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MAE-MAT EARLY CAREER PAPER AWARD 2022

Screening Charity Recipients

Health Philanthropy, Medical Diagnosis, and Kidney Disease Prevention in Sri Lanka

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Abstract

Over the last several decades, epidemics of chronic kidney disease of unknown aetiology (CKDu) have appeared in Mesoamerica, North Africa, and South Asia. Drawing on 14 months of ethnographic fieldwork in a CKDu-affected village in Sri Lanka, I explore how one CKDu 'hotspot' came into being following population screening interventions by a community development organisation, a philanthropic foundation, and a university research group. While the production of test results proved vital to the mobilisation of further research and public health resources for the community, this ethnography reveals philanthropy could be seen to have shaped by screening as much as screening was seen to have influenced by philanthropy. The example of medical screening and philanthropic interventions in Ginnoruwa illustrates how bioindicators of failing kidney function became a key metric for demarcating the community into populations of the deserving (or not so deserving) poorly, which in turn helped to create the pattern of disease prevalence and concentration that led to the community being designated a 'hotspot'. In Ginnoruwa, philanthropy and screening did not operate independently but constituted a novel hybrid, which I refer to as 'philanthropic science'.

Keywords

Chronic kidney disease, Medical screening, Philanthropic science, Sri Lanka.

Introduction

Sumanasiri¹, aged 64, was one of several dozen residents of Ginnoruwa village in central Sri Lanka diagnosed with chronic kidney disease of unknown aetiology (CKDu). CKDu is a fatal health condition that has reached epidemic levels in Sri Lanka (Bandarage 2013; Chandrajith et al. 2011; Elledge et al. 2014). The local hospital identified Sumanasiri's illness following a community screening drive in 2014, at which he was given only a few weeks to live.

Due to the high prevalence rate of CKDu in Ginnoruwa, the village had become part of a CKDu preventive intervention trial run jointly between a university research group—which I will call here the Kidney Research Group (KRG)—and a local philanthropic organisation called the Rain Drops Project (RDP). Acting on the hypothesis that unclean well water was the main cause of CKDu, the trial intervention researchers would distribute rainwater collection tanks to a random sample of participating households, while a control group of households would receive none. In this way, the appearance of new cases and the progress of existing ones could be compared between the two groups.

Sumanasiri had agreed to participate in the trial. However, because his household had been allocated to the control group, he did not receive a rainwater tank. Sometime into the trial intervention, the RDP's founder and trial leader, Ranjith Mulleriyawa, visited Sumanasiri's household as part of a survey. There, Sumanasiri asked, 'Mr. Ranjith, is it not possible for me to see a tank before I die?' To this, Ranjith replied, 'I will give you a tank as soon as possible'. To keep his promise, Ranjith took a tank from another household participating in the trial and gave it to Sumanasiri just in time for him to drink from it before he died. While Sumanasiri had no expectations at this point that drinking the rainwater would save his life, his plea reflects Ginnoruwa villagers' preference for rainwater over well water for drinking.

Reflecting on the incident a few years later, one of Sumanasiri's neighbours commended Ranjith for his generous and kind-hearted act: 'Everyone in the village is grateful for Ranjith ... that person [Sumanasiri] was able to drink clean water before his death because of Ranjith,' she tells me, when I met her in 2019 during my fieldwork. While Ranjith's decision to intervene in the trial and reallocate rainwater tanks might have appeared to undermine the scientific ethos and goals of the project as the distribution of tanks was supposed to be based on screening results, local people interpreted it as a justified and principled expression of Buddhist compassion (*metta*).

¹ All the names of people and institutions have been given pseudonyms, except for Ranjith Mulleriyawa, the Rain Drops Project and the Commercial Bank.

This case draws attention to the ways in which the technical, social, and ethical drivers of scientific interventions, public health intervention, screening, and philanthropic work, coalesced in the context of a public health crisis in Sri Lanka. In this Research Article, I explore the role played by medical screening in the construction of Ginnoruwa as a 'hotspot' suitable for scientific and charitable engagement. This ethnography demonstrates how screening, the production of local epidemiology, and the distribution of rainwater tanks in Ginnoruwa by the RDP, followed what Erica Bornstein (2009, 623) has called 'the philanthropic interventions. I show how, in the context of Ginnoruwa's Buddhist moral universe, medical screening became an effective method for identifying worthy recipients of charity.

The article is based on 14 months of doctoral fieldwork in Ginnoruwa, conducted between August 2018 and September 2019. The study included a household survey, in-depth interviews with ten CKDu patients, one focus group discussion with kidney patients and another with women from the village, and semi-structured interviews with researchers attached to the Kidney Research Group (KRG) at university. I also conducted long-term participant observation in the RDP in Ginnoruwa by working as a volunteer researcher between November 2016 to September 2017.

It is worth noting that there could be ethical implications to my using data and information that I had previously collected as a volunteer for the RDP. As a volunteer, I worked under the supervision of Ranjith and interacted with villagers with his and other project officers' permission. Villagers gave permission for these interactions to be included in the RDP's research portfolio, which, from the outset, encompassed the first phase of my research project too, which I conducted as a volunteer for RDP. The first phase of my study folded into the RDP's research portfolio to the extent that villagers gave consent to RDP and not to me individually.

As such, there were two phases to data collection in this project: one in which I was formally working for the RDP as a volunteer and collecting data on its behalf in the village, although the RDP gave me permission to develop my own findings; and a second in which I was no longer formally working for the RDP but carrying out doctoral fieldwork attached to the University of Durham in the UK. For this second phase I secured individual consent from the villagers with whom I worked.

Finally, I analysed medical records preserved at the kidney clinic of the local hospital (with the permission of the chief nephrologist), where almost all the kidney patients from Ginnoruwa, including those diagnosed with CKD and CKDu, were registered during the period of 2014 to 2018. In my analysis, I mainly looked for patients' diagnostic status—whether CKD or CKDu—where they came from, and

when they had been registered. The hospital records brought important insights to my ethnographic observations by providing demographic details of kidney patients, as registering at the hospital was a prerequisite for chronic kidney patients being eligible for the government allowance.

All throughout, I had to weave my different positionalities—as a volunteer for the RDP and as an ethnographic researcher—during my interactions with the villagers. Because of my previous affiliation with the RDP, most of them tried to maintain a formal relationship with me during the second phase of research. Most of the time people would address me using the English term 'Sir', and sometimes they called me mahaththaya (the Sinhala term for gentleman), all while maintaining a culturally appropriate social distance with me. Being formally identified with the RDP also had important implications for my study of the community during its second phase. In the first place, it allowed me to use both the materials and human resources of the RDP to advance my research. It also made it easier for me to settle in Ginnoruwa, as I only had to renew my contact with bank officials and the main figures who administered the project at the village level in order to settle back in. When I proposed my idea of initiating my own fieldwork in Ginnoruwa, the RDP administrators were enthusiastic and extended their full support in the belief that my research, which was attached to a reputable foreign university, would add significant value to the project. The director of the Corporate Social Responsibility (CSR) Trust of the Commercial Bank went a step further and allowed me to stay at the project's office in the village without charge. During the first few months of fieldwork the RDP staff introduced me to the villagers, which made my work easier as it helped me build contacts with the community. Moreover, being recognised by the RDP officials gave me access to the KRG, the main research wing of the project. Here, I was able to interview several medical professionals and scientists attached to the KRG as well as present my work at one of their monthly sessions. As the RDP was an initiative of the KRG and I had the support of RDP officials, my presence was well received by the KRG's researchers.

However, being identified with the RDP was not without its downsides. While most of the villagers participating in my study embraced the project wholeheartedly and had huge respect for the project organisers, mainly for Ranjith, not all approved of the way the RDP had been implemented. Several were particularly unhappy with the behaviour of Ranjith's village assistants and their close allies in the village. Some shared their concerns with me. For instance, some people I met were of the view that the village assistants favoured their own relatives and close friends when it came to distributing donated materials (for instance lime plants and tube wells) offered by the project. By the time I started my own fieldwork, Ranjith had died and there was division in the RDP's leadership at the village level. Following a leadership dispute within the RDP, the villagers divided into two camps. This had an adverse effect on my own research, especially during the initial months when I was trying to build rapport with the villagers, gain their trust, and get to know them. Several who were unhappy about the RDP were reluctant to support my research as they saw me and my project as part of the RDP. This stemmed mainly from my staying at the RDP office in Ginnoruwa. However, as they became familiar with my research, many came to understand the difference between my research and that of the RDP, and individually consented to participate in my research. For instance, rather than having to rely on the RDP's consent, Suneetha, Ranjith's main assistant, agreed to my using the information she had shared with me when I worked alongside her as a volunteer at the RDP. In fact, for some of the villagers, including Suneetha, engaging with me gave them an opportunity to express their concerns about the RDP.

In the first section of the article, I introduce the issue of CKDu in Sri Lanka and discuss how it has become a hotly debated public health problem in the country. In the second section, I introduce the RDP and explain the construction of Ginnoruwa as a CKDu hotspot. I then introduce the concept of 'philanthropic science'—an assemblage of ideologies, scientific techniques and technologies, ethics, community development, Buddhist charity, and public health, to explain the complex relationship between philanthropy and science in rural, resource-poor settings like Ginnoruwa. Based on the complex interrelation between the philanthropic motives of project organisers and scientific interventions (primarily medical screening, as I will explain later) in Ginnoruwa, I argue that medical screening in Ginnoruwa should be understood as a form of philanthropic science. In the following section, I reflect on how a range of uncertainties intricate to the testing process, including water-sharing practices, sample identification, and distinguishing traditional CKD cases (i.e., where causation has been identified) from CKDu (i.e., of unclear origin), complicated the interpretation of the project's results. In the final section, I explore the ethico-religious terrain of the RDP in Ginnoruwa and show how principles of Buddhist charity shaped strategies for disease screening and the distribution of rainwater tanks, which in turn became methods of identifying 'worthy vessels' for public health gifts. In this way, this article contributes to anthropological knowledge on biomedical research in conjunction with health philanthropy in resource-poor settings, showing how complex entanglements between medical interventions and the philanthropic motives of project officers could significantly shape the outcomes of those interventions.

CKDu and the creation of a public health intervention

Over the last several decades, epidemics of chronic kidney disease of unknown aetiology (CKDu) have appeared in Mesoamerica, North Africa, and South Asia. Sri Lanka reports the highest rates of CKDu in South Asia, with the disease concentrated in the north-central 'Dry Zone' of the island-an area that experiences less rainfall and higher temperatures than the south-west of the country. It is well known for being the centre of irrigated rice and intensive vegetable farming, and food distribution systems. To date, the disease is not well documented, and precise data on people affected by CKDu has been the subject of debate among researchers. Some have estimated that the affected population in Sri Lanka is as high as 400,000 (Perera 2012, cited in Silva 2019), while others suggest that around 150,000 people may be affected by the disease and that about 3% of those lose their lives annually (Wimalawansa 2015). Amarasiri de Silva (2019) notes that between 1991, when Sri Lanka's first ever CKDu patient was identified in Medawachchiya in Anuradhapura District, and 2010, the number of CKDu patients admitted to Anuradhapura Teaching Hospital rose by 274%. In numerical terms, this meant that in Anuradhapura District, the worst-affected area. the total number of renal patients in 2010 was 13,854. According to a survey of over 8,000 households, comprising as many as 30,000 individuals and conducted across the ten districts most affected by chronic kidney disease (CKD) in Sri Lanka between 2009 and 2018. 15.4% households reported having at least one symptomatic resident (Kafle, Balasubramanya, and Horbulyk 2019). Of those households with CKD-symptomatic residents, 33% came close to meeting commonly used definitions of CKDu (Ibid.).

Despite over three decades of scientific and biomedical investigations, the causes of CKDu remain unclear. However, the concentration of CKDu in Sri Lanka's agrarian communities, and its association with Sri Lanka's intensive irrigated agricultural systems, have led many to speculate that the disease may be associated with occupational and environmental exposure to agrochemicals combined with rural poverty, natal and early life malnutrition, and poor diet in later life (e.g., Wimalawansa 2014). It has been argued that identifying the disease as being of multi-factorial origin (or as 'CKDmfo') would encourage scientists to make sense of the diverse array of social, economic, environmental, and epidemiological factors that combine to construct the disease (Wimalawansa 2014; 2015). Studying dialysis patients in Egypt, Sherine Hamdy (2008, 553) suggested that 'all aetiologies are political', and that incorporating this understanding would extend 'the pain of kidney failure beyond the pathological kidney to implicate corrupt institutions, polluted water, the mismanagement of toxic waste, and unsafe food' (Ibid, 554). The 'unknown' or 'uncertain' category, she argues, can act as an empty signifier that acquires content depending on the training, values, and world views of the interested party coupled with their specific engagements and experiences with the problem (Ibid.). Referring to the CKDu epidemic in Mexico, Ciara Kierans declares that precisely due to the uncertainties associated with the CKDu case definion, 'nephrologists will medicalize CKDu, that activists will politicize or moralize it, that journalists will sensationalize it, and politicians will suppress or advance it...' (Kierans 2019, 143). Patients will also develop their own ideas about their diseased bodies when there is a lack of clear etiological explanation from medical experts (Hamdy 2008).

A main competing biomedical hypothesis suggests that geological fluoride, which occurs naturally in endemic regions, causes CKDu (lleperuma, Dharmagunawardhane, and Herath 2009). Certainly, affected regions have been found to contain moderate to high levels of fluoride in groundwater (Chandrajith et al. 2011). Heavy metals such as cadmium have also been thought to be a causative factor (Bandara et al. 2011; Wanigasuriya, Peiris-John, and Wickremasinghe 2011), while Channa Jayasumana and a group of scientists have suggested a possible link between CKDu and chronic arsenic toxicity, which is caused mainly by long-term exposure to arsenic-contaminated water (as a result of consistent use of chemical fertilizers) (Jayasumana et al. 2013). However, in a subsequent publication, Jayasumana and colleagues implicated glyphosatecontaminated hard water along with nephrotoxic metals as potential culprits behind CKDu (Jayasumana, Gunatilake, and Senanayake 2014).

Although there are diverging opinions regarding the aetiology of CKDu, as the above studies suggest, theories pointing to water-borne contaminants have attracted by far the most attention. Biomedical studies alluding to contaminated water as the major causal pathway of the disease have led to changes in people's perceptions of drinking water quality and consumption patterns. In a study of how people in Anuradhapura District, in the north central plain, explain the factors causing CKDu, Amarasiri de Silva has suggested that the cultural meanings of water and the local communities' concerns for contaminated water have influenced government policy, health programmes, research agendas, and the work of media on the CKDu epidemic (de Silva 2019). The author goes on to note that the perspective of villagers who believe that polluted water has a direct relationship with kidney disease has been strengthened by media reports on sociocultural, biomedical, and epidemiological research on the aetiology of CKDu (Idem.). Consequently, there is broad consensus within the CKDu research community in Sri Lanka that providing clean drinking water could be the most effective disease prevention strategy (Ranasinghe et al. 2015; Wimalawansa 2015; Wimalawansa and Wimalawansa 2016). It is worth noting that despite strong bodily evidence of the benefit of switching to filtered water, such as the cessation of a burning sensation when passing urine, people remain concerned about the possible side

effects of consuming mineral-free filtered water (Senanayake 2020). Since the broader consensus among researchers on the benefits of filtered water, over the last few years government and philanthropic investments have focused on Dry-Zone water-supply systems, and on establishing community level, reverse-osmosis (RO) plants in disease hotspots in particular. In this context, the RDP, which I discuss in the next section, was an exception.

The construction of Ginnoruwa as a CKDu 'hotspot'

In infectious and chronic disease epidemiology, the term 'hotspot' is commonly deployed to recognise the uneven distribution of disease burden across different spatial and temporal dimensions, thereby making causal factors of diseases more visible. Chronic kidney disease (CKD) hotspots are defined as 'countries, regions, communities or ethnicities with higher than average incidence of CKD', with the ultimate aim of drawing attention to the plight of persons at high risk of contracting the disease (Ortiz 2019, 157). Lessler and colleagues (2017) point out that although hotspots are often targeted as an important component of disease-control strategies in infectious disease epidemiology, the precise meaning of 'hotspot' varies widely in the scientific literature and policy documents. Because the concept is loosely defined and because it is used as an evocative term in different contexts. it can cause misinterpretation and confusion. Therefore, the authors recommend making the meaning of 'hotspot' explicit by using an appropriate modifier—such as 'burden hotspot' to denote areas of elevated prevalence or incidence of a disease; 'transmission/risk hotspot' to denote areas of elevated transmission efficiency or higher risk of catching a disease; or 'emergence hotspot' to denote areas with a greater probability of a disease emerging or re-emerging (Ibid.). Thus, the loosely defined nature of the concept of 'hotspot' offers the space and flexibility to incorporate context-dependent factors that allow more explanatorily precise definitions of hotspots to be constructed at the local level.

Medical anthropologists have shown how a diverse array of social, political, and historical factors impinge upon the biological vectors that screening can reveal. In the context of viral haemorrhagic fevers (VHFs) in sub-Saharan Africa, Hannah Brown and Ann Kelly refer to a 'hotspot' as 'the temporary convergence of rainfalls, political designs, cat populations, armed conflict, economic strategies, agricultural techniques, built environments, and practices of care that create the conditions for disease communicability' (2014, 281). Referring to the HIV/AIDS policy process in South Africa, Theodore Powers conceives of hotspots as 'areas of concentrated socio-political interaction and transnational influence' (2017, 82) and deploys the concept to describe how socio-political conglomerations emerge at particular points of intersection and encompass an array of actors, activities, and forms of influence. Moreover, Powers argues that in 'hotspots' those zones of socio-political

activity generate 'heat' via the 'friction' created by the influence of transnational donor capital and the concentration of political activity (idem).

The Ginnoruwa case in Sri Lanka extends recent anthropological approaches to 'hotspots' and medical screening by showing how the use of screening coalesced with philanthropic motives to create epidemiological hotspots. The case can also serve to express localised social and ethical understandings of scientific and public health interventions. In Ginnoruwa, as I observe, 'friction' was created by the philanthropic motives of the leaders of the RDP and the potential impasse between these motives and the project's original formulation as a robust scientific and medical research intervention.

A key challenge facing the development of public health responses is identifying the epidemiological patterns of chronic kidney disease of unknown aetiology (CKDu) at national and local levels. There is little agreement regarding either the best screening method for CKDu or a suitable case definition (Senanayake 2019). As Senanayake (2019) points out, on the basis of existing screening tests a distinction between CKD and CKDu simply cannot be made. In their review article on CKDu, Almaguer and colleagues note that, '[a]s yet ... diagnosis is by exclusion ... when patients fulfilled CKD [chronic kidney disease] criteria, without evidence that it is due to diabetes, hypertension, glomerular proteinuric disease, polycystic kidneys, obstructive uropathy or other recognized causes' (Almaguer, Herrera, and Orantes 2014, 10).

In Sri Lanka, CKDu is defined as 'CKD in the absence of past history of diabetes, chronic or severe arterial hypertension, snake bite, glomerulonephritis or other urinary tract disease' (Noble et al. 2014, 4). By way of a long questionnaire, screened patients are asked about their clinical history with the aim of identifying known causes of kidney damage and categorising 'unknown' cases. There is a high risk of falsely classifying a case as either CKD or CKDu, as the questionnaire depends largely on patients' memory of their clinical history. For instance, in my study I met a patient who told me that he was bitten by a snake several years before he was diagnosed as a kidney disease patient, but this was not mentioned in his clinical records and he had been classified as a CKDu patient. I encountered several examples like this. Moreover, CKDu has shifted from being a residual category (Kierans and Padilla-Altamira 2021) of unexplained kidney disease, to a self-contained disease category in its own right and for which clinical investigation has been as much about proving unknown cause as it has establishing a link with a known cause (Widger forthcoming).

A second concern for RDP officials was around the sensitivity of available tests for kidney function, which are likely to miss cases of CKDu in its early stages. The international definition of kidney disease uses a five-stage progression, from very

mild (in stage 1) to complete kidney failure (stage 5). Since 2014, the Epidemiology Unit of the Sri Lankan Ministry of Health has managed the screening for CKD/CKDu across endemic areas. It uses standardised guidelines and measures first established in 2014 and revised in 2017 (Epidemiology Unit 2017). Screening follows a two-step process: the first step involves a simple measure of kidney function to identify potential patients; a positive result for kidney failure then leads to more thorough medical investigation (including kidney biopsy and the administration of a questionnaire to confirm patients' clinical history). The results of the latter extended testing will confirm a diagnosis of either CKD or CKDu. However, researchers have raised questions about the accuracy of the tests employed in the first step of the screening, showing how the tests lack the sensitivity to detect kidney failure in stages 1 to 3 (Wijesinghe 2009; De Silva et al. 2016; Ratnayake et al. 2017). As they note, if the aim of population screening is to identify kidney disease in its early stages in order to halt its progress before becoming irreversible, shortcomings with the test have meant that this goal has been difficult to achieve (Idem).

While the epidemiological uncertainty of CKDu has adverse implications for identifying patients in the early stages of the disease, it has not necessarily blocked clinical and social interventions on disease prevention and control. In the case of Nicaraguan sugarcane farmers affected by CKDu, Alex Nading and Lucy Lowe (2018) describe how the absence of epidemiological certainty regarding the aetiology of CKDu developed into a fortress of moral certainty around the urgency of supporting disease victims (Nading and Lowe 2018). As a result, rather than epidemiological uncertainty preventing action, moral certainty around the need to help victims has enabled a distributive approach to social justice. Thus, they suggest, solving an epidemic unknown may require a redistribution of expert resources (Ibid.). In the same vein, shortcomings with tests have not prevented screening results being used to identify CKDu 'hotspots' across Sri Lanka for the purpose of developing and implementing public health interventions.

One of the best-known of those Sri Lankan public health interventions is located in the Ginnoruwa Division of the Uva Province. In Ginnoruwa, screening clinics have been operated at the village level by the local hospital and the Medical Officer of Health (MOH) office, and at the regional level by the renal care and the research units of the hospital. According to the institutional register of CKD patients, 17 cases of CKDu (and 23 cases of CKD) were identified in an overall population of 1,558 in Ginnoruwa Division during the period 2014–2018. The Ginnoruwa Division itself encompasses five villages, each reporting different rates of CKDu (see Table 1), the highest of which was recorded in Badulupura (10 cases of CKDu; in a total population of 328).

Village	Population	Registered CKD	Registered CKDu
		cases	cases
Badulupura	328	9	10
12 Kanuwa	469	9	4
11 Kanuwa	109	3	2
Ela Para	353	2	1
Saraboomiya	299	0	0
Total	1,558	23	17

Table 1. Distribution of CKD and CKDu patients in Ginnoruwa (Source: Institutional Register of CKD Patients, Girandurukotte District Hospital, 2019).

The Ginnoruwa Division gained further prominence in the CKDu research community, thanks to the peculiar distribution of CKDu among Ginnoruwa villages. Because occupational and environmental exposure to agrochemicals, as well as other co-morbidities, were seemingly identical amongst the Ginnoruwa villages, proponents of the fluoride hypothesis believed they had a strong case. The only distinguishable difference between Badulupura and the neighbouring villages, they argued, was the geological substrate beneath them (Balasooriya et al. 2019). Badulupura was located above an aquafer with high levels of fluoride contamination, into which household wells had been dug, they noted. Neighbouring villages, in contrast, drew drinking water from non-contaminated sources, particularly from the Mahaweli River. *Figure 1* reproduces a GIS map developed by the International Water Management Institute (IWMI) based in Colombo that compellingly shows the unequal distribution of CKDu households (marked with red squares) in Ginnoruwa.

Since 2014, public health interventions have identified Ginnoruwa as a CKDuaffected area. Specifically, a series of interventions launched in 2015 by the Rain Drops Project (RDP), in conjunction with the Kidney Research Group (KRG) and the Commercial Bank, secured Ginnoruwa's place as a CKDu hotspot. For all three organisations, community screening for CKDu had proved vital in explaining the peculiar distribution of CKDu in Ginnoruwa. The way the community screening took place would also explain how wider health and social interventions would come to unfold. However, medical screening was not the initial catalyst for those interventions. Rather, screening could be understood as an effect of these health and social interventions. The interventions followed a path created by the RDP's founder, Ranjith Mulleriyawa, whose lifelong association with Ginnoruwa helped to bring it to national attention and thereby create the hotspot as an epidemiological artefact in its own right. I argue that Ranjith's philanthropic motives played a crucial role in constructing Ginnoruwa as a distinct CKDu hotspot in Sri Lankan public health discourses, while medical screening acted as an effective tool for actualising those philanthropic motives.

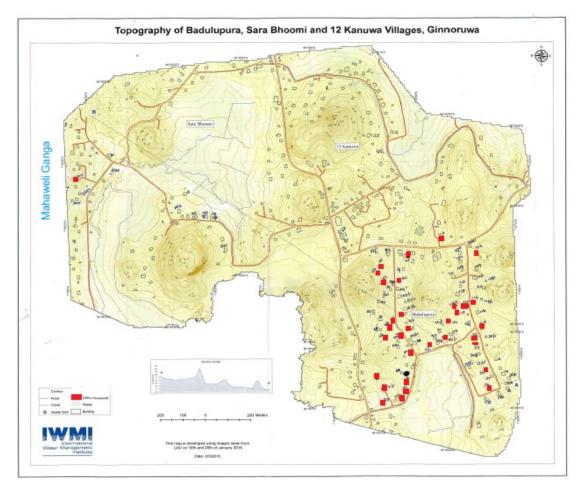


Figure 1. Topography and CKDu distribution of Ginnoruwa Division (IWMI 2015).

Ranjith was an agronomist by training and agriculturalist by practice. In his later years, he became a community development consultant. He acted as a bridge between the Commercial Bank, the KRG, and the leader of the RDP until his death in late 2016. As Ranjith shared with me, after graduating from university with a degree in agronomy in the late 1960s he stepped out of his professional career path and spent ten years living and working as a paddy farmer in the Ginnoruwa area. The move encapsulated his lifelong commitment to grassroots development interventions that took the lives and experiences of rural people seriously—a commitment in part bolstered by the friendships he made with visiting anthropologists at that time and with whom he maintained contact until his death. When CKDu started to emerge as a public health crisis in the late 2000s, Ranjith decided to participate in disease prevention and the search for a cure for CKD through the model of a citizen-led community organisation, which was consistent with his politics.

Early on, Ranjith rejected the idea that agrochemicals were a cause of CKDu. Instead, he supported the fluoride hypothesis put forward by the KRG (Ileperuma, Dharmagunawardhane, and Herath 2009; Chandrajith et al. 2011; Balasooriya et al. 2019). At this stage he was an active member of the KRG, serving mainly as a community development practitioner with an interest in CKDu. His agronomy background was probably one reason for his support of the fluoride hypothesis. As he once told me, he had always viewed agrochemicals as an important technology for helping to reduce the physical burden of farming in hot climates like Sri Lanka's Dry Zone. For Ranjith, any intervention around CKDu had to be suited to the economic and environmental realities of the area concerned. Thus, he rejected the idea that the distribution of reverse-osmosis (RO)² water purification systems (which were expensive to buy, run, and maintain), was a solution. Conversely, examples of rainwater harvesting practices from Sri Lanka and across the developing world did attract his attention (Mulleriyawa 2016a)³. For Ranjith, harvesting rainwater—which would be free of fluoride and other contaminants suspected to cause CKDu—offered a simple, user-friendly solution for the drinking water problem in rural, resource-poor contexts such as Ginnoruwa. As a result, he launched the Rain Drops Project (RDP), a community development organisation dedicated to providing ways of harvesting rainwater that were tailor-made to the dry-zone context.

Ranjith raised funding for the Project from his network in Sri Lanka and overseas. The Project's biggest donor was the Commercial Bank, Sri Lanka's largest private bank. A commitment to what in recent years has come to be called 'philanthrocapitalism'⁴ defined the Bank's approach to corporate social responsibility (CSR)—an approach led by the likes of Bill Gates and Warren Buffet that combines humanitarian commitment with the language of international development and business methods to reduce poverty and its effects through 'high risk/high reward' strategies (Edwards 2008). Its investment in the RDP was intended to support the United Nations's 6th Sustainable Development Goal on 'Clean water and Sanitation' (Commercial Bank 2018). Moreover, according to the bank's CSR manager, the decision to invest in the RDP had been taken precisely because the intervention represented a high-stakes, innovative, public health science experiment; and if successful, one that could transform CKDu prevention in Sri Lanka.

Thus, the construction, primarily through medical screening, of Ginnoruwa as a distinct CKDu hotspot in public and scientific discourse in Sri Lanka played a

² Reverse Osmosis is a technology used to remove contaminants from water by pushing the water under pressure through a semi-permeable membrane.

³ The website that published this article no longer exists.

⁴ Philanthrocapitalist interventions can also be viewed as reflecting a social investment approach that aims to foster public health by supporting innovation in the private sector (Vasquez 2021).

pivotal role in attracting external resources, including those of the bank, because it could provide evidence of the impact of philanthropic and charitable interventions. In the next section, I elaborate the complex relationship between medical screening and philanthropic motives in the context of Ginnoruwa.

Medical screening as a form of 'philanthropic science'

Critical studies of screening have shown how such interventions work to establish disease narratives and identities (Jutel 2009). David Armstrong, for example, refers to screening as 'surveillance medicine' that relies on the assumption that no one is truly healthy as a means of planning for better public health outcomes (Armstrong 1995, 397). Likewise, Howard Brody (2006) has suggested that screening promises a future in which we can catch, cure, and prevent all illnesses before they become fatal, thereby extending collective life expectancies. He refers to this as a manifestation of Western society's 'pervasive death phobia' and a desire to convince ourselves that we can become immortal through the proper application of medical technology (Brody 2006). Screening for rare genetic conditions in new born babies in the United States is considered the linchpin of secondary prevention and saving children's lives (Timmermans and Buchbinder 2013). Approaching these questions from a political economic perspective, Lynn Payer has written about the use and abuse of screening for 'disease-mongering', through which pharmaceutical and wellness industries can generate a culture of illness (and, more often, fear of illness) that for them makes good business sense (Paver 1992).

Philanthropic investments, such as the ones made by the Gates Foundation, are increasingly sought as a source of funding for scientific research aimed at improving public health. Compared with philanthropic investments in other areas, investment in scientific research allows the donor to make a significant and measurable impact in areas of corporate interest by forming a partnership with an institution or programme with a shared goal (Ohman et al. 2016). According to Olivia Flatto, philanthropy has changed drastically in the past few years, as donors have become more interested in seeing a return of investments and thus increasingly look for tangible and measurables outcomes (Flatto 2015). To achieve measurable outcomes, the gift or philanthropic investment needs to be regulated and closely monitored throughout the project. Erica Bornstein (2009) argues that when the gift is regulated it becomes 'instrumentally rational'—a term of Weber's that codes a type of social action where the ends, means, and results are rationally weighed—and which is incompatible with social action, determined as it is by emotions or habits (Weber 1978, 24–6, cited in Bornstein 2009). As philanthropic investments in scientific and medical interventions seek measurable and regulated outcomes according to the Weberian perspective, they are aligned with

instrumentally rational intervention rather than affectual or traditional ones—thus allowing the means and ends of philanthropic interventions to be controlled.

In spite of the close ties between science and philanthropy in the public health sector, financial investment in clinical research poses challenging ethical guestions that often operate under different norms in the two fields. For instance, according to the ethical guidelines of the American Medical Association (AMA), any discussion of clinical care should be clearly separated from philanthropic discussion, which could be held privately at some other location (Ohman et al. 2016). In other words, to perform an instrumentally rational philanthropic investment in the public health sector, it is important to separate out the science from the philanthropy in a way that allows the science to operate independently. The Rain Drops Project (RDP) was originally conceived as a scientific intervention, which, while funded mainly by a private philanthropic body, was to be carried out by a professional scientific research body with the aim of establishing a link between rainwater and chronic kidney disease of unknown aetiology (CKDu) disease burden. Thus, at the beginning, philanthropy and science were clearly separated, or at least appeared to be, and the role of each side defined and agreed upon. In practice, however, the two parties were intertwined, and instead of philanthropy and science working separately they operated as an assemblage of the ideologies, scientific techniques and technologies, ethics, community development, Buddhist charity, and public health that I refer to as 'philanthropic science'.

As Weber articulated, types of social actions will differ depending on the motives of the social agent and the ways in which they are implemented. My ethnographic study of the RDP shows that these different types of social actions can operate in relation to each other. In that sense, I suggest that the RDP's intervention in Ginnoruwa should be understood as a form of philanthropic science, constituted of both instrumentally rational and affectual modes of intervention. The medical screening of the RDP was expected to follow the instrumentally rational path, as it was based on standard medical protocols and conducted by gualified medical professionals with the aim of identifying kidney disease patients. Generating a database of kidney patients and monitoring changes in patients' statistics was an important step in selecting the test sample and measuring the impact of the Project. However, in the next section I show that the philanthropic motives of the project founders, which symbolise the affectual mode of intervention, had significant implications for the project's outcomes. In this regard, I discuss the disproportionate focus of medical screening in the Badulupura hamlet and irregularities in how the rainwater tanks were distributed. Put differently, in the RDP's case in Ginnoruwa, a philanthropic body became involved with and intervened in the research, including the medical screening.

Testing uncertainties and diagnostic difficulties

The Rain Drops Project's (RDP) rainwater harvesting intervention was launched in 2015. The Commercial Bank provided funding for 25 tanks, and Ranjith's personal contacts funded a further two. According to the original project plan that Ranjith submitted to the Bank when seeking funds, the results of the medical screening stage would provide the scientific and medical justification for distributing the rainwater collection tanks. The intervention would begin with a community-wide screening programme that would provide the Kidney Research Group (KRG) with benchmark data to gauge the impact of rainwater harvesting on the distribution of the disease. Tanks would then be distributed to a random sample of households with reported cases of chronic kidney disease of unknown aetiology (CKDu), and to a control group, both of which would be monitored.

Instead of screening everyone, the Project proceeded to screen only residents in the Badulupura hamlet in the Ginnoruwa Division. According to the Badulupura villagers I spoke to, the decision to restrict screening to this village was due partly to limited resources that prevented community-wide screening across all of Ginnoruwa, and partly to the already existing assumption that the incidence of CKDu was highest in Badulupura. As Nimal, a Badulupura villager, told me, 'only Badulupura villagers joined the first screening clinic, because Badulupura was the area severely affected by the disease'. Likewise, Mangalika, who had attended the same clinic with her husband and three children, suggested that Ranjith's prior knowledge and understanding of Ginnoruwa had meant that he already knew where the first screening clinic should be set up.

While the decision to focus on Badulupura may have been due to a lack of screening capacity, the effect was to confirm the assumption that project organisers already held that Badulupura was the worst-affected hamlet in the division. This assumption also affected how Ginnoruwa residents took up later opportunities for testing. The next three screening clinics to open were ostensibly publicised to people from any village hamlet in the Ginnoruwa Division. Nevertheless, they continued to show an over-representation of people seeking testing from Badulupura. For example, the third clinic opened in June 2017 in the RDP's offices in Badulupura, when I was volunteering for the RDP. As part of my work, I had to prepare a report on the outcomes of the clinic's testing that included the residential addresses of participants. According to the data I collected, of the 138 people who attended the screening 67% were from Badulupura, compared with a Division-wide share of the population of only 21%. This over-testing of Badulupura residents, while not disproving a causal association between the two certainly complicates the case for the relationship between geological fluoride and CKDu. In addition, the fact that screening levels of residents in neighbouring

villages were considerably lower makes it hard to say with confidence that the prevalence of CKDu was higher in Badulupura than elsewhere.

Two further factors complicated the RDP's attempts to conduct a randomised control trial (RCT) of rainwater harvesting and CKDu. The first arose from water-sharing practices in the village, which saw those with rainwater tanks giving their water to those without tanks in the control group. The second was the difficulty of distinguishing CKDu from traditional chronic kidney disease (CKD) cases, as discussed earlier on.

In line with the principles governing the RCT study design, a control group of 25 households was set up, which did not receive rainwater harvesting tanks. In principle, they would have consumed well water only. In practice, however, this was not the case, as some of the residents provided with rainwater tanks as part of the Project shared their water with those who were supposed to be drinking well water. This was in spite of the fact that Ranjith and his project assistants had told them not to, as he expressed to me vehemently. When the RDP became aware of this, the Project staff tried to intervene to halt the practice. For instance, during a field visit with Suneetha—Ranjith's main assistant—when I was a project volunteer, she became furious with Sumathipala (aged 41), one tank recipient, after learning that he had been sharing water with his parents and a sibling living next to his house. As Suneetha told me, 'we had strongly advised tank recipients not to share water with others. If they do so, then we cannot get a clear idea about the impact of rainwater ... so there is no point in doing this research'.

From the Project's perspective, water-sharing undermined the scientific validity of the trial. The difficulty the RDP faced was that water was not a substance that existed outside of everyday forms of relationality and ethics in the village; it was, in fact, fundamental to its inhabitants. In rural Sri Lanka, water-sharing is a key expression of kinship and neighbourliness. As such, water resisted the recategorisation as a scientific object in the context of the Project, one that can be prevented from passing between people according to arbitrarily drawn lines such as those created by the RCT study design. When I asked Sumathipala why he had shared rainwater with his relatives in the control group, he asked me back,

'How can we refuse to share water with our parents and relatives when they are in need? Water-sharing is a traditional, holy practice and highly meritorious ... it [water-sharing] is highly encouraged in our religion [Buddhism] ... it is unethical not to do so [not to share water with others]'.

The RDP also struggled to distinguish between CKDu and CKD cases—the second complicating factor. This was especially clear in how the RDP interpreted the results of its screening tests. The tests themselves indicate nothing about

causation—they merely suggest the presence of failing kidney function. Even so, the RDP distributed rainwater tanks to all households with a positive result for kidney failure without first conducting further investigations to identify whether the result was down to CKD or CKDu. In their presentations at community talks and other fora, the project staff claimed that they had donated all 27 rainwater tanks to CKDu patients. In newspaper articles that Ranjith wrote about the RDP, he similarly referred to the Project's patients as having CKDu and never mentioned the existence of CKD patients in the sample (Mulleriyawa 2016a, 2016b, 2016c).

My own subsequent ethnographic research in the community, comprising semistructured interviews, a focus group discussion with kidney patients, and an analysis of hospital clinical records, clearly showed that the 27 households receiving water tanks included those with traditional CKD as well as CKDu patients. Of the 27, only ten had a member with CKD of unknown cause. A further ten had a family member with CKD of known cause, while in the remaining seven cases there was no evidence either way. For example, Ranmenika (aged 85) had multiple health conditions, including hypertension and cardiac problems, had previously been bitten by a snake, and was registered as a CKD patient at the local hospital. Even so, RDP officials classified her as a CKDu patient and gave her a rainwater tank. Similarly, Podirala (aged 76), who had long suffered from diabetes and hypertension, and Lokurala (aged 79), who reported having hypertension, diabetes, and high cholesterol, were both registered CKD patients yet also received rainwater tanks after attending RDP screening clinics. Jinadasa's (aged 76) case was a little more complicated, although it too did not ultimately suggest the presence of CKDu. Jinadasa was a practitioner of *Malayalam gurukam*, a local medical tradition rooted in communion with the lesser deities of the Buddhist pantheon. In 2006 he had diagnosed himself with kidney disease, which he claimed to have then successfully treated through sorcery practices and several herbal remedies. However, when an RDP community screening revealed that he had failing kidney function, Jinadasa was classified as a CKDu patient. This was in spite of known causes of kidney damage, including instances of snake bites, in his clinical history. Finally, of the seven cases where no evidence of either CKD or CKDu existed, inclusion in the trial sample appeared to have been based on the presence of minor kidney ailments, such as the case of Rathnapala (aged 41), who had previously been treated for kidney stones.

I had arrived in Ginnoruwa thinking I would be conducting my fieldwork in the context of a CKDu hotspot. By the time I left, however, I had come to question not only the grounds on which the label of 'hotspot' had been assigned to Ginnoruwa, but also the processes of medical screening and epidemiological investigation upon which the prevalence rates of CKDu had been based. It had become clearer to me that pre-existing assumptions about the higher prevalence of CKDu in one

particular village hamlet had led to the decision to focus resources on that one location, thereby again reinforcing those assumptions. The low or non-existent screening carried out in neighbouring villages also served to undermine claims made about the geological origins of CKDu. Moreover, the distribution of rainwater tanks appeared to flout the fundamental principles of random distribution, and little effort had been made to distinguish CKDu from CKD. In sum, my conclusion—that any results concerning the health benefits of rainwater harvesting for CKDu lacked rigour—might be considered rather damning. In the next section, however, I argue against that reading. Instead, I show how taking the epidemiological hotspot as a 'field of merits'—i.e., as a site of intensified merit-making for givers and receivers in the Buddhist tradition—provides a more flattering rationale for the RDP's actions.

The hotspot as a 'field of merits'

The prevalence of chronic kidney disease of unknown aetiology (CKDu) in Sri Lanka's agricultural heartland, which also happens to be the seat of the dominant Sinhala Buddhist culture on the island, the frontline in the civil war, and the centre of the suicide epidemic, all bestow CKDu with medical, moral, and political significations that in turn shape the creation of CKDu hotspots. Tom Widger has shown how processes of post-colonial transformation and civil war, rapid agricultural development, the widespread use of agrochemicals, and historical practices of drinking poison to counter accusations of shame in relational contexts, all coalesced to generate Sri Lanka's suicide 'epidemic'—a 'poison complex' of suicidality across registers of language, cognition, practice, and material culture (Widger 2015, 2018). Within the post-war imaginary of the Sinhala Buddhist nationstate, agrochemical or fluoride poisoning in those areas amounts to the poisoning of the body politic through the poisoning of Sinhala Buddhist bodies (Widger forthcoming).

What is 'hot' in the hotspot is not only a spike in disease epidemiology; it is also, as an expression of wider South Asian ayurvedic traditions (Osella and Osella 1996; see also Daniel 1984; Nichter 1987; Beck 1969), a 'heating' of bodily, social, and political relations that could themselves be the cause of CKDu. Therefore, efforts to eradicate CKDu by targeting the hotspot is a matter of 'cooling' bodily and social relations in order to lower epidemiological spikes. Often this occurs in the form of biomedical interventions that centre on CKDu patients' households and kin relations. These social relations play a crucial role, being as important to their long-term recovery as patients' biophysical environments and biomedical interventions (Wickramasinghe 2023).

The RDP's stated aim was to develop a scientifically robust intervention that could provide evidence for the role of rainwater harvesting in preventing disease. In reality, how the screening and the distribution of rainwater tanks were conducted suggests that a different set of processes and motivations was at play. These did not simply encompass matters of limited resources and potential clientelism (as important as they may have been), but were the outcome of a conjunction between the ethics of screening on the one side, and what Erica Bornstein (2012) calls 'relational humanitarianism' on the other. In Ginnoruwa, as across Sri Lanka more widely, prevailing ethics of humanitarian intervention sit uneasily with a disinterested, dispassionate approach to scientific research—as shown in my opening example of Sumanasiri's case. In place of the figure of the 'unknown' stranger' at the heart of Euro-American conceptualisations of the humanitarian subject sits a 'known relation' who is able to claim assistance from a wealthy benefactor. As Widger (2015, 36) has argued, 'in Sri Lanka philanthropy has long centred on the performance itself: the immediacy of the gift as a singular event in time and as a relational act in space'. It was precisely this performative ethic of intervention that the Project struggled to reconcile with the scientific methodology of a randomised control trial in which relations between researcher and subject are actively distanced.

The Sinhala Buddhist ethical context in which the RDP's medical screening took place in Ginnoruwa pressed the intervention into the service of philanthropy. Medical screening could be seen to have shaped philanthropy as much as philanthropy could have influenced the screening process. The subject of humanitarian intervention was less the anonymous stranger than it was the personified CKDu patient, as revealed by the screening test-someone with a name, a village of residence, a network of neighbours, and a set of social relationships. How local people celebrated Ranjith's work and memory was clearly indicative of this dynamic process. During my fieldwork, I met many people living in other villages in Ginnoruwa who told me that had Ranjith still been alive, they too would have eventually received rainwater tanks. Ranjith was widely regarded as someone driven by a commitment not to a scientific study but to the 'uplifting' of the village community. The spectre of drought and unclean water for drinking and cooking has haunted most people in the Dry Zone of Sri Lanka for some time (Widger and Wickramasinghe 2020). So whatever benefits the RDP may have brought about in terms of mitigating CKDu, there was an equal—perhaps, for some people, greater— appreciation of how its intervention could increase water security. Thus, most people in Ginnoruwa, particularly in Badulupura, expressed great respect for Ranjith, with some even telling me that he was a *mihipita deviyeki* ('a living god' in Sinhala). Following his death in 2016, villagers hung banners that read: 'May Mr. Ranjith Mulleriyawa attain nibbana!' (Ranjith Mulleriyawa mahathata niwan sepa lebewa!). People revered Ranjith precisely because he was

recognised as someone who was clearly motivated by the ethic of the selfless Buddhist gift (*dana*).

Tom Widger and Filippo Osella have conceptualised Sri Lanka's 'health philanthroscape' as 'a productive field for participation as both givers and receivers of gifts and donations, generating material and spiritual merits and blessings for the healthy wealthy and the deserving poor' (2021, 109). For the majority of Sri Lankan Buddhists, dana is concerned with eschatology in terms of its ability to earn them high merits towards their afterlives. This eschatological concern for dana has, in recent decades, extended from the traditional pool of 'worthy vessels' that could receive dana-the Buddhist clergy (Sangha)-to the Buddhist laity (Swenson 2020). Ranjith was greatly influenced by Buddhist moral values. As such, his work in Ginnoruwa was shaped considerably by the ideas of humanistic Buddhism, which emphasises 'improving world and advancing human kind through Buddhist compassion' (Idem., 4). Ginnoruwa villagers severely affected by CKDu and other socio-economic and environmental woes, matched the conceptualisation of 'worthy vessels' from a humanistic Buddhist perspective. Therefore, it might be that rather than strictly abiding by scientific protocols, Ranjith and other project staff were motivated by the Buddhist moral sentiments of *dana* and compassion.

Today, an extensive economy of charity supports a wide range of welfare and humanitarian organisations in Sri Lanka that include orphanages, homes for the elderly, and hospitals (Osella, Stirrat, and Widger 2015). Traditionally, Buddhist monkhood has been designated as a 'field of merits' to which laity can give *dana* in order to earn merits. While givers could be reasonably sure of the spiritual worthiness of monks, focusing on the robe not the man (Samuels 2008) in cases of doubt, the deserving nature of needy laity is much harder to ascertain. In the case of CKDu, screening has called into being highly localised pockets of disease incidence that offer convenient outlets for individual and organised charity to take place. In Ginnoruwa, disease screening offered a medico-technological solution to identifying 'worthy vessels', that is, CKDu patients. Although the most exulted recipient for rainwater tanks was the ideal type CKDu patient, as the RDP's publicity materials suggested, it seems that, in practice, any kidney trouble would do.

The failure of the RDP as a scientific research intervention and its success as a philanthropic intervention illustrate the practical difficulties of translating the products of 'Mode 2' science into 'Mode 1' scholarship (Gibbons et al. 1994). Gibbons and colleagues characterised 'Mode 1' knowledge production as that oriented toward scientific knowledge itself and subjected to a discipline's codes of practice, quality criteria, and reward structures; and 'Mode 2' as that focused mainly on the practical application of that knowledge (Gibbons et al. 1994; Holland

2009). Accordingly, the Mode 1 paradigm is characterised by the hegemony of disciplinary science, with an internal hierarchy between disciplines, whereas the Mode 2 paradigm is considered to be socially distributed, application-oriented, trans-disciplinary, and subject to multiple accountabilities (Nowotny, Scott, and Gibbons 2003). As it happened in Ginnoruwa, although a group of scientists and medical professionals envisaged a robust scientific research intervention to tackle the epidemic of CKDu (Mode 1), the intervention had to be actualised in a context that was shaped by many social, economic, and ethical factors (Mode 2). The essential bridge between Mode 1 and Mode 2 paradigms in Ginnoruwa was Ranjith, who was knowledgeable and familiar with both. However, in any given scientific research intervention in any social context, such mediation often incurs unintended outcomes that are rarely acknowledged or recognised. As I have explained in this article, philanthropic science could be recognised as an unintended consequence of Ranjith's mediation between Mode 1 and Mode 2 science in Ginnoruwa.

Conclusion

An epidemic of chronic kidney disease of uncertain origin (CKDu) has gained wider attention in public health discourse in Sri Lanka over the last two decades. This has led to the identification of 'high risk' areas and 'hotspots' in the Dry Zone of the country, which have in turn attracted a range of health and social interventions led by scientific research groups as well as local development and philanthropic organisations. In this article, I have shown how community screening for CKDu, implemented by the local hospital and a university research group, came together with the philanthropic motives of a community development organisation and Sri Lanka's largest private bank in one village setting to establish it as a distinct CKDu 'hotspot'. While health authorities have identified screening for CKDu as a crucial step in the early detection and prevention of the disease, in Ginnoruwa, philanthropy could be seen to have shaped by screening as much as screening was seen to have influenced by philanthropy. In other words, the screening process and epidemiological knowledge that screening produced were an effect of a philanthropic impulse to identify and help a population of CKDu patients.

This case highlights how people are conceptualised in the contexts of scientific medical trials, medical screening, and philanthropic interventions in Sri Lanka (Sariola and Simpson 2019). The idealised figure of the clinical trial and medical screening is the individualised and anonymised 'participant'—an 'object' to whom procedures are to be done, within the protections afforded by medical ethical guidelines (Ibid.). Within the context of Ginnoruwa's relational and Buddhist moral universe, in contrast, the idealised figure in the Rain Drop Project (RDP) and kidney disease screening was the 'dividualised' (Marriott 1989), the known

'person'—a 'subject' with whom procedures are carried out and protections afforded by their status and role in wider communities and *vis-à-vis* the project team.

Although contrary to the original research protocol and trial study design, the decision to target screening and to distribute rainwater tanks in a non-random fashion was entirely in keeping with an ethical commitment to people that constitutes philanthropy in Sri Lanka. Rather than focusing on the misalignment of the trial and random-controlled-trial standards, I argue that the case is better read as a local example of 'philanthropic science'—an assemblage of ideologies, ethics, scientific techniques and technologies, community development, Buddhist charity, and public health.

Authorship statement

The author confirms sole responsibility for the study conception and design, data collection, analysis and interpretation of results, and manuscript preparation. The author declares no conflicts of interests.

Ethics statement

The research that this article is based on received ethics approval from the Research Ethics Committee, Department of Anthropology, Durham University, and from the Ethics Review Committee for Social Sciences and Humanities, Faculty of Arts, University of Colombo (ERCSSH/18/13).

Acknowledgements

I wish to offer my special thanks to Tom Widger and Bob Simpson for their guidance and support in conducting fieldwork and preparing this manuscript. This paper is one outcome of my doctoral fieldwork in Ginnoruwa, Sri Lanka. Therefore, I wish to thank the Ginnoruwa community, the Commercial Bank of Ceylon PLC, the Rain Drops Project, CERTKID, and ETC-Lanka very much for the support they extended to me during my fieldwork. I would also like to thank the jury panel of the MAE–MAT ECR Paper Award 2022–23 for giving me this year's award and for their valuable comments, and Jessica Cooper, Cristina Moreno Lozano and Emma Fossey for their invaluable support in editing the manuscript. I also acknowledge the support extended by Ben Hildred who read the initial draft of this paper, and of my partner, Sithumini, for her valuable comments and suggestions. The research

was funded by Wellcome Doctoral Studentship in Society and Ethics (208193/Z/17/Z).

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