Coffee consumers in university settings and planetary health

A world without coffee is hard to imagine. At the turn of the century, humans consumed 2·25 billion cups of coffee a day globally,[1] and its trade, consumption, and supply have steadily increased since.[2] Coffee-drinking habits differ across the globe on the basis of trading history and cultural factors.[1,3] Coffee culture is intricately linked to customs, rituals, lifestyles, social interactions and positioning, trade, employment, poverty, inequalities, ecosystem decline, and tourism.[1-4] This Comment will briefly explore the global coffee-market chain, reviewing some of the health and ecological implications of this process and advocating for consumer-led strategies within university settings to improve planetary health.

When researching the nodes and networks of the global coffee-market chain, Ponte[1] acknowledged that coffee "goes a long way and changes many hands from bean to cup". Ponte[1] outlined its structure in producing countries (involving smallholders, estates, curing plant hullers, domestic traders, cooperatives, and farmers group agents, marketing boards, and exporters) and consuming countries (including international traders, brokers, roasters and instant coffee manufacturers, retailers and supermarkets, and restaurants and cafés). The cultivation, harvest, and export of coffee occurs in producing countries (often less-developed regions with less power in the chain) with the highest value-adding phases often completed and controlled in wealthier consumer countries.[2,4,5]

Coffee production occurs in more than 60 countries and involves 25 million farmers (mainly smallholders in cooperatives or associations) and more than 11 million hectares of land,[3,6] with "more people involved in growing coffee than any other crop in the world".[4] Although the coffee industry earns about US$60 billion annually, less than 10% goes to the producers involved in this process, who also have to compete with fluctuations in markets, uncertainty, and environmentally unsustainable practices threatening ecosystem health.[2,4] Such inequalities are evident in the coffee-market chain, with control held by the roasters and supermarkets in the USA, the UK, and North Europe who have power over the food market.[1] Fair trade aims to mitigate these inequalities, improving sustainable development and the producers' quality of life.[5,7] Although fair trade has sometimes been associated with improved ecological sustainability, analysis of this association has been inconclusive and issues around inequalities, quality of life, and social implications persist.[4,5,7]

The health and wellbeing implications of unequal trade relationships, labour-intensive crops, and the economic uncertainty involved in coffee production, as well as the low nutritional value of coffee crops, increases the likelihood of malnutrition, poverty, reduced rates of school enrolment, social unrest, and forced migration.[2,4]. The ecological implications for producer countries include environmental degradation, deforestation, and reliance on pesticides and fertilisers.[4] Researchers have attempted to measure the environmental effects of the coffee-market chain through life-cycle assessments.[6,8] Evidence shows that these environmental effects vary greatly (eg, the carbon footprint associated with transporting and manufacturing and associated waste), but suggests that nodes and networks involved will need to change to tackle climate change.[6] Although these findings are inconclusive, research exploring the environmental effects of disposable cups is conclusive and they can be addressed relatively easily by the consumer.[8]

To tackle these environmental challenges, policy and programmatic actions are needed at all scales and stages of the coffee-market chain. At the consumer stage, attention to waste and recycling initiatives that apply sophisticated local strategies to address waste reduction are required, as well as behavioural changes. As Smyth and colleagues[9] identified, addressing the excessive waste associated with disposable drink containers would be a good place to start. The higher education sector could have a considerable role in addressing this waste reduction issue at a local scale, because of its ability to undertake academic research and influence the behaviour of future generations.[10] University campuses bring together a range of people, including students and hospitality, academic, and professional staff, and are composed of a range of facilities that include food and beverage services. Furthermore, worldwide hundreds of millions of students enrol in university annually; therefore these settings can be viewed as microcosms of society that present opportunities to implement the kinds of changes that people might wish to see in the wider community.

We propose that universities should take a lead role in the reduction of disposable coffee cup use. Such actions

have been taken in some universities, in which strategies to change student behaviour have involved financial incentives, refillable cups, raising awareness, and marketing.[10] Waste management strategies in university settings have shown great potential, but a greater understanding of waste production and management is required.[9] This improved understanding requires universities engaging and innovating to change coffee drinking culture, increase knowledge, and develop recycling waste management systems that minimise the effects of the already concerning social, health, and environmental inequalities in producing countries.

We declare no competing interests.

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