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The UK's use of Agent Orange in Malaysia

The use of Agent Orange in Viet Nam during the 1960s and 1970s is a notorious example of widespread and purposeful environmental damage that has subsequently impacted the health of troops and civilians. Less well known is the role that the UK played in developing Agent Orange based herbicides, which included deploying them in Malaysia in the 1950s. *Andy Garrity* investigates.

The use of Agent Orange (AO) in Viet Nam by the US military in the 1960s and 70s is a well documented case of deliberate environmental destruction. The use of AO herbicides was intended to remove forest cover but resulted in unintended health impacts. Its use eventually helped lead to the creation of the Environmental Modification Techniques Convention (ENMOD). It has also resulted in the payment of compensation to US veterans whose health was affected by exposure to dioxin from the contaminated defoliants.

AO use continues to be closely associated with the US but the role of Britain's scientists and military in developing, testing and deploying 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) in a mixture identical to Agent Orange is less well known.

Agent Orange: A British invention

Britain was the first country to use 2,4,5-T in a military capacity, helping establish a precedent for the US to use the same potentially toxic substance in Viet Nam, albeit on a much larger scale. The British government assisted the US's development of AO amid the rush for effective defoliants and herbicides for use in tropical environments, sharing research and expertise following WWII.



British colonial forces spray Trioxone herbicide from modified fire engines in Malaysia.

The contamination of 2,4,5-T with 2,3,7,8-Tetrachlorodibenzodioxin (TCDD – a dangerous form of dioxin) came about from the lack of temperature control in the production process. This was not understood for many years after its initial production by the British company Imperial Chemicals Industries (ICI).

TCDD, a persistent organic pollutant is a known carcinogen (IARC Group 1) and teratogen; it can cause liver damage, induce miscarriages and exposure can cause learning difficulties and the skin complaint chloracne^[1].

In 1942, ICI developed a herbicide known as Trioxone, which was similar to AO as it was made up of 2,4,5-T (the dioxin contaminated constituent) and 2,4-Dichlorophenoxyacetic acid (2,4-D). Trioxone was brought to the attention of the UK Ministry of Agriculture for consideration for field use in 1947.