A Comparative Ethnography of Nutrition Interventions

A Comparative Ethnography of Nutrition Interventions: Structural Violence and the Industrialisation of Agrifood Systems in the Caribbean and the Pacific

Abstract:
Public health interventions that involve strategies to re-localise food fail in part because they pay insufficient attention to the global history of industrial food and agriculture. In this paper we use the method of comparative ethnography and the concept of structural violence to illustrate how historical and geographical patterns related to colonialism and industrialisation (e.g. agrarian change, power relations and trade dependencies) hinder efforts to address diet-related non-communicable diseases on two small islands. We find comparative ethnography provides a useful framework for cross-country analysis of public health programmes that can complement quantitative analysis. At the same time, the concept of structural violence enables us to make sense of qualitative material and link the failure of such programmes to wider historical and geographical processes. We use ethnographic research carried out from April to August 2013 and from June to July 2014 in Trinidad (with follow-up online interviews in 2018) and in Nauru from February to May 2010 and August 2010 to February 2011. Our island case studies share commonalities that point to similar experiences of colonialism and industrialisation and comparable health-related challenges faced in everyday life.

Key words: comparative ethnography, structural violence, diet-related non-communicable diseases, Caribbean, Pacific, Trinidad and Tobago, Nauru

Declarations of interest: none.

I. Introduction

Recent work in anthropology and human geography has sought to uncover reasons why some places become more susceptible to non-communicable diseases (NCDs) than others. Research has focused on the ways political economic and socio-cultural conditions can affect NCD prevalence in the global South through the built environment (e.g. Smit *et al*. 2016), hinder access to and use of health care facilities (e.g. Atiim *et al.* 2018) and influence women's agency and food-related practices (e.g. Kimoto *et al.* 2014). Similar work with indigenous communities shows how access to environmental resources is a factor affecting the health and well-being of populations over time (Richmond *et al*. 2005; Tobias and Richmond 2014; see Wilson 2017a for related work on indigenous food sovereignty). In this paper we use qualitative research to evaluate two public health nutrition interventions that involve strategies to (re)localise food: a school nutrition programme in Trinidad and Tobago (in the Caribbean) and a community garden initiative in Nauru (in the Pacific). We argue that public health interventions that involve strategies to re-localise food fail in part because they pay insufficient attention to the global history of industrial food and agriculture, and the social dynamics therein. We use the method of comparative ethnography and the concept of structural violence to illustrate how historical and geographical patterns related to colonialism and industrialisation (e.g. agrarian change, power relations and trade dependencies) hinder efforts to address diet-related NCDs on two small islands. Comparative ethnography provides a useful framework for cross-country analysis of public health programmes, while the concept of 'structural violence' enables us to link the failure of such programmes to common histories and geographies of colonisation and industrialisation.

Comparative ethnography

Feminist geographer Nina Laurie uses the term 'comparative ethnography' to describe ethnographic research that seeks to understand how people in different places 'manage' similar challenges (Laurie 2012: 500-501). Similarly, we use ethnographic research carried out in two different field sites to address the same global challenge: obesity and diet-related NCDs. Comparative ethnography offers a novel way to triangulate global public health data beyond the country-level by broadening the scope

for qualitative data collection and analysis. The approach can uncover similar 'routes' (geographies) travelled towards unhealthy or otherwise unfavourable ends, but also the 'roots' (histories and cultures) that link universal problems to more situated meanings and practices (*cf.* Jackson 2015). In this way, comparative ethnography provides an important counterbalance to quantitative metrics for inter-country comparison, such as global health indicators. While the latter provide useful tools for policymakers, they are often based on particular theories of social change, e.g. that economic development will lead to positive human rights outcomes, which exclude more locally-defined means-ends scenarios (Merry 2016; *cf.* Castree *et al.* 2014). By contrast, ethnographic practice requires an in-depth understanding of the ways global challenges develop and are understood and defined by people 'on the ground', *including the researcher him/herself*. Indeed, anthropological research is always a comparative endeavour (Boas 1896; Murdoch 1957; Mace and Pagel 1994) because ethnographic approaches require a researcher to draw comparisons between the field site and her/his own culture or society.

While the term 'comparative' suggests like items, many ethnographic studies have used data from a diverse range of contexts and time periods as rich sources of evidence for analysis. Best practice for comparative research has long been debated (e.g. Lewis 1955), and a number of approaches exist. For example, comparison might be designed into the data collection phase of the research, as with multi-sited ethnography or studies which focus on systematically comparing specific practices between multiple societies (e.g. the study of kinship across societies by structural functionalists). Alternatively, comparison might be made by reanalysing existing ethnographic records across a number of societies or cultures. For example, Adia Benton *et al.*'s (2017) comparison of ethnographic fieldwork focused on health interventions for HIV/AIDS carried out in three separate urban sites; Marilyn Strathern's (2011) work focused on sharing, stealing and borrowing in Pacific island societies; and Jessica Hardin *et al.*'s (2018) comparative research focused on body norms in the Pacific islands. Here we ask how comparable health, political economic, environmental, socio-cultural and historical factors (e.g. high NCD prevalence, resource monopolies, trade imbalances, values for food imports) shape meanings and experiences of food-related nutrition interventions on two islands.

From 2013-14, Wilson conducted a total of seven months of ethnographic research in northwest Trinidad, having lived and worked there since 2009. More recently, in 2018, Wilson conducted five two-hour Skype interviews with key stakeholders related to Trinidad's School Nutrition Programme (SNP): two with nutrition researchers involved in the SNP, three with officials from government ministries in charge of the SNP. The 2018 interview data is triangulated with interview and ethnographic data from the 2013-2014 period derived from a wide range of qualitative materials: field notes, semi-structured interviews with over fifty participants (including twelve other researchers, nutritionists and officials involved in the SNP) and participant observation from seven months of living in an Afro-Trinidadian household with primary and secondary school children. While Wilson was unable to conduct research with children and families directly affected by the SNP, the combined use of in-depth interviews with researchers, nutritionists and officials involved in the SNP (n=17) and extensive ethnographic material of everyday norms and practices of food consumption provides a solid basis for analysis that captures both official/practitioners understandings of the SNP and its challenges and everyday meanings and practices of food consumption and nutrition among Trinidadian children and adults.

McLennan conducted ethnographic research over eleven months in Nauru in 2010-11. Data collection involved a mixed-methods approach, including field notes, participant observation, life history interviews and extensive archival research in libraries in Australia, Nauru and the UK. The main method of data collection was participant observation, including in homes, public locations (e.g. health facilities, schools, churches) and government offices. All field notes were elaborated and typed up daily, with any gaps or inconsistencies followed up with people in subsequent days or weeks. For the present paper, McLennan draws on field notes from a meeting she attended where a nutrition program was being designed with local stakeholders. McLennan was not present at all meetings relating to the project, only those open to public access, although her research included extensive participant observation with both project organisers and the stakeholder community beyond this specific project.

The two data sets are highly complementary since both researchers used recognised ethnographic methods and since both undertook ethnographic research in a range of places outside of 'sites of [public health] intervention' (Neely and Nading 2017: 57), from households and

neighbourhoods to supermarkets, churches and farmers' markets. Wilson sought to understand the meanings and practices of food production and consumption in Trinidad, while McLennan sought to understand how lifestyles in Nauru had changed over time, with the starting premise that if we are to understand 'lifestyle diseases', we must first understand what lifestyles are for people, and how they have changed (the concept of lifestyle in this context is elaborated in McLennan's (2015) work, where she describes both the history of the concept as it relates to health, and the potential it holds for conceptualising and addressing significant health challenges in Nauru). While we carried out ethnographic fieldwork for different purposes, with different data presentation styles, as a result, our comparative ethnography reveals that health, environmental, socio-cultural and political economic factors (e.g. high NCD prevalence, resource monopolies, trade imbalances, values for food imports) can create adverse outcomes for nutrition interventions that centre on (re)localising food. We outline these factors in Part II. In Parts III and IV we present our ethnographic case studies of nutrition interventions. We conclude with some ideas for incorporating understandings of structural violence (see next section) into the design and implementation of public health interventions in the global South.

Versions of the paper were shared with key interviewees and ethnographic participants, some of whom have provided useful feedback and corrections. Both authors obtained formal ethical approval from their respective institutions (School of GeoSciences, University of Edinburgh and School of Anthropology and Museum Ethnography, University of Oxford), and no ethical concerns arose during research. Formal procedures were followed for obtaining informed verbal consent from research participants, and all names used are pseudonyms.

Structural violence

Structural violence exposes subtle, often invisible and systematic ways in which historical and geographical conditions can harm individuals. The concept aligns with efforts in medical anthropology (e.g. Farmer 1996, 2004; Scheper-Hughes 2004; Benson 2008; Simmons 2010; Gupta 2012) and health geography (e.g. Wadhwa 2012; Herrick 2017) to apply Johan Galtung's (1969) original term to public health research. In anthropologist Akhil Gupta's terms: '[Structural] violence

occurs in any situation in which some people are unable to achieve their capacities or capabilities to their full potential … All those who benefit from the status quo and do not wish to see it changed then become complicit in this violence' (2012: 20-21). Thus structural violence is violence exerted systematically and indirectly by powerful actors whose interventions may reproduce the structural (political economic, socio-cultural, environmental) conditions that harm people. Structural violence causes disproportionate suffering and unequal access to goods and resources that may be used to improve human health, e.g., land for growing food.

Like comparative ethnography, the concept of structural violence provides novel ways to evaluate public health interventions beyond the country-level scale. In line with nutritional anthropologist Stanley Ulijaszek and colleagues' discussion of 'nutritional structural violence' in Mexico (Ulijaszek *et al.* 2012: 18; see also Gálvez 2018), we find the concept of structural violence useful for comparative ethnographic research that addresses both general patterns related to diet-related NCDs, such as trade liberalisation or earlier histories of industrial food production and consumption, and more place-specific forms of power, oppression and suffering that have emerged in (post)colonial countries, and particularly on small islands. Trade liberalisation and other global processes are increasingly recognised by researchers as related to diet-related NCDs such as obesity (Hawkes *et al.* 2007; Offer *et al.* 2012; Snowdon and Thow 2013; Kleinert and Horton 2015). Yet how such broad trends translate into everyday practices, and how they could therefore be addressed and mitigated at a local level, is not well understood.

Our ethnographic case studies illustrate the co-existence of multiple, complex and sometimes contradictory factors shaping people's foodways, including instances when people rework 'structures of power' towards their own ends (Gupta 2012: 21; also see Shannon *et al.* 2008). These include power-laden relationships between health practitioners, global public health norms and policies and stakeholder populations. Like other recent studies in geography and anthropology (Biehl & Petryna 2013; Pigg 2013; Whitmarsh 2013; Yates-Doerr 2015; Reubi *et al*. 2016; Neely and Nading 2017) our case studies implicate public health categories and strategies in these power relations, for they propel a kind of 'expertise inertia' (Merry 2016: 6) that forecloses alternative framings and experiences of 'the problem'. By starting with research participants' own experiences and narratives of public health

nutrition interventions, we address recent critiques of the concept of structural violence as reinforcing a discourse of victimisation (Panter-Brick 2014: 439) and neglecting the agency of subaltern groups who may find ways to work with or around structures of power. We argue that public health interventions that involve strategies to re-localise food falter and in some cases reinforce structural violence because insufficient attention is paid to global histories and geographies of food and agriculture. While we recognise the unique histories and geographies of each island, our case studies of Trinidad and Nauru share some commonalities that point to similar experiences of colonialism and industrialisation and comparable challenges faced in everyday life.

II. Comparing Islands of the Caribbean and the Pacific

The Caribbean and the Pacific are more susceptible to diet-related non-communicable diseases than other areas of the world. Although quantitative data for these islands must be treated with caution - sample sizes are small, data collection costly and data collection infrastructure limited - we can draw out some overarching trends. Since the mid-twentieth century, these island nations have experienced significant and devastating levels of diet-related NCDs such as diabetes mellitus (hereafter diabetes), obesity, cardiovascular diseases, malnutrition and some types of cancer. In the Caribbean, diabetes mortality is 600% higher than in North America and cardiovascular disease mortality is up to 84% higher (Hospedales *et al.* 2011: 393). Within the Caribbean region, the risk of death from diet-related NCDs in T&T is higher than the regional average (PAHO 2014a), and diabetes causes more deaths in T&T than in any other islands in the region (PAHO 2014b). The prevalence of diabetes in Pacific Island Countries and Territories is higher than that reported for Asia, Africa and the Middle East (Win Tin *et al.* 2014) and NCDs account for around 70-75% of all deaths, many 'premature' (before the age of sixty) (World Bank 2014). In Nauru and the Cook Islands, mean body mass index increased over four times faster per decade than the mean global increase between 1980 and 2008 (Finucane *et al*. 2011). Overall, life-expectancy at birth for males and females in Nauru remains close to the 2011 figures of 52.8 and 57.5 years of age, respectively (Carter *et al.* 2011); diet-related NCDs are the most significant contributor to this stagnation (*ibid.*).

Moreover, islands of the Caribbean and the Pacific have comparable circumstances of entry into global industrial food markets. Both regions experienced rapid social and economic change in the 20th century, with concomitant changes in social and cultural values that influence food choices and food environments more broadly (see Wilson 2013 for the Caribbean; McLennan & Ulijaszek 2014, 2015 for the Pacific). Islands such as Trinidad and Nauru are disproportionately susceptible to trade imbalances that perpetuate a reliance on unhealthy, imported food such as cheap cuts of meat and processed or fast foods (as discussed by authors such as Errington and Gewertz 2008; Snowdon and Thow 2013; Singer 2014). These trade dependencies, and related social and cultural values, were established well before the World Trade Organisation (WTO) was founded in 1995.

This brings us to our third axis of comparison. Both regions share similar experiences of colonisation and its social, cultural and environmental effects. In the Caribbean, where the sugar economy was first established in the seventeenth century, structural influences of the plantation continue to influence all aspects of life (Mintz 1985; Best and Polanyi-Levitt 2009; Wilson 2013, 2017b). The plantation not only instituted dependencies on monocultural exports and industrial food imports, but also shaped cultural values and aspirations, such as a preference for foods imported from Britain or British colonies (and later the United States) over what some Trinidadians call 'slave foods' such as sweet potato and cassava (Wilson, ethnographic notes, 13 July 2013). In postcolonial island settings, cultural values for food imports also stem from an earlier period when food items such as animal protein were scarce (Errington and Gewertz 2008) or when imported foods and agricultural tasks were allocated according to social categories such as 'race' and class (Brereton 2002 [1981]: 81; Wilson 2017b). These findings align with anthropological work that shows how people in (post)colonial societies attribute high status to imported, processed food and low status to farming (e.g., Beckford 1972; Pollock 1995; Miller 1998; Wilk 2006; Errington and Gewertz 2008; Wilson 2013, 2016, 2017b).

In addition to cultural preferences for food imports, colonial authorities in both places shaped the development of agrarian environments and economies that limited local food supplies. In Trinidad, the sugar plantation was characterised by a concentration of power in the hands of a small planter class who monopolised the best agricultural lands for export crops. A so-called 'plantation

psychology' influenced all ethnicities and classes, leading to widespread contempt for people least associated with the 'European way of life', particularly rural Hindus (Beckford 1972: 61; Singh 2002: 445-446). Similar environmental, social and cultural conditions affected food production and consumption in Nauru. Here, colonial powers arguably underestimated the social importance of uninhabited land and so quickly destroyed, through mining, land previously used for collective food production, preservation ceremonies and food sharing activities (e.g. Kayser 1934; Stephen 1936; Wedgewood 1936). As in Trinidad, colonial authorities in Nauru emphasised dependency on imported foods, which reduced local food production and gave the appearance of improving diets through foods seen as more acceptable to early nutritionists, such as milk and bread (McLennan *et al.* 2018). Such changes also could be justified because staple plants such as coconut and pandanus were not farmed in a fashion that resembled 'agriculture'; instead, Nauruan rituals and practices shaped their preparation and use. Similar to Trinidad, land divisions carried out by colonial surveyors in Nauru shaped a century of mining royalty distribution and in doing so undermined existing status hierarchies and created new ones. The legacies of these activities are still evident today. Below we illustrate how status hierarchies and other structures of power perpetuate structural violence related to nutritional health and other kinds of inequalities in Trinidad. We then show how power imbalances, gender inequity and reduced community cohesion hamper local food provisioning and NCD prevention efforts in Nauru.

While from very different parts of the world, our case studies share similarities with each other, and with other cases where structural violence has been documented. In reference to his work in Haiti (another small island with a complex colonial history), Paul Farmer argues that structural violence 'is much more likely to wither bodies slowly, very often through infectious diseases' (2001: 315). NCDs are chronic and equally wither bodies in slow and devastating ways. Below we use comparative ethnography to show how structural violence plays out in local diets and is embodied as diet-related NCDs in both Trinidad and Nauru. We also use comparative ethnographic material to illustrate how interventions can reinforce adverse political economic, environmental, socio-cultural and historical conditions. Some of these structural conditions are intangible, infused through present-day land divisions, access to food imports, community relationships regarding food and access to

health care and education. Some, as Farmer (2001, 2004) highlights in his work in Haiti, are material. Land is destroyed by housing or mining, despite assurances of agricultural development or rehabilitation. Political or public health initiatives perpetuate inequities by reinforcing long-term structures of power and social categorisations based on 'race', status, class and gender.

Despite historical and geographical conditions that pull islanders away from endogenous forms of development and practice, we argue that Trinidadians' and Nauruans' relationship to food is much more complex than a simple rejection of foods provisioned locally. As on all islands (Baldacchino 2007: 325), our ethnographic data show that Trinidadians and Nauruans are both 'routed' to historical and global networks through long-term relations of trade, migration, etc. and 'rooted' in place, e.g. through struggles to relocalise food and other ways of life. While we are thus attuned to historical and present-day structures of power that create and perpetuate nutritional structural violence, we also describe the agency of affected peoples to re-work or otherwise re-frame them. Local communities are not simply victims of structural violence, but have agency and actively resist (or reproduce) violent structures. Importantly, however, our research shows that resistance does not necessarily equate to reduced harm or improved health.

III. Trinidad's School Nutrition Programme

In this case study we illustrate how political economic, socio-cultural, environmental and historical conditions have limited the 'capacities or capabilities' (Gupta 2012: 20) of a range of people in Trinidad, including children suffering from overweight, obesity and diet-related NCDs, but also the landless poor who want to cultivate food and state bureaucrats and others who genuinely want to improve children's dietary health but who are impeded by the everyday politics of (post)colonial states (Gupta 2012). We do so by considering the recent project to utilise local food for Trinidad's School Nutrition Programme (SNP).

Guided by the motto for Trinidad's education system: 'no child left behind' (Parliament of the Republic of Trinidad and Tobago 2012: 11), the SNP aims to serve breakfasts that meet one quarter of the United States guidelines for Recommended Dietary Allowances (RDA) and lunches that meet one-third of the RDA (*ibid.* 20). Typical breakfasts include cheese paste sandwiches with fruit, Asian

wraps with a fruit juice drink or cereal with milk. Typical lunches include oven fried fish on a hamburger bun with hot slaw, roti (an unleavened bread made from white wheat flour) with chickpeas, potato, green beans and mango or fried chicken with beans and cooked vegetables (Interview, Board of Directors SNP, 14 June 2014). In 2017, the SNP served over 57,000 breakfasts and 87,000 lunches per day to primary, secondary and technical/vocational school pupils enrolled in the programme (Interview with SNP official, 15 Mar 2018).

In addition to nutrition goals, in recent years the SNP has also sought to 'stimulate the agriculture sector by utilising local produce wherever possible in the meal plan' (Parliament of the Republic of Trinidad and Tobago 2012: 11). The goal of local food provisioning is part of a wider strategy in the Eastern Caribbean region called the Regional Food and Nutrition Security Policy of 2011. Led by the Food and Agriculture Organisation of the United Nations, the policy seeks to foster rural development through the creation of agricultural value chains while increasing access to local fruits, tubers and vegetables through initiatives such as school feeding programmes.

Yet the joint goals of improving children's dietary health and boosting local and regional agriculture are hindered by an 'invisible social machinery of inequality' (Heath 2012: 29) that reinforces public health and other problems. As in other developing countries, structural adjustment policies of the 1980s and 1990s escalated inequalities of income, poverty and cuts to health and other social welfare sectors in T&T and other Caribbean islands (Melville 2002: 8). More recent austerity measures in T&T have led to drastic cuts in the national budget allocated to the SNP: 'Five years ago (2013), we received TT 238 million [c. 25.3 million GBP] from the Ministry of Education's budget, now we get less than three-quarters of that' (Interview with SNP nutritionist, 15 Mar 2018).

Despite recent cuts, state bureaucrats, project managers and caterers for the SNP continue to supply the same number of meals to students because 'there are some children out there who really need it' (Sant 2017: 1). As Gupta argues for his case of structural violence in India, there are many compassionate and dedicated bureaucrats and project workers who genuinely want to help people. Yet, as Gupta found, structural violence 'paradoxically … is often found in practices of welfare' (Gupta 2012: 23). This paradox rests on the imbalance between the good intentions of some

bureaucrats and project workers, on the one hand, and global, national and local structures of power that thwart these efforts, on the other.

The financial squeeze on the SNP means that caterers must look for the cheapest food options, which usually are not the healthiest. For a number of reasons, including colonial patterns of land use and more recent impacts of structural adjustment policies on government supports for farming and agriculture, the cheapest food options are usually industrial food imports from the United States, such as sugary drinks (which we return to below). Funding cuts to the SNP continue earlier social-ecological arrangements which undermine domestic agriculture. For instance, major food importers who can afford to work on credit are favoured over local food producers who cannot:

> We have stopped buying from [farmers] now. The price – everything is dictated by the price. We have been getting late releases of money from the government. Caterers are relying on companies big enough to get credit. Farmers cannot work on a credit system. They must have cash on delivery (Interview with SNP nutritionist, 15 March 2018).

Despite calls to localise food provisioning, recent austerity measures reinforce the power of importers and their allies, which was first established during the colonial period. In more recent times, strong and often corrupt alliances have formed between *some* state bureaucrats and national and transnational food importers (Wilson 2016). Such structures of power not only favour imports over local food production but also perpetuate racial and urban biases (Lipton 1977) against the landless poor and rural peoples of East Indian origin. As a former officer of the Agricultural Development Bank of T&T (ADB) related: 'For most of our history, there has been more interest in urban populations, who are mostly Afro-Trinidadians …. There was always a bias against the rural population, who are mostly Indo-Trinidadians' (Interview with former officer of the ADB, 2 Jul 2014). Long-term attributions of social status in Trinidad to its urban, Afro-Trinidadian population (Wilson 2017b: 146-174) also explain why powerful actors in Trinidad, including rural Indo-Trinidadians themselves, are converting prime agricultural lands to housing: '[Historically,] the East Indians were the people who took over farming. Now they are starting to convert their lands for housing. It is an issue of status' (Interview with SNP official, 15 Mar 2018).

The history of Trinidadian land use is a history of valuing land not for domestic food production but purely for profit-maximization:

> As the calypsonian would say, we are very good at planting houses. … This has been going on since the colonial days. People who came here were not here to stay, they just wanted to take as much out of [the land] as possible. They were estates back then … There is a conflict with land tenure that has happened for ages. There are a lot of people who want to plant, who are not getting deeds to land (paraphrased excerpt from conversation with Afro-Trinidadian man in his eighties, ethnographic notes, 2 Jul 2014).

These political economic and socio-cultural conditions, partly left over from the plantation, have concrete implications for the nutritional health outcomes of the SNP programme. Given the decreasing availability of land, imported fruit juice with high levels of sugar is served more frequently than local fruits such as mangos, pineapples, citrus and bananas:

> Fifteen years ago, we gave a piece of fruit with both breakfast and lunch. Now this is not the case. Now we have to import fruit [such as] bananas, which we should grow here. Citrus is so expensive. It is cheaper to give children a fruit drink. Before we could give children watermelon, citrus, bananas … all kinds of local fruits (Interview with SNP nutritionist, 20 Mar 2018).

The World Health Organisation (WHO) guidelines for intake of free sugars (which includes sugar in fruit juice but not in fresh fruits) is less than 5% daily calories, or 19 grams per day for four to six year olds and 24 grams for seven to ten year olds (WHO 2015). In 2014, fruit drinks served to children in the SNP had 28 grams of sugar. This level significantly exceeds the WHO recommendation for children's sugar intake.

Yet Trinidadians working for the SNP continue to work towards improving the programme's nutrition outcomes despite structural constraints: 'We know that 28 grams of sugar in a fruit drink is too high. We are working towards lowering the sugar content to 18g of sugar' (Interview, Board of Directors SNP, 14 June 2014). Eighteen grams of sugar is still very high: it is between 65-95% of WHO recommendations for the selected age groups.

Others working for the programme insisted that they are putting pressure on the T&T government to introduce nutritional guidelines for schools. Since the first period of Wilson's research in 2013-2014, some of this pressure seems to have worked. According to an SNP nutritionist interviewed in March 2018, the TT government now has introduced a ban on soft drinks and sweetened beverages in schools, although he stated that the SNP still provides sweetened fruit drinks to pupils, presumably with the lower sugar content. Yet students, who also have agency in the face of structural violence, find ways to maintain consumption patterns that are not always favourable to their health.

> There has recently been a ban on soft drinks and sweetened beverages in primary schools. But this is not working as the students just buy sodas on the way to school. The ban is on the *sale* of sweetened beverages, not on their *actual consumption* on school grounds. … Recently, we went to a school which had a soft drink vending machine, which was well stocked. There was a sign posted on it that said: 'For teachers only'. We all laughed and said to ourselves: 'Yeah right, this is not going to work. The students will use this machine' (Interview with nutritionist for SNP, 15 Mar 2018).

The SNP's current strategy to 'tailor the menu to resemble fast food' reflects the willingness to find solutions that are acceptable to children despite structural constraints. Instead of typical Trinidadian meals that include a meat, rice or roti and vegetables, researchers for the Programme have found that children prefer 'sandwich type products. This is what the children want. A lot of the children are westernised. They want KFC (Kentucky Fried Chicken), McDonalds. That is what they are accustomed to eating at home. … Our only option is to try to make the fast foods healthier' (Interview with SNP official, 20 March 2018). As illustrated above in Part II, a value hierarchy has long existed in Trinidad that associates imported (and often highly-processed) foods with higher social status (Wilson 2013, 2016, 2017b). Wilson's ethnographic research demonstrates this hierarchy among younger generations, as imported foods such as tinned meats and bread made from white wheat flour were often favoured over so-called 'slave foods' such as cassava.

Typical culprits of diet-related NCDs such as the global industrial food industry affect the global South as well as the North (e.g. Monteiro & Cannon 2012). Yet the structural conditions under

which ultra-processed or sugar-laden foods became part of or contested in social values and everyday practices, and the timing and rate of their impact, are unique to place and culture. In Trinidad, as in other places: 'politics keeps local food down' (interview with an Afro-Trinidadian man in his seventies, 24 June 2014). This 'politics' reinforces nutritional and other forms of structural violence that favour people in historical positions of power (e.g. importers) and undermine or harm those in subaltern positions, including the landless poor, children suffering from diet-related NCDs and state bureaucrats and others who continue work to improve health and social conditions, despite the odds. Indeed, as illustrated in this case study, historical and geographical conditions that have led to nutritional structural violence in Trinidad, such as a reliance on industrial food imports and the unequal distribution of agricultural land, have in fact been reinforced by a public health nutrition intervention aimed at *re-localising* food.

IV. Nauru's community gardening initiative

Community gardening initiatives form an important part of Nauru's National Sustainable Development Strategy, 2005-2025 (NSDS). These initiatives are intended to address food security, health and wellbeing, gender equality and community participation. In 2011, the Government of Nauru partnered with several donor agencies to develop and deliver a new community farming initiative. The premise was that donors would pay money to rent land, provide farming equipment, and pay young people an apprenticeship-level salary to work on the farm and study with foreign experts. Produce grown and farmed would be used to supply free breakfasts to all children at infant and primary schools across the nation; this would replace a donor-funded initiative that was using imported foods (McLennan 2017).

The farming initiative began with community meetings between donors, landowners, youth group representatives and community leaders; McLennan attended one such meeting. At the meeting, the young people in the room sat quietly and shyly. It was clear that they recognised authoritative power of one particular community leader sat amongst them. The large-set community leader reacted aggressively at the donor representative presenting the project. He moved towards her, standing over her in a way that emphasised the clear gender imbalance between them, and also in the room more

broadly. He asked why should his community be providing 'free food' to children in schools outside of his community? Why could donors not simply give him the money so that he could choose what to do with it, rather than have a foreigner manage the project? He argued that 'this sounds like you're just taking our young people for slave labour,' and he could not understand where the money would come from in the longer-term. His aggressive and angry comments were focused clearly on money and power: who would get the donor money and who would get the profits? (McLennan 2017: 139). During his speech, others remained quiet; many nodded in agreement with him. This offer sounded too good to be true.

The people of Nauru are understandably wary of foreigners promising money. To understand this, one only has to look to their history of colonial and post-colonial exploitation and of opportunists peddling dubious investment opportunities (Connell 2006). Yet the donor representative saw a different picture: one of a man who seemed selfish and ignorant of the 'bigger picture' that was envisaged by the initiative. They continued to debate. His reaction reflected distrust and disempowerment, where he clearly desired more agency over the terms of the project than the offer allowed him to have. She continued to point to the bigger vision held by foreign donors for outcomes they envisaged, such as improved health and nutrition and economic sustainability.

The concept of structural violence helps us to understand the difference between these two perspectives. The donors' vision was centred on present-day economics, statistics and medical objectives, which located the problems within the local community and the solutions within its power to choose its own path; she had no reason to see herself and the political economic machinery she represented as something which might be, or have been, part of the problem. Echoing Farmer's experience (2004), historical and structural conditions which had shaped Nauruan food preferences, land use and community power relations were obscured or had been re-written to suit the donor narrative. Bringing these into focus reveals a different story, and suggests a need for different strategies for designing and delivering interventions.

There is strong evidence that colonial and post-colonial governments failed to recognise and/or address unfavourable dietary outcomes and nutritional conditions. For example, despite almost a century of recommendations to change available foods in Nauru by adjusting import restrictions, the

colonial government decided not act (McLennan *et al.* 2018). Instead, government efforts increasingly focused on educating the people of Nauru to make 'better' choices and exhibit 'healthier' behaviours (*ibid.*), centring blame on the people of Nauru. As in more recent times, there is evidence of over a century of colonial dietary change initiatives, such as competitions, cooking classes and school education, but no evidence of any significant changes in health outcomes (McLennan & Ulijaszek 2014). These initiatives have implicitly blamed individuals by emphasising changes to cooking, eating or purchasing practices. Such approaches tend to over-estimate the agency individuals and communities have over their food environments while underestimating the long-term effects of structural violence.

Historical and present-day structures of power are often an unacknowledged part of the problem. In the Nauruan case, it was not in the colonial governments' interest to educate colonial subjects in ways that might inspire and facilitate sovereignty: control over the mined phosphate was too valuable and colonial correspondence illustrates efforts to manage access to education. Moreover, there is a long history of clearing mining sites by moving people away from land involved in community food harvesting activities (Kayser 1934) and distributing mining royalties according to land ownership rather than ownership of food-producing plants (Wedgewood, 1936). Potential damage to local foodways, diets, community practices and family relations was never considered. Yet the influences of these historical decisions persist: land and profits (e.g. from mining) are still owned by families according to colonial land divisions, distributions and record-keeping, and this colonial past makes the ownership of land heavily contested (McLennan 2017).

More widespread structures of power are also relevant here. Free trade agreements are tightly entangled with food imports and health outcomes, and the Pacific Islands' relative lack of power in trade negotiations is well-documented (e.g. Friel *et al.* 2013; Gewertz & Errington 2010).

With a clearer understanding of historical and present-day structures of power, we can return to the community meeting with a new perspective. The donor focuses on contemporary health measures and outcomes. For her, the 'big picture' is made up of epidemiological statistics, transactional economic models (that make no room for family or community sharing) and mortality rates. She is frustrated that local community members cannot see these quantitative benefits. The

Nauruan representatives, on the other hand, feel disempowerment, frustration and stigmatisation – and actively resist the program. The community has concerns that are much deeper than some numbers on a page, but which are difficult to articulate. Ironically, their resistance to an outsider's solutions to 'the problem' does not necessarily improve health outcomes.

While nutrition intervention strategies such as the ones described above claim to redress structural inequities, without addressing (post)colonial cultures, environments and political economies, they risk (re)creating power imbalances (McLennan 2017). At the meeting in Nauru, most women had avoided coming, as donors tended to deal with people recognised as 'leaders' through colonially-imposed frameworks of community leadership which emphasised patriarchy, surveyor-led land division and democratic (eventually parliamentary) process. When colonial settlers arrived on Nauru they recognised male leaders even though there is evidence of female community leadership in Nauru until the arrival of colonists and the installation of an all-male Council of Chiefs in the early 1900s (Williams 1971: 38). Further, young people, who had gone into the room feeling optimistic about the project, had departed feeling powerless and disengaged. In the end, the project was never initiated. Instead, it appeared to reinforce certain social inequalities (e.g. gendered, economic, intergenerational) and their harmful effects.

Like many internationally-driven nutrition programs, the project had aimed to re-connect the community with the land, and in doing so re-connect people to past, 'healthy' diets of locally-sourced foods. It imagined a traditional past where people were healthy and lived a long time as cultivators, fishers, hunters or gatherers; if diets could only go back to the way they had been in past, the community would once again be healthy. Yet any memory of local food provisioning in Nauru (as opposed to imports) is long past (Wedgewood 1936, McLennan *et al*. 2018). The 'traditional staple' food is remembered by current generations as white rice, which has never been cultivated on the island. Land has been redirected to mining for over a century now, and food was purchased from strictly-controlled colonial importers until Nauru's political independence. Since then, imported foodways have been shaped in a different way through free-trade agreements and rapid incursion of the mass market.

Such historical and geographical conditions become entangled with local values and practices, creating hybrid cultures that continue to shape local food provisioning. The violence these conditions inflict is slow and insidious; it chips away at community relationships and accelerates painful degradation of bodies over short lifetimes. Malnutrition-related gangrene, heart attacks, stunting and stroke are all too commonplace in Nauru. While typically attributed to irresponsible choices made by individuals, any observer of this suffering would rapidly conclude that no one would willingly bring this on themselves. This raises questions about the interplay between agency, choice and structural violence and the importance of paying them closer attention. In depth analysis of the geographies and histories of people in place implies an alternative explanation, and one that is well beyond an individual's power to change.

V. Conclusion

In this paper we hope to have broadened empirical understandings of whether and how global public health policies and interventions can be adapted to suit different places and peoples (Bunkenborg 2016; MacDonald 2016; Reubi *et al.* 2016: 2; Whyte 2016). While there has been a commendable increased focus on involving local communities in the design and delivery of nutritional health interventions, it is important to acknowledge the difference between designing public health interventions *with* intended beneficiaries or 'users', and designing interventions with a deep understanding of the historical and geographical conditions that shape intended beneficiaries' lives and diets.

Our work highlights the importance of setting quantitative forms of evidence and evaluation alongside qualitative, narrative accounts of everyday experiences, as emphasised in the literature on the 'fifth [cultural] wave' of public health (Hanlon *et al.* 2011; see also Greenhalgh 2016). Failure to adapt international measurements, categories and strategies to different cultural and historical contexts risks unintended consequences including shame, stress, stigma (Brewis *et al.* 2011; Brewis 2014), community division (McLennan 2017), ambivalence towards nutrition education messaging (Maio *et al.* 2007; Ulijaszek & McLennan 2016) and other forms of harm (Yates-Doerr 2013, 2015; Merry 2016). Comparative ethnography provides a critical and crucial counterpart to quantitative measures

for researching, recording and responding to global public health problems. By uncovering the 'human story' behind global public health issues, ethnographers may expose unpredicted or unintended factors or outcomes of interventions (Biehl & Petryna 2013: 17-19; Moran-Thomas 2013), or problems with quantitative measurements that might otherwise be ignored (e.g. Jespersen et al 2013). Applied to NCDs, comparative ethnography could help researchers, public health, policy and medical professionals to identify ways in which various actors are complicit in perpetuating violent structures, and to intervene effectively in stakeholder communities as well in privileged Northern communities.

While comparative ethnography provides a useful framework for cross-country analysis of public health programmes that can complement quantitative analysis, the concept of structural violence enables us to make sense of qualitative material and link the failure of such programmes to wider historical and geographical processes. Structural violence can help researchers and practitioners to make connections between diverse stories collected from different sites; after all, many places are connected through shared histories and geographies of social, cultural, economic and environmental exploitation and expropriation. Within public health practice, structural violence could enable researchers to better understand, articulate and act to change harmful structures that are beyond the reach of local people, programmes or decision makers. Structural violence may be one 'bridging' concept through which to do this for NCDs, as it has done for infectious diseases (for example, by Farmer 1996; 2004). This is particularly the case for diet-related NCDs, which are linked to a range of structural inequalities and dynamics (Swinburn *et al*. 1999; Wilkinson and Marmot 2003; Marmot 2005; UK Government 2007; Lang and Rayner 2007; Singer 2014; Ulijaszek *et al*. 2016; Gálvez 2018), but which largely continue to be addressed through interventions focusing on individual behaviours.

What practical ways forward does our work suggest? First, public health researchers and practitioners could extend the current emphasis on community consultation, co-design, user experience and participation. These initiatives capture local voices and have led to improvement, but they often assume that communities are able to identify and describe in public health terms all systemic and structural conditions that shape their lives. This is not the case. Our perception of the

systems around us is shaped by our position within them, so triangulating multiple perspectives can be valuable. For example, in the program we describe in Nauru, locals could see how some structural conditions around them affected their lives; for them, family pressures or community hierarchies were important, but these were of low concern to public health practitioners. Conversely, locals were less likely to be able to answer questions about global forces affecting the affordability and availability of goods, such as complex trade agreements – things about which foreign researchers were more aware. Taken together, these perspectives can paint a powerful portrait of the way historical and contemporary structures and social dynamics shape patterns of obesity and other non-communicable diseases.

Second, public health practitioners could do more to recognise and address structural inequalities and their own complicity in perpetuating them. In the Nauruan case, foreign practitioners meant well but unknowingly perpetuated gender inequities and community frictions. This echoes similar findings by other authors working in these regions (e.g., Garth 2009; Hardin 2015; Hardin *et al.* 2018). Improved sensitivity to the potential for structural violence, including self-reflexive approaches to project development (e.g. the dialogic creation of 'healthy publics'; Hinchliffe *et al.* 2018), could help. More in-depth and collaborative research in this area might also help us to further develop and interrogate the concept of structural violence; for example, by investigating more deeply the term 'structure'.

This paper adds to a growing field of research that acknowledges the fundamental significance of (colonial) histories and geographies for understanding the prevalence and control of NCDs in the global South (e.g. Ulijaszek *et al.* 2012; Holm *et al.* 2013; Reubi *et al.* 2016). But we also hope to have furthered more radical agendas to de-centre Northern approaches to improving individual, societal and planetary health (e.g. McCullough and Hardin 2013; Herrick and Reubi 2017; Wilson *et al.* 2018). By illustrating how everyday practices of public health interventions can reinforce structural violence in the case of food-related NCDs, we have uncovered systematic barriers to change that will need to be addressed with equally systematic interventions.

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