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Hunter-gatherer health and development policy: How the promotion of sedentism worsens the Agta's health outcomes

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ABSTRACT

Many hunter-gatherer groups live on the outskirts of wider society, experiencing poor health outcomes with little access to medical care. From a development perspective, key interventions include the sedentarisation of these mobile peoples into camps nearby larger towns with sanitation infrastructure and medical care, as increased access to services is assumed to improve outcomes. However, recent research in the Agta (Philippine foragers from North-east Luzon) has demonstrated that individuals residing in more 'developed' communities suffer from increased morbidity and mortality. Here, using quantitative and ethnographic data on health collected between 2002 and 2014, we explore why this trend occurs by examining the relationship between key development initiatives with self-reported illness and the uptake of medical interventions with 415 Agta men, women and children. We demonstrate that health outcomes worsen as sedentarisation progresses, despite some increases in medical access. We argue this is because the development paradigm is not evidence-based, but rather stems from an ideological dislike of mobile hunter-gatherer lifestyles. Compounded by cultural insensitivity and daily discrimination, current interventions are ill-suited to the unique needs of hunter-gatherers, and thus ineffective. Based on our findings we offer future short and long-term policy suggestions which seek to reduce the Agta's vulnerability, rather than increase it.

1. Introduction

With increasing research, the alarming state of indigenous peoples' health is being brought to the fore. As a review by Valeggia and Snodgrass (2015, p.117) shows, "[r]egardless of their geographical location or sociopolitical situation, health indicators are always poorer for indigenous populations than for nonindigenous ones." Moreover, indigenous peoples worldwide receive little, if any, medical care compared to their fellow countrymen and women (Walker, 2013). However, while such health disparities stimulates reams of research in larger populations, it is glossed over for hunter-gatherers (Hurtado et al., 2005). Hunter-gatherers are indigenous peoples who rely primarily on hunting, fishing and foraging and are frequently mobile, owning little wealth. Foragers, without wealth, tenurial security and viable mechanisms to legally secure their territory due to their mobility, often fall to the bottom of the social scale (Early and Headland, 1998). Thus, with unique lifestyles, they present unique challenges to health and well-being.

By analysing how and why dominant development strategies are compromising Philippine hunter-gatherers' health, we connect with two major lines of medical anthropological enquiry. First, our study documents and explains health inequities in relation to political economy, history and development ideology (Janes and Corbett, 2009: 170). Getting to the 'causes of the causes' of socially excluded minorities' ill health requires considering its social determinants (Marmot, 2005: 1102), including history and racism (Mitchell, 2007; Paradies, 2007). Second, we join the anthropological critique of policies that impact the health and well-being of the intended beneficiaries (Janes and Corbett, 2009: 173). Crucially, the ideology embedded within health policy and practice, is shaped to a large extent by hegemonic ideology (Baer et al., 1986: 95) and conventional wisdom outside it. Ethnography can be a powerful way to correct such influential, but often groundless conventional wisdom (Pfeiffer and Nichter, 2008: 412).

In the specific context of hunter-gatherers, prevailing developmental policies and practices have focused on sedentarisation and agriculture as a pathway to increased access to services (Cohen, 2005; Marchi, 2010). Sedentarisation is assumed to improved access to health care and education, however, we know little about the health of foragers, and more importantly the consequences of decreasing isolation

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and transition to sedentary agriculture (Froment, 2001). The need for evidence-based policy is apparent in South America as indigenous peoples are increasingly coming into accidental contact with an ill-prepared wider society (Pringle, 2015). Without a well-informed policy, enacted by trained professionals, the potential for damage to indigenous groups is extreme (Walker and Hill, 2015). Thus, there is an urgent need to not only quantify the health of hunter-gatherers, but critically review the impact of developmental policies undertaken by governments and NGOs.

Here, we approach this question with data from the Agta from North-eastern Luzon, the Philippines. The total Agta population was estimated at 10,000 at the turn of the century (Headland, 2003). Our study focuses on a population of 1000 individuals who reside within the municipality of Palanan, Isabela Province. Living in small settlements (of 30–100 individuals) at the coast and along rivers, the Palanan Agta are mainly fisher-foragers, with variable emphasis on hunting, combined with cultivation and wage labour. The resources on which they subsist are situated in the Northern Sierra Madre Natural Park (NSMNP), the Philippines' largest protected area (Persoon and Weerd, 2006). Having indigenous status, the Agta hold user and settlement rights in the park. However, as a result of weak law enforcement (Ploeg et al., 2016), in practice they face considerable resource competition from other land users and Agta consistently report dwindling foraging returns (Minter et al., 2014). More generally, the Agta's history is characterized by marginalization, discrimination and human rights abuses (Headland, 2003). The majority of Agta strongly believe in spiritual forces of several kinds. As will be elaborated in the discussion, most of these are feared for their capacity to cause sickness and even death, and for that reason they need to be constantly appeased (Minter, 2010: 72–83). Thus, Agta notions of health and sickness are fully intertwined with their belief system, and this has important implications for intercultural communication in relation to medical service provisioning.

The Agta provide a perfect case for studying the impact of sedentarisation on health outcomes as they have experienced pressure to sedentarise and farm since the Spanish colonial era (Minter, 2017). This campaign against the hunter-gatherer lifestyle is accompanied by the persistent stereotype of the Agta lifestyle being lazy compared to the settled, agricultural lifestyle of non-Agta. These ideologies and perceptions persist to this day and continue to influence developmental policy and practice by government- and non-government agents. This pressure to sedentarise has been, in part, based on the assumption that it would improve the Agta's social position, educational status and health outcomes. However, we have previously shown that Agta individuals who sedentarised experienced a significant health deterioration (Page et al., 2016). We analysed blood and stool samples and found that morbidity was significantly increased in sedentarised camps. For instance, individuals living in large camps with little mobility had a 2.8 times higher chance of presenting with lymphocytosis (marker of viral infection) while people residing in permanent camps suffered from significantly higher intestinal helminths loads. Consequentially, mothers living in permanent, compared to temporary camps, experienced a 63.2% increase in child mortality rates (Page et al., 2016). Thus, here we explore the cause of these trends by examining the relationship between key developmental initiatives in the Philippines (sedentarisation of camps, installation of water pumps and the placement of camps closer to market towns) and self-reported illness, medical treatment uptake and vaccination rates.

Here, we show that health outcomes worsen as sedentarisation progresses, despite some increases in medical and sanitation access. Camps which are the most 'developed' and with increased access to medical services are those which experience the worst health outcomes. This is arguably due to the problem of sedentism itself increasing the disease burden, *as well as* interventions lacking cultural relevance, proper implementation and long-term maintenance. Finally, the Agta also face ubiquitous discrimination against their lifestyle. The Agta's health is thus not helped by dominant development policy, which encourages, if not requires sedentarisation. Such policy only adds to the Agta's vulnerability as it is ill-suited to the unique needs of mobile hunter-gatherers.

2. Materials and methods

The quantitative data on health outcomes and use of medical services was collected by AEP and SV over two field seasons from April to June 2013 and February to October 2014. TM has conducted long-term ethnographic research among Agta in nine municipalities of Isabela Province, including Palanan, in different periods between 2002 and 2014. This included 159 semi-structured interviews with household heads (mostly females) on birth histories, child mortality and perceived causes of sickness and mortality. Given the small population size inherent with hunter-gatherers an opportunistic sampling protocol was followed. Households were interviewed when camps could be reached (dependent on weather conditions or camp movements), and when households were present in these camps and willing to under-go the medical survey. Of the total population of roughly 1000 Agta from Palanan 415 were interviewed.

2.1. Ethics

The research and fieldwork carried out by AEP, SV and ABM was approved by UCL Ethics Committee (ethics code 3086/003) and carried out with permission from local government and tribal leaders in Palanan. The ethnographic field work by TM took place under the Cagayan Valley Programme on Environment and Development. It was carried out with permits from the Protected Area Management Board of the NSMNP and the Municipal Mayors. Informed consent was obtained from all participants, after group and individual consultation in the local language.

2.2. Medical survey

We conducted medical surveys and household questionnaires to quantify medical histories and in 12 camps with 415 individuals (age: mean = 20.27 ± 18.9, range = 1 month to 80 years; sex: 43.9% female). Interviews were conducted in the homes of each of the families included in the study. Each adult or older child (roughly aged 10 and over) answered for themselves, while parents answered for younger children. The medical questionnaire quantified what symptoms household members had experienced over the last two weeks. This included questions on key symptoms used to diagnose gastro-intestinal infections, respiratory tract infections as well as non-diagnosed symptoms of general ill health (fever, tiredness, dizziness and lack of appetite). The questionnaire was designed in collaboration with doctors at the Palanan Hospital, following the most frequent symptoms presented by patients in the region and was conducted with a non-Agta qualified health care assistant (no Agta in Palanan had received medical training) and the completed questionnaire was handed back to the local doctor for diagnosis. We collected data on treatment rates of these reported symptoms as well as vaccination rates.

2.3. Household wealth survey

Our interview included a quantification of the numbers of belongings owned or '*household wealth*' (italics indicate variable names used in analysis, fully detailed in Table 1). To create an 'emic' based list, we first sought to establish the most important items from a sub-sample (n = 16) of households. We asked each household to name 10 of the most important belongings. Based on this we created a list of 14 household items that were mentioned the most frequently. This list was then shown to each household, asking whether they had these items and if they did, how many they had. As some items were more