The Enemy is Nature: Military Machines and Technological Bricolage in Britain's "Great Agricultural Experiment"

Martin Mahony

Summary

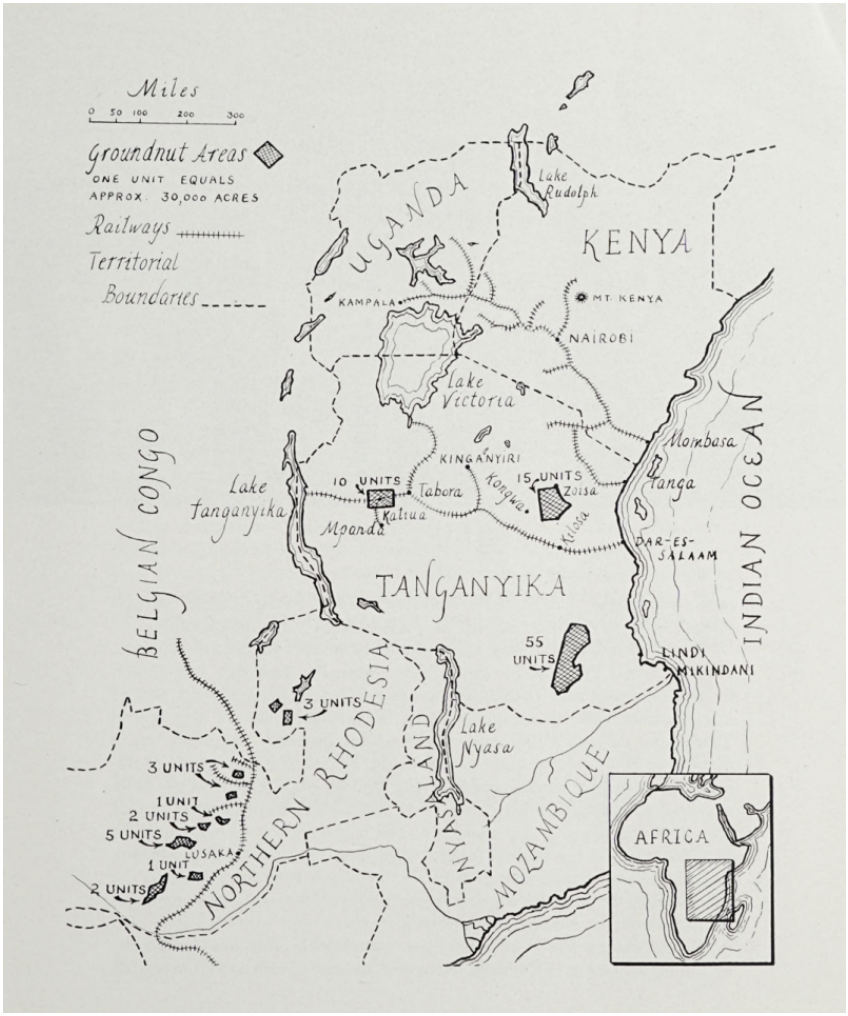
The British scheme to grow groundnuts on an industrial scale in Tanganyika Territory in the years after World War II has become a paradigmatic example of the failure of postwar colonial developmentalism. This article looks at how the scheme was facilitated by the repurposing of wartime technologies for a new "war on nature"; a process of "bricolage" and improvisation which created new machines designed to bend the soil, vegetation, and climate of Tanganyika to the will of the colonial agriculturalists.

> The enemy is nature, in the form of wild, uncultivated soil covered with stubborn bush; insect life, that has driven away men and cattle; and climate, which has bred inhabitants who have made few gains in their own battles against nature.
>
> —*Not Just Peanuts* , British Information Services, 1948

The link between warfare and technological innovation has been well documented by historians. World War II was a particularly intense crucible of technological change, and the repurposing of military technologies and industries in the forging of a new post-war consumer capitalism is crucial for understanding the "Great Acceleration" phase of the Anthropocene. Processes of technological bricolage turned the machines of war onto the natural world, as global powers competed to cement their economic and imperial hegemony.

In Great Britain's post-war "groundnut scheme" in its East African territories (1946–51), this collision of nature, military hardware, and technical expertise was part of efforts to both produce more fats for the British diet and to demonstrate to the world (most importantly the United States) that, through a newly energized science-led developmentalism, British colonialism still had a "progressive" role to play in the postwar world.

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Map of areas earmarked for Groundnut development.

Originally published in *Not Just Peanuts: The Story of Britain's Great Agricultural Experiment in East Africa* by British Information Services, New York, 1948: 7.
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The aim was to produce millions of tons of peanuts across Tanganyika using the latest methods of advanced scientific agriculture. The environmental conditions in the north, where the scheme was to begin, were known to be especially trying, not least the dry climate, while the ever-present tse-tse fly contributed to the British sense of this being an essentially hostile environment. But faith in the power of mechanized agriculture was such that any natural limits were thought to be readily surmountable.

The groundnut scheme was to be, as its Director put it in an interview with the Tanganyika Standard, a "war" with nature, and an "economic Battle of Alamein" waged over some three million acres by an army of colonial technicians—many recruited from military ranks—and local laborers, for many of whom the scheme represented their first entry into the wage labor market. But it wasn't just the rhetoric of war that was repurposed. Lancaster bombers were kitted out to survey and discover "new country" in East Africa for agricultural development. At

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the sites chosen for the groundnut scheme, tractors and bulldozers from military surplus stores in Egypt proved unable to tackle the hard ground and tough vegetation, so the planners turned to a novel solution: repurposing surplus Sherman M4A2 tanks. The Vickers-Armstrong factory in Newcastle-Upon-Tyne set about rearranging key elements of the tanks' construction into a new configuration, with an open cockpit and a shortened caterpillar track. The tractors, christened "Shervicks" for their hybrid origins, were designed to be multi-purpose machines, but were thought to be particularly suited to large-scale earth-moving and to the kind of heavy duty "bush clearing" that was required in Tanganyika.



Shervick tractors at the Vickers-Armstrong factory in Newcastle-Upon-Tyne, 1948.

Courtesy of Tyne & Wear Archives & Museums.
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Officials sought to dismiss concerns that large-scale bush clearing would have wider environmental consequences, using the well-worn colonial trope that any observed changes in local climate or erosion patterns were due to the "primitive" agricultural practices of the locals, not to the earth-moving practices of the colonists.

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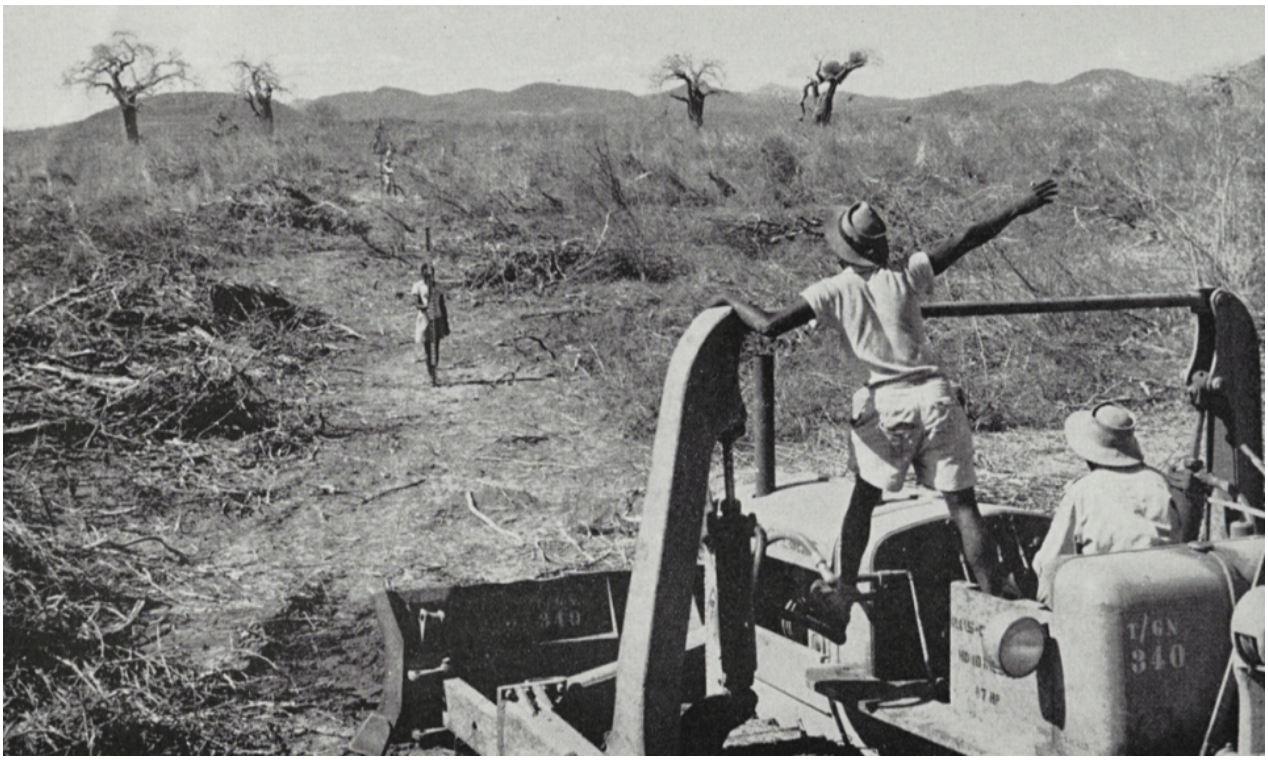
Original caption: "Arrayed for battle: bulldozers in the Kongwa area vehicle park"

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The vegetation clearance eventually succeeded in opening up around one-hundred-thousand acres for planting, even if the Shervicks often failed to live up to expectations. However, the crops failed to yield the expected harvests and the cleared ground baked hard in the sun, posing further challenges to the machinery. Albert Walter, who had directed meteorology in East Africa since the 1920s, had been appointed as an advisor to the scheme and warned the other technical advisers of the low rainfall levels. Despite boasts that the scheme was uniquely guided by scientific and technical expertise, Walter was eventually dismissed from his role, with his deep frustration at his advice going unheeded matched by the managers' irritation at his insistence on an elaborately extensive rainfall monitoring infrastructure.

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Original caption: "... the enemy is nature".

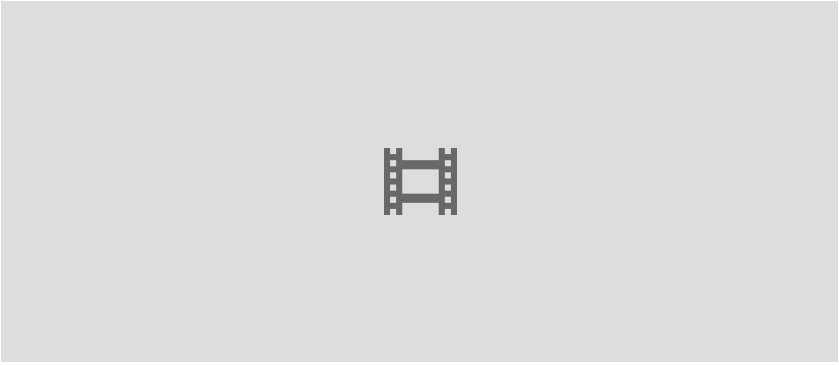
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As the plants continued to wilt in the sun, Walter's dense network of rain gauges made for an ideal field laboratory for a final experimental roll of the dice. The stakes were high. As John Rosa of the Colonial Development Corporation put it in a letter: "Our standing as an Imperial power in Africa is to a substantial extent bound up with the future of this scheme. To abandon it would be a humiliating blow to our prestige everywhere." The only option left was to try and bend the weather itself to the scheme's will, by seeding the clouds for rain.

The scheme was nonetheless abandoned by the British government before charcoal burners could be lined up to seed clouds upwind of the growing area. But the experiments carried on under the aegis of the local colonial government and its meteorologists. "Balloon bombs" (photographic film canisters tethered to weather balloons) and a repurposed Royal Navy flare gun were used to target individual clouds when the burners proved imprecise. Some success was claimed in measured rainfall, but not enough to resuscitate hopes of mechanized agriculture in the area.

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"Groundnuts – The Facts (1949)"

If the scheme was a war against nature, it was clear who had won, even though traces of the scheme can be seen in the landscape to this day. The Ministry of Food bade a hasty retreat, but the Shervicks found new life in environmental engineering projects in the Netherlands, repairing dams and earthworks damaged in the war, and in earth-moving tasks for hydroelectric developments in Australia. The rainmaking experiments lived on too, as a reference point for those who, to this day, seek to engineer the skies. The scheme itself has survived as a cautionary tale of governmental hubris, but it is instructive too as a case study of how technologies of war have been turned against other foes.

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Further readings:

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Related links:

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- *Not Just Peanuts: The Story of Britain's Great Agricultural Experiment in East Africa* (Full book) https://openlibrary.org/books/OL6038893M/Not_just_peanuts
- "Nuts for Fat" (video) https://www.youtube.com/watch
- "Groundnuts – The Facts" (video) https://www.youtube.com/watch
- "New Jobs for Ground Nuts Tractors" (video) https://twitter.com/i/status/886586233400434688

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About the author:

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Martin Mahony is a historical and environmental geographer interested in how science and politics intersect with politics and power, in the context of both contemporary climate politics and colonial histories of science and environmental transformation. He gained his PhD in 2013 from the University of East Anglia and thereafter worked at King's College London and the University of Nottingham, before returning to UEA in 2017. Mahony has also held visiting fellowships on the Harvard STS Program and at the Institute for Advanced Study in Media Cultures of Computer Simulation (MECS) at Leuphana University.

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