie Collingham's punchy *The Hungry Empire: How Britain's Quest for Food Shaped the Modern World* (2017)—demonstrate that at the center of imperial politics and diplomacy lay a relentless demand to control and moldmanage and shape animals, food, and environment. <sup>12</sup>

### **Cowboys Take the Reins of Extractive Empire**

The expansion of the livestock trade to Latin America likewise resembles not so much an uncontrolled biological invasion, but rather a hostile takeover. Cowboys and ranch managers working for well-connected syndicates used their experience and technical knowledge to secure key parts of the beef production process such as pastures, railways, meatpacking plants, or clipper ship lines. British, French, and American investors often favored hiring managers and intermediaries who had real experience as both cowhands and accountants. Cowboys and ranch managers, then, served as on-the-ground representatives for these powerful financial groups headquartered in the United States or elsewhere. Investors lacked the eye and experience to assess land purchases, recognize diseased steers, make reliable counts of the herds, or to interact with other cowboy cultures. Few shareholders genuinely wanted or were able to spend time in the vast rangeland of the Panhandle or Gran Chaco. They provided directives instead to trusted cowboys and ranch managers like Scottish-born Murdo Mackenzie.

Mackenzie's career in the stock and beef processing world reveals the critical role of these "go-between" figures in spreading cattle operations to new locales as part of a larger effort to manage the land, animals, and ecology of nations that exported

strategic agricultural commodities. Mackenzie was born and educated in Scotland before jumping at the chance to head the Prairie Cattle Company in Colorado and become a U.S. 1

citizen. Mackenzie found himself comfortable both on the ranch and with his investors, learning much about breeds, pasture grasses, and land management. By 1891, the Texas-based Matador Land and Cattle Company had poached him to run their ranches using ribbon-winning Hereford bulls. In 1905, he became the founding president of the American Stock Growers Association. President Theodore Roosevelt would call him, "the most influential of American cattlemen." <sup>13</sup>

In 1912, a set of transatlantic backers with the Brazil Land, Cattle, and Packing Company lured Mackenzie to oversee their emerging market in southern Brazil. Accompanying Mackenzie were cowboys who had worked with him on his Matador outfit across the United States and Canada. Mackenzie would spend time in Mato Grosso trying to import U.S. and European techniques and breeding. Based in São Paulo, he guided the company's investors including a group of French and Belgian bankers who partnered with the American financier Percival Farguhar. Farguhar was a politically connected hegemon who already administered several concerns across Latin America, namely railways and subsidiary commodities companies that required freight transport (e.g., lumber and beef).<sup>14</sup> The New York Times depicted Farquhar and his partners as commercial conquistadors who might eventually connect the agricultural markets and railways from "Canada to Cape Horn." He and his company directors explicitly saw their efforts to produce and direct the flows of primary commodities as a part of the larger imperial game. Mackenzie's cowboys got to work by trying to remake the forested and flood-prone 1.8 million hectares the company would ultimately secure. They fenced in significant areas; ran barbed wire; attempted to introduce forage crops like alfalfa, which had flourished in Argentina, and initially tried to breed Shorthorn and Hereford stock into the Creole herds. 16 Mackenzie and his associates soon built out the organization, constructing meatpacking plants in São Paulo and elsewhere, while expanding cattle and land interests south along the Rio de la Plata to Uruguay and Argentina.<sup>17</sup> Yet competitor firms—from Argentina, Britain, France, and Uruquay—were also grabbing their own claims in Mato Grosso. By the late 1930s, these foreign consortiums controlled 13.6 percent of present-day Mato Grosso do Sul. 18

This "cattle rush" in Brazil mirrored a similar scramble in the early twentieth century to secure Argentine herds, land, and meatpacking factories, as well as favorable relations and terms with the Argentine landed and political elite. Cowboys, ranchers, and stockmen working as agents for the Chicago meatpacking firms Swift, Armour, and Morris had scouted and secured refrigerated packing houses (*frigorificos*) in Argentina to service the reefer ships and ice-cooled box cars delivering steaks across continents and oceans.<sup>19</sup> British officials fumed that the Chicago packing cartels had effectively gained a chokepoint that left the United States in command of all beef exports, aside from the Australasian markets. One 1911 British consular report noted the perilous position created by U.S. cowboys and packers, with only one non-American *frigorifico* remaining. "British capitalists would do well to secure their legitimate share in the meat industry of this country before its resources become absorbed by American trusts," the report concluded.<sup>20</sup> These recurring races to secure crucial parts of the beef production process greatly resembled the feverish moves by empires and capitalists to capture oil and mineral rights elsewhere.<sup>21</sup>

A dedicated study of these American and British cowboys and ranchers operating in the Pampas could help scholars realize a more flexible definition of hard and soft power. Katherine C. Epstein has already identified how researchers too easily limit hard power to factories and dreadnoughts, while soft power theorists fail to connect how cultural capital and social organization often reinforce the coercive goals of military and political power. Epstein argues that scholars need to refocus on the "the sinews, or infrastructure" of globalization and empire.<sup>22</sup> Daniel Immerwahr's *How to Hide an Empire* likewise demonstrates how empires have used the economic structures and sinews highlighted by Epstein to build a continuum of hard and soft power that often remains hidden.<sup>23</sup> Seizing guano islands, setting screw thread standards, or setting up a new packer line serve as methods of imperial control that last long after an empire formally departs. In the 1940s, Brazil may have moved to expropriate foreign cattle ranches including Brazil Land, Cattle, and Packing, previously run by Murdo Mackenzie, and Juan Perón may have exacted higher beef prices and control of the British railways in exchange for continued Argentine trade and diplomatic cooperation.<sup>24</sup> But the long influence of British and American cowboy culture and enterprise continues to shape Argentina and Brazil.

Ranchers across Brazil, for example, recently set up barbecue stands outside the doors of Banco Bradesco branches in response to climate activists campaigning for Brazilian financial services to incorporate carbon calculations into bank applications. In Argentina, measures to limit exports have been met with howls that it would damage the international image and culture of Argentines. In 2021, *gauchos* rode in protest against continued caps on beef exports. Like the purported demand to deny Americans their hamburgers or New York strip, seemingly threatening to wrench *asado* or *churrasco* from the forks of Argentines and Brazilians is used to further the goals of the huge meat cartels fighting any environmental regulation.

These protests come in the face of the clear ecological and climatic harm caused by beef production. Today, cattle farming causes 36 percent of all deforestation associated with agriculture, reducing more than twice as much tree cover as palm oil, soy, cocoa, rubber, coffee, and wood fiber combined.<sup>27</sup> Cattle slaughtered for beef and used for milk produces 65 percent of total livestock emissions, with methane being particularly deleterious.<sup>28</sup> Beef and dairy cattle operations produce 9.42 percent of total anthropogenic GHG emissions.<sup>29</sup> By comparison, the entire EU accounts for 7.52 percent of total emissions.<sup>30</sup> Yet, across the

Americas, the combined power of the meatpacking multinationals and the cultural grip of beef stymies efforts to break out of this system.

Cowboys and ranchers were the critical agents who told capital and officials how to create this system of imperial ecological control that wielded hard economic and infrastructural power, as well as the soft power of a romantic mythology of rugged, manly violence atop horseback. The cowboys and *gauchos* knew how to apply violent action to animals, landscapes, and workers, and who to pressure or bribe. They connected the centers of financial and imperial power with the growing cattle empires outside Buenos Aires and São Paulo. And they helped to create a culture of masculinity across the Americas. At the intersection of global capital, imperial plays, and at the beginning of the Anthropocene we find an American character that we thought we knew well.

#### **Footnotes**

- <sup>1</sup> "Per Capita Availability of Chicken Higher than that of Beef," Economic Research Service, US Department of Agriculture, https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=58312 (accessed Jan. 14, 2021). While chicken remains the U.S.'s most popular meat, beef retains a larger global trade value. See Organisation for Economic Co-operation and Development and Food and Agriculture Organization of the United Nations, *OECD-FAO Agricultural Outlook* (2021), OECD iLibrary, https://doi.org/10.1787/agr-data-en.
- <sup>2</sup> CPAC, "CPAC 2019 Live from Our CPAC Stage at Liberty University," Mar. 2, 2019, video, 27:59, https://youtu.be/vV1m7EPolsM; David Remnick, "Alexandria Ocasio-Cortez Is Coming for Your Hamburgers!," *The New Yorker*, March 2, 2019, https://www.newyorker.com/news/daily-comment/alexandria-ocasio-cortez-is-coming-for-your-hamburgers.
- <sup>3</sup> Joshua Specht, Red Meat Republic: A Hoof-to-Table History of How Beef Changed America (Princeton, NJ, 2019), 3. 🗙
- <sup>4</sup> Ibid., 227–35. 🗙
- <sup>5</sup> Andrew Sluyter, *Black Ranching Frontiers: African Cattle Herders of the Atlantic World, 1500–1900* (New Haven, CT, 2012). See also Terry Jordan, *North American Cattle-Ranching Frontiers: Origins, Diffusion, and Differentiation* (Albuquerque, NM, 1993); Kyle Ainsworth, "Field Hands, Cowboys, and Runaways: Enslaved People on Horseback in Texas's Planter-Herder Economy, 1835–1865," *Journal of Southern History* 86, no. 3 (Aug. 2020): 557–600.
- <sup>6</sup> Michael M. Miller, "Cowboys and Capitalists: The XIT Ranch in Texas and Montana, 1885–1912," *Montana: The Magazine of Western History* 65, no. 4 (Winter 2015): 3–28; Michael M. Miller, *XIT*: A Story of Land, Cattle, and Capital in Texas and Montana (Norman, OK, 2020). ★
- <sup>7</sup> Alfred W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900, 2nd ed.* (Cambridge, UK, 2004). Zoologist and ecologist Charles Elton preceded Crosby with *The Ecology of Invasions by Plants and Animals*, which radically changed how scientists, regulators, and historians thought about the transfer of biota across landscapes and environments. See Charles Elton, *The Ecology of Invasions by Plants and Animals* (London, 1958). Of course, William Cronon's *Nature's Metropolis: Chicago and the Great West* (New York, 1992) became a landmark study for understanding the development of cities and their relationship to agriculture and ecology, and continues to influence environmental histories. ★
- <sup>8</sup> Crosby, Ecological Imperialism, 173.
- <sup>9</sup> Ulrike Kirchberger, "Introduction," in *Environments of Empire: Networks and Agents of Ecological Change*, eds. Ulrike Kirchberger and Brett M. Bennett (Chapel Hill, NC, 2020), 1–18, here 10. Likewise, the authors in Jodi Frawley and Iain McCalman's *Rethinking Invasion Ecologies from the Environmental Humanities* connect the Anthropocene concept to the invasion ecologies framework, arguing that invasion biology itself is socially constructed (and that the division between the wilderness and anthropic space is largely imagined). Jodi Frawley and Iain McCalman, eds., *Rethinking Invasion Ecologies from the Environmental Humanities* (New York, 2014).
- <sup>10</sup> Crosby, Ecological Imperialism, 177.
- <sup>11</sup> Rebecca J. H. Woods, *The Herds Shot Round the World: Native Breeds and the British Empire, 1800–1900* (Chapel Hill, NC, 2017), 22. For those looking for an examination of how the U.S. federal government used its regulatory powers as a tool of imperial ecology, see Marsha Weisiger, *Dreaming of Sheep in Navajo Country* (Seattle, WA, 2011); and Ian Tyrrell, *Crisis of the Wasteful Nation: Empire and Conservation in Theodore Roosevelt's America* (Chicago, 2015).
- 12 Lizzie Collingham, *The Hungry Empire: How Britain's Quest for Food Shaped the Modern World* (London, 2017). Bathsheba Demuth offers a more compelling vision of the limits of humans to control animals and the environment compared to the typical invasion ecology models. See Bathsheba Demuth, "The Walrus and the Bureaucrat: Energy, Ecology, and Making the State in the Russian and American Arctic, 1870–1950," *The American Historical Review* 124, no. 2 (April 2019), 483–510.
- 13 William M. Pearce, The Matador Land and Cattle Company (Norman, OK, 1964).
- <sup>14</sup> Robert T. Swaine, *The Cravath Firm and Its Predecessors, 1819–1948, Vol. I: The Predecessor Firms, 1819–1906* (New York, 1946), 154; "The Brazil Railway Company," *The Economist,* Sept. 20, 1913, 535; Dante Mendes Aldrighi and Flávio A. M. de Saes, "Financing Pioneering Railways in São Paulo: The Idiosyncratic Case of the Estrada de Ferro Sorocabana, 1872–1919," *Estudos Econômicos* 35, no. 1 (2005): 133–68, here 155–

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15 "Two New Yorkers Try to Harrimanize South America," New York Times Magazine, Sept. 22, 1912, 14.
16 Robert W. Wilcox, "Ranching Modernization in Tropical Brazil: Foreign Investment and Environment in Mato Grosso, 1900–1950," Agricultural
History 82, no. 3 (Summer 2008): 366-92, here 376, 380; Robert W. Wilcox, Cattle in the Backlands: Mato Grosso and the Evolution of Ranching in
the Brazilian Tropics (Austin, 2017), 59.
<sup>17</sup> Swaine, The Cravath Firm and Its Predecessors, 1819–1948, vol. I, 154.
<sup>18</sup> Wilcox, Cattle in the Backlands, 114−5. ×
19 E. G. Jones, "The Argentine Refrigerated Meat Industry," Economica 9, no. 26 (June 1929): 156–72, here 165–71. 🗙
<sup>20</sup> Report on the Commercial Position of the Argentine Republic, 1911 quoted in Jones, "The Argentine Refrigerated Meat Industry," 168–9. 🗙
<sup>21</sup> Indeed, many cowboys and cattlemen eventually switched over to work in the growing petroleum industry. For example, Mackenzie's former
company Matador Land and Cattle, at one pointed halted ranching operations to explore for oil on their Texas estates. See Pearce, The
Matador Land and Cattle Company. Megan Black's The Global Interior: Mineral Frontiers and American Power (2018) captures how this relentless
demand for extraction was supported by seemingly innocuous actors like the Department of the Interior. See Megan Black, The Global Interior:
Mineral Frontiers and American Power (Cambridge, MA, 2018).
<sup>22</sup> Katherine C. Epstein, "The Conundrum of American Power in the Age of World War I," Modern American History 2, no. 3 (Nov. 2019): 345-65,
here 345-8. 🗙
<sup>23</sup> Daniel Immerwahr, How to Hide an Empire: A History of the Greater United States (New York, 2019); Epstein, "The Conundrum of American
Power in the Age of World War I," 348. See also Michael Adas, Dominance by Design: Technological Imperatives and America's Civilizing Mission
(Cambridge, MA, 2009). 🗙
<sup>24</sup> 406 Parl. Deb. H.C. (5<sup>th</sup> ser.) (1944) col. 1997–8; H. J. Maidenberg, "Argentine Nationalism," The New York Times, Oct. 17, 1971, F15. 🔀
<sup>25</sup> Douglas Gravas and Rogério Florentino, "Pecuaristas fazem churrasco em agências do Bradesco em protesto após vídeo contra carne,"
Folha de S. Paulo, Jan. 3, 2022, https://www1.folha.uol.com.br/mercado/2022/01/pecuaristas-fazem-churrasco-na-porta-de-agencias-do-
bradesco-apos-video-contra-carne.shtml. X
<sup>26</sup> Hugh Bronstein, "Argentine Agricultural Sector Holds Protest against Export Caps," Reuters, July 9, 2021,
https://www.reuters.com/world/americas/argentine-agricultural-sector-holds-protest-against-export-caps-2021-07-09/.
<sup>27</sup> "Deforestation Linked to Agriculture," Indicators of Forest Extent, Global Forest Review, World Resources Institute,
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<sup>30</sup> Johannes Friedrich, Mengpin Ge, and Andrew Pickens, "This Interactive Chart Shows Changes in the World's Top 10 Emitters," World

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28 "Key Facts and Findings," Food and Agriculture Organization of the United Nations,

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<sup>29</sup> Ibid. 🗙