Remote Data Collection: Reducing Carbon Emissions by Minimising International Fieldwork Travel

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Abstract

The COVID-19 pandemic has presented challenges for international research projects, preventing cross-border and in country research fieldwork. This has fast-tracked digital teaching and remote working. The advantages of this should endure beyond current crisis. The pandemic has proved that academics in one country can direct and instruct colleagues in another to collect data at a local level without the need for international travel and without compromising the quality of the research. Importantly, lessons identified from these experiences can ensure that international research can be carried out without incurring the high carbon footprint that comes with international travel. To give an example of this, a food and nutrition project funded by the Grand Challenges Research Fund (GCRF) Internal QR Urgency Awards (Royal Holloway) was conducted without any international travel. Young researchers from University of Eldoret were trained remotely in data collection, safeguarding and medical ethics, and were able to complete the data collection required successfully. The project avoided generating 26.39 tonnes of CO2 from 8 persons' return flights to Kenya that had been factored into the project plan preCOVID-19 travel. Hence, remote working should continue to be utilised where possible, even after international travel opens up again post-pandemic.

Overview

The project addresses role of wet markets in child nutrition. Child malnutrition is highly prevalent in Kenya. About 26% of children under five in Kenya are stunted (DHS, 2014). Childhood malnutrition is associated with poor health and education in later life. It is also linked, at the societal level, with high poverty and low economic growth (McGovern et al., 2017). Hence, the study project assessed households and collected qualitative and quantitative data in Eldoret, Uasin Gishu, County, Kenya.

Fig 1: Research Assistants (UoE) engaging community

Meanwhile, in-country researchers (University of Eldoret) were remotely trained to map the markets (QGIS), conduct Household Demographic Survey, carry out Dietary Assessment, and conduct Child Health Assessment.

Fig 2: Research Assistants (UoE) collecting data.

Data were collected from selected household with children under five years in peri-urban communities in Eldoret, Uasin Gishu County to evaluate household food consumption and child health, that is, sources of childhood protein (eg. eggs, milk, poultry meat, pork, beef, goat, and lamb) producers and suppliers.

Fig 3: Animal protein sources (poultry, cattle and pigs)

The remote data collection was designed to minimize face-to-face contact between data collectors and study participants in-country in line WHO/national COVID-19 health protocols. An added advantage was the reduction of carbon emissions due to restrictions on international researchers' fieldwork travel without compromising data quality.

Fig 4: Child height measurement and haemoglobin test taken

Thereafter, amounts of qualitative and quantitative data were generated, and the data are presently being analysed to make informed scientific conclusion that will address sound environmental and health policies intervention concomitantly.

Fig 5: In-country research team (UoE)