Firoz Lalji Institute for Africa

An Enquiry into the Use of COVID-19 Herbal Medicines in Uganda

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Research project: Living the Everyday: Health-seeking at Uganda's borders

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"Living the Everyday: Health-seeking in times of sickness and epidemics at Uganda's borders", is hosted by the LSE Firoz Lalji Institute for Africa in partnership with Muni University. "Living the Everyday" principally addresses how social relations and everyday life affect knowledge and the management of sickness. The project contributes to policy approaches focused on containing epidemic diseases, including Ebola and COVID-19, across national borders.

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The Firoz Lalji Institute for Africa (FLIA) focuses on engagement with Africa through cutting-edge research, teaching and public events, strengthening LSE's long-term commitment to placing Africa at the heart of understandings and debates on global issues.

1.1. Introduction

This working paper explores the use of herbal medicines as reported prevention and cures for the coronavirus disease (COVID-19). We focus particularly on interviews with residents of Arua City, West Nile sub-region, Northern Uganda.

Specifically, we analyse data pertaining to the utilisation of herbs in Arua City and surrounding peri-urban and rural areas and map out the "market" of specialists involved in administering herbal medicines. We put activities in Arua in the context of herbal medicines that have proliferated during the COVID-19 crisis across Uganda. As such, we highlight wider patterns relating to the politicisation and marketing of COVID-19 cures across Uganda, as well as how advertising is resisted. Ultimately, we situate the use of herbs within the contemporary political context, historical healing practices and perceived unaffordability and inaccessibility of clinical treatment for COVID-19.

Our enquiry is an important contribution to understanding the widespread use of a variety of herbs – manufactured and unprocessed – to prevent and manage COVID-19 across Uganda. In June 2021, Covidex – a local herbal remedy made by a Ugandan scientist Professor Patrick Ogwang – was approved by the country's medicines' regulator, National Drugs Authority (NDA), as a supportive treatment in the management of COVID-19 (NDA, 2021). This approval was passed in lieu of full clinical trials being conducted with the regulator warning in a press release that the drug was "NOT a cure of COVID-19". Covidex has received significant political support as a Ugandan response to a global virus (from both the ruling National Resistance Movement (NRM) party politicians and opposition leaders) (Mugabi, 2021). This, in part, appears to have legitimated the use of herbal medicines in Uganda.

High-level support for herbal alternatives is significant against a backdrop where the cost of hospital treatment for COVID-19, estimated at more than $1000 per visit, has proved prohibitive for even middle-class Ugandans (Olukya, 2021a). Simultaneously, clinicians' responses have been accompanied by media coverage of the shortcomings of care: for example, since the beginning of the pandemic there have been reports of oxygen shortages and inadequacies of hospital care (Okiror, 2021). Herbal medicines have proved popular in lieu of other affordable options.

Whilst the promotion of Covidex, like COVID-19, may seem novel, we suggest it is important to engage with histories of herbalism (in all their diversity) across Uganda. New manufactured herbal therapies like Covidex are just one type of herbal medication for COVID-19. Often, it is longer standing herbal remedies administered by reputed local specialists, as well as foods including lemon and ginger (and reportedly, drugs including cannabis), to which many Ugandans have turned (Olukya, 2021b). Indeed, for many living in rural areas, as well as poorer urban dwellers, the cost of Covidex is as prohibitive as seeking hospital treatment (Abet, 2021), and so cheaper alternatives have been sought.

In this report we describe the multiscalar and diverse landscape, from manufactured to locally-specific remedies. Understanding the legitimacy of the latter (and to an extent, the former) relies on understanding the critical role that herbalists have long played in healing in Aruan society, as well as recent shifts towards marketing such cures in the city through, for example, social media (Anguyo and Storer, 2022).

Our enquiry is important given the widespread significance of herbal treatment for many Ugandans. There is extensive evidence that the use of herbal medicine has dovetailed with the use of clinical cures. For example, Musoke et al (2021) report that many patients hospitalised with COVID-19 in two COVID-19 Treatment Units (CTU) in Uganda, were using herbal medicines to treat the virus prior to or during their admission to the facility. The authors caution against the use of cures whose safety and efficacy has not been proven, as well as noting potential interactions between clinical and herbal medicines. Thus whilst seeking to understand why herbal medicines may be legitimate, we recognise that the use of these medicines could present a challenge to the clinical management of COVID-19.

1.2 Methodology

This report was compiled from interviews conducted by Clement Aluma between September and December 2021, as well as from interviews and media analysis conducted by Innocent Anguyo between November 2021 and January 2022. This content was supplemented by ethnographic material collected from herbal practitioners across the then Arua District by Elizabeth Storer between 2016-20. Storer also conducted media analysis, which explored the wider politics of herbal medicine in Uganda.

1.3 COVID-19 and Care in Uganda

On March 21 2020, Uganda's President Yoweri Museveni confirmed the country's first case of COVID-19, a 36-year-old Kampala merchandiser who had returned from Dubai. To curb the spread of the disease, the President then instituted a strict lockdown regime – a 7pm curfew; ban on public and private transport; closure of schools (the longest in the world), prayer facilities, leisure places; mobility restrictions; suspension of large gathering; closure of national borders; and shutting of non-essential offices. In a previous report, (Working Paper 2022/1), we describe the timeline of these measures, and how the nationwide lockdown unfolded in Arua specifically.

Whilst some analysts explored how the stringency of Museveni's response disrupted livelihoods and access to basic items for ordinary people (Akello and Hopwood, 2020), others noted that early action had served to keep Uganda's epidemiologic curve relatively flat (Seruwagi, 2021), compared with the other countries. The country has had three waves so far. The first wave peaked with 1,197 daily infections on 10 December 2020; the second wave that began in May 2021 peaked on 20 August 2021 with 20,692 daily cases; and the third which started in December 2021 peaked at 3,803 daily cases on 2 January 2022 (WHO, 2022). Uganda had registered a low fatality rate until mid-2021 when daily deaths rose by 1,500% from 50 deaths on 2 July to 799 on 03 July (ibid). These spikes in infections and deaths were buoyed by a shortage of vaccines, COVID-19 scepticism, and vaccine hesitancy and rejection fuelled by an "infodemic" of antivax messages circulating on social media (Okiror, 2021, Storer and Anguyo 202). It was also at this point that herbal medicines were propagated by the government as treatment for COVID-19.

At the height of Uganda's second wave, the media were replete with reports of the shortcomings of the national healthcare system. Both private and public medical facilities across the country reportedly experienced acute shortages of vaccines and oxygen. Health facilities started turning away patients needing intensive care.

Patients who managed to access care and treatment did so at a huge financial cost. Health facilities charged between UGX1m ($281) to UGX3.5m ($1,000) per day – depending on the severity of the case – for inpatient services. Some private facilities only admitted patients to intensive care after a down payment of UGX5m (about $1,500) (Athumani, 2021; Kyeyune, 2021; Muhumuza, 2021a). Some

hospital bills shared by families of COVID-19 patients emerging from intensive care show sums of up to $15,000, a small fortune in a country where 20.3% of the population lives below the poverty line, $1.90 per day (Uganda Bureau of Statistics, 2021). In some extreme cases, medical bills were reportedly as high as UGX450m (approximately $130,000) (Nsimbi, 2021). For reference, the per capita income of Uganda is $989 (Uganda Bureau of Statistics, 2021), and so few Ugandans could afford such costly care. Most corporate bodies declined to provide medical cover for COVID-19 care and treatment.

Many private health facilities pursued strategies perceived as amoral by Ugandan citizens, to recoup costs of treatment from patients. For example, in Kampala, some facilities resorted to withholding hearses of COVID-19 patients until the outstanding medical bill was cleared (Muhumuza, 2021b). As a result, on occasion, patients and kinspeople were forced to sell off assets such as land, houses, cars and household items to clear bills. Anguyo observed that social media channels – including Whatsapp and Facebook – regularly featured fundraising initiatives to clear the unpaid medical bills of loved ones who had died from COVID-19 or associated complications. A 2019 study conducted by Makerere University and John Hopkins University established that approximately 44% of Ugandans are compelled to sell their assets to pay for their medical care as a result of the "high costs of health services and biting poverty" (Nabatanzi 2019). COVID-19 provided a particular challenge for the urban and rural poor, who often lack saving or safety nets to endure crises.

These struggles provide an important backdrop for the proliferation of herbal medicines, which we describe in this report.

Whilst some with mild COVID-19 resorted to self-medication using over-the-counter drugs purchased from pharmacies based on prescriptions obtained online, especially from WhatsApp groups, many started turning to affordable and widely accessible treatment options and care sources such as herbal and faith-based/spiritual therapies. Across Kampala, hundreds could be seen foraging for medicinal plants in the swamps, roadside bushes, urban plantations and forests. Popular were the leaves of eucalyptus, guava, marijuana, mango, Aaron's rod, mint, and others. Many of these herbs, processed (into liquid concoctions) and unprocessed (leaves), were vended openly on the streets of

Arua, Kampala and other cities. People sought prayers for cure and protection from religious leaders despite the closure of worship facilities as part of lockdown restrictions.

Uganda's plurality of care and treatment for COVID-19 is therefore a coping mechanism amidst rising costs of biomedical healthcare and a lack of health coverage. As noted by Wasswa (2021), the hospital science does not reflect the true scale of COVID-19 in the country – many have suffered at homes, with recourse to alternative therapies and healers.

1.4 Licensing Herbal Medicine in Uganda

Ugandan law governs the use of herbal medicine. The Traditional and Complimentary Medicine Act' of 2019 was assented to by President Museveni on the 14 September 2020 and stipulates a range of conditions under which traditional and herbal medicine practitioners can operate. The Act seeks to regulate herbal medicine through a series of measures including: defining and standardising the practice of traditional and complementary medicine; allowing for categorisation of medicines and registration of herbalists; instituting rewards for good practice and penalties for malpractice among herbalists; as well as instituting a council for overall governance of traditional and herbal medical practice. Thus the Act seeks to both promote and control the profession of herbalists. At the time of its issuance, the then Minister of State for Health, Sarah Opendi (2019), explained that the bill was a response to the increased reports of fraudulent herbalists selling ineffective herbs to patients. She said more than 60% of Ugandans take traditional medicine due to its accessibility, but as the trade has become more lucrative, there are more risks for consumers (Ministry of Health of Uganda, 2019).

Moreover, the Act has proved divisive within the herbalist communities. Many fear that it is an attempt to profit from local and (often) secret knowledge. Despite provisions to protect intellectual property during the formulation of this Act, practitioners had opposed the move over fear of theft of their intellectual property rights (Segawa, 2019). Abdul Karim Musasizi, the Secretary General of National Council of Traditional Herbalists Association (NACOTHA), argues that disclosing the formula of their herbal medicines to the Natural Chemotherapeutic Research Laboratory (NCRL) as required by the Act particularly makes their knowledge vulnerable to theft by the researchers at the lab (ibid).

What is more, the Act privileges particular types of herbal practice. It imagines an established practitioner, with access to pseudo-clinical premises and connections. For example, a person is

expected to fund their application through the district local government, and to provide a block plan of the premises approved by the physical planning office or any other relevant office, as well as written recommendations. The bureaucratic nature of the application would present difficulties for many village herbalists in Arua, who often have little or no experience of formal education, and live in relative poverty. In essence, the Act further differentiates between urban, established, commercial healers and rural specialists who have often inherited knowledge of their practice from relatives.

This is not to say efforts to regulate herbal medicine have not necessarily been embraced in local practice. In Arua, village herbalists generally get a letter from the Local Councillor 1 (the lowest level of government in the Ugandan structure) in their area which verifies their practice. Additionally, some herbalists hold letters of recommendation from clients who have completed successful treatments. Interestingly too, herbal drugs are often administered, and patients cared for in a way which mimics biomedical care. Storer met one of the herbalists in rural Arua who had constructed a ward on his family land, comprising several mud huts with in-patient beds. Other practitioners used IV drips, or stored medicines in containers obtained from local pharmacists. Efforts to professionalise the sector were thus performed in surprising ways from below.

1.5 COVID-19 and Licensing Herbal Medicine

It is against the above backdrop of practice that the Ugandan government has promoted and licensed particular cures for COVID-19. The usage has been a feature of the response from the outset of the pandemic (Fergus et al, 2021). Yet, the promotion and popularity of herbal medicines is reported to have increased after the second wave of the virus hit citizens in June/July 2021, because of the declining quality of medical care mentioned above (Wasswa 2021).

On June 30th, despite concern from the WHO, UDA approved the herbal medicine, Covidex, to be sold by licensed drug outlets to support the treatment of COVID-19 (but not as a cure) (Athumani, 2021). Covidex was developed by a Ugandan scientist Dr Patrick Ogwang and contains extracts of berberine and zanthoxylum gilletii plants used as supplements and treatments of viral ailments. It remains unclear how efficacious Covidex is, as the medicine has not been subject to clinical trials. In a televised address to the nation on New Year's eve, President Museveni announced that the results of the ongoing clinical trials for Covidex were expected for May 2022. (Kiiza, 2022) This has not

prevented sellers from propagating claims as to the effects of Covidex. For example, Rocket Health, one local Covidex distributor, stated on their website that the drug purportedly prevents virus growth and has anti-inflammatory effects. President Museveni himself has publicly endorsed the remedy.

Horizontal comradeship emerged around Covidex, with many Ugandans concluding it was a national scientific breakthrough. Reportedly, across Whatsapp and Facebook groups, for example, the drug had great reception from many Ugandans, with users narrating tales of how it "saved" them from COVID-19, to stories of some institutions ordering doses for their staff. Being a Ugandan cure, sanctioned by the government, many Ugandans have been enthusiastic about Covidex. In July, after this approval – pharmacies in across Uganda ran out of Covidex – indicating the enthusiasm for the medicine. Interest in Covidex also reached neighbouring Kenya. Grace Tanga, a trader in Busia near to the Kenyan border, told NTV: "It is in high demand in Kenya - Kenyans ask us to take it to them. It should be stocked in plenty" (NTV, 2021). Consequently, the government allocated two hectares of land for the manufacturer to build a factory and ramp up production of Covidex (Ojambo, 2021). In essence, the Ugandan government was able to market itself as a creator of an enabling environment for science. Covidex became a rallying point for nurturing a spirit of nationalism during a crisis. Opposition leader Dr Kizza Besigye even publicly backed Cividex, christening Ogwang as "a model professor" that other Ugandan academics and scientists ought to emulate (Mugabi, 2021).

Yet, the government's reported enthusiasm for Covidex was not repeated for other herbal cures. Following the success of Covidex, a month after its approval, Covylice-1, was developed by scientists from Gulu University's Faculty of Biotechnology and Pharmaceutical Studies. The Covilyce-1 herbs, which are available in powder, nasal drops, suppository and (syrup) linctus, were created by combining eight different herbs. Reportedly, the lead researcher involved in the development of Covilyce-1, Dr Alice Lamwaka, linked the medicine to curing COVID-19 in 72 hours. In this case however, the government intervened to prevent the sale of the drug. The National Drug Authority ordered the university to stop supply of their medicine, since it had not been formally approved (Ayugi and Owiny, 2021). A 3.7 billion shillings ($1 million) funding pledge by President Museveni eight months ago has not come to fruition, grounding clinical trials for Covilyce-1 to a halt (Ocungi Julius, 2022). Similarly, there have been government warnings pertaining to the use of local herbs. When

some Ugandans reportedly linked cannabis to protection against COVID-19, and used herbs alongside antibiotics and painkillers, the permanent secretary in the Health Ministry Dr Diana Atwine, warned against such practices in a press interview (Olukya, 2021b). Given Covilyce-1 has not evoked as much nostalgia for pre-colonial self-reliance of Ugandan societies in treating and combating diseases as Covidex has – especially when the pandemic poses an existential threat to the country – it seems the government does not see much value in the Gulu University herbal remedy as a tool for rhetoric.

Yet, official debates as to the utility of herbs are just one side of the story. Following the approval of Covidex, formal and informal media sources regularly propagated promotions of other herbs. On social media, for example, commentators included former presidential candidate Besigye, a medical doctor by training; nutritionist Dr Paul Kasenene; and Dr Monica Musenero, a Cornell University-trained epidemiologist and the current minister of Science, Technology and Innovation. These figures have regularly proffered suggestions as to how Ugandans can utilise local resources such as herbs and foods to boost their immunity and stem the spread of COVID-19. For instance, Besigye's anti-Covid concoction includes ginger, red pepper, garlic, onion and lemon — all easily accessible across Uganda (Anguyo and Storer, 2022). Many reportedly trusted this remedy since Besigye himself is a medical professional. In fact, he was once Museveni's personal doctor.

Online debates have seemingly been significant in structuring particular types of health-seeking behaviour in Uganda. A study led by Musoke et al (2021b), revealed that media was the main source of information with regards to COVID-19, with more than 80% of the participants reporting seeing or accessing information about herbal medication use. An earlier study by Fergus et al (2021) with national, district and village health workers revealed that many accessed health-seeking information via social media, rather than simply turning to official public health announcements. In Uganda, WhatsApp has hosted counter commentaries on alternative cures to COVID-19.

1.6 COVID-19 and Herbal Medicine in Arua

Covidex represents just one form of herbal remedy which has featured in Ugandan's calculations about preventing or even curing, COVID-19. The purported enthusiasm for a home-grown Ugandan cure, seemed to have had a knock-on effect of promoting and legitimating other types of herbal remedies, derived from grasses, leaves and roots. In Arua, a variety of approaches which incorporated

herbal medicine were being deployed by different actors to either prevent or manage COVID-19. Reportedly, the prevalence of these medicines increased after the first lockdown, as people feared the costs of treating the disease at Arua Regional Referral Hospital (ARRH). Whilst the scope of our research did not permit quantification of the herbal medicines used, below we list the dominant approaches. We note that there is in reality considerable flexibility in approaches:

i) Herbal medicines purchased from licensed premises

Following national trends towards the formalisation and legislating of the herbal sector, there are several licensed herbal premises in Arua City. Practitioners are referred to as herbal "doctors" and don the paraphernalia of clinical medicine – for example, wearing white coats and diagnosing patients in the style of a hospital consultation.

Pre-COVID, herbal practitioners of this nature would usually treat middle-class men, and have particular specialisation in administering treatment for male impotence, as well as sexually transmitted diseases including syphilis and gonorrhoea. For example, at one urban clinic, medicines (which are often imported from Kampala, other African countries, or China, ranged from Ush80,000 (US$20) to over Ush350,000 (US$100)). These prices are higher than for clinical medicines sold in pharmacies. Additionally, specialists are involved in treating high blood pressure, diabetes and joint pains. In an interview with Aluma, practitioners often explained that their medicines are more effective than pharmaceutical drugs.

In Arua, herbal practitioners of this nature are relatively small in number. Usually, people turn to trusted herbalists working within villages, or to remedies learned and administered by family members. So too during COVID-19, did these "local" specialists develop specific products to protect against or cure the virus.

ii) Herbal medicines obtained from village herbalists

Local herbalists in Arua are known in the Lugbara language as "daktari aro nyaku vuri", literally the doctor who administers medicines of the soil. Alternatively, practitioners are known as "ojo", literally healer, but since this term has become associated with "witch doctors" by Christians, such a label is not usually invoked by herbalists themselves. The controversy points to wider social processes

whereby the local herbal market has been affected by specialists from Kampala, the Democratic Republic of Congo, Tanzania and Sudan, who are subject to suspicion for peddling fake medicines. It also speaks to the fact that herbalists are often drawn into the most critical cases – particularly critical illnesses understood locally as resulting from “enyata” (poisoning). Since herbalists are often trusted in these critical situations, it is important that the medicines of practitioners are deemed to work.

As such, Aruans often seek cures from herbal practitioners who are recommended locally, and who are known to have resolved important cases. In addition to intervening in poisoning cases, practitioners often manage skin conditions, peptic and duodenal ulcers, fractures, influenza, impotence, worms, rheumatoid arthritis locally referred to as “burukulu”, mental illness as well as epilepsy. Previously, practitioners have been involved in managing outbreaks of cholera, meningitis and Ebola. Sometimes herbalists provide medicine for typhoid and malaria, though usually Aruans seek assistance from local pharmacies where tests and drugs are cheaply available for these endemic illnesses.

In reality, practitioners often improvise cures in relation to the presentation of symptoms and do not necessarily define cases according to a specific condition. Crucially though, herbalists are associated with managing physical symptoms (a distinction made in Lugbara, since poisoning is regarded as a physical and criminal offense, in contrast to witchcraft). Importantly, too, village herbalists charge much lower fees than urban specialists, and sometimes accept payment in kind (in food crops or animals and bride in some cases involving recovery from serious illness).

As trusted healers, versed in improvising cures according to particular conditions at a low cost, it makes sense that healers adapted their practice to COVID-19. One herbalist (who wished to remain anonymous), practising from Kuluva, a village outside Arua City, explained that to treat COVID-19 patients, he makes syrup out of a combination of ginger, garlic, young eucalyptus leaves, mango leaves, lemon grass, asthma leaf plant and artemisia powder – all mixed in honey, especially for someone who is not diabetic. This is later mixed with fruit juice to produce perfect syrup that can be easily taken with flavour.

The same healer explained his understanding of the virus: "COVID-19 attacks depend[ing] on the person's level of immunity to fight disease. It will attack the lungs hence blocking oxygen which explains the common sign of difficulties in breathing among its victims." COVID-19 was thus understood primarily as a respiratory condition. This herbalist explained he intended to validate his approach through seeking permission and was in the process of seeking advice from a doctor at Kuluva Mission hospital to trial his remedy.

iii) Home-based care

The scale of COVID-19 has demanded innovative solutions, and many families have improvised cures within their homesteads. According to media reports, across Northern Uganda families were ingesting juice made from cannabis leaves, as well as steam from herbal grasses like bombo (momordica foetida or wild cucumber), kyayi suubi (cymbopogon citratus or lemongrass), mujaaja (Ocimum basilicum or basil), lumbugu (digitaria abyssinica or the East African couch grass), and orange tree leaves (Olukya, 2021b). In some cases, herbs are used alongside antibiotics, painkillers, and/or vitamins including C, and zinc tablets. Used as a complementary remedy, herbs are ingested or applied to the body.

Aluma observed that, in Arua (as reported in media across Uganda), traditional steaming, long deployed for treatment of flu, common cold and cough, was repurposed for COVID-19. Such practices were seemingly encouraged by early messaging in the pandemic which equated COVID-19 to a flu, and since some COVID-19 symptoms resembled that of the common cold. As part of the steaming process, a mixture of eucalyptus, guava, orange and mango leaves is put in a pot of water and heated to boiling point under tight cover. The hot mixture is quickly transferred to a wash basin over which the patient is covered with a heavy blanket to avoid the medicated steam from fast escaping. A patient is expected to steam until the water goes cold. This original formulation was later "improved" through adding garlic and ginger to the mixture.

One female Arua resident, who worked as a nurse, and had tested positive for COVID-19 explained her treatment pathway: *"My mother prepared for me a herbal steam* from *a mixture of fresh leaves of mango, oranges, neem, eucalyptus, ginger, and lemon—all boiled together. I was then steamed over a*

[basin of] hot steam while covered with a blanket. I would steam myself 2-4 times a day for around 10 days. I was completely healed [of COVID-19] and good enough no [other] family member was infected. I was also comfortable at home and there was no stigma [directed at me] compared to the situation in the hospital where I could be [subjected to stigma after discharge], and exposed to other sicknesses."
This quote is interesting, indicating the improvisation of local cures against a backdrop of reluctance to access health facilities and avoid the community stigma of being identified as infected with COVID-19. There are also deep synergies between the approaches of herbal specialists and those improvised at home.

It is significant that most of the raw materials that constitute the herbal mixture for steaming, as well as other foods that were mentioned by respondents including oranges, honey, red pepper, lemon, turmeric, ginger etc, were easily obtainable in the local markets in the West Nile region. Ginger and Garlic are not traditionally grown in Arua on a large scale and are often brought from other districts like Butambala, Mbale, Masaka and Kabale in the eastern, central and southern parts of the country. In Arua City, for instance, one could on average need a minimum of $3 to adequately shop for all the ingredients needed to make a sizeable amount of the mixture for an individual to steam – the costs were higher if the whole family needed to steam, as was the common case. Whilst prices of these herbs and foods increased throughout the pandemic (Idd, 2020; Dallen, Ojara and Kumira, 2021; Gwebayanga, 2021; Amony, 2021), the costs remained significantly lower than hospital fees, manufactured herbs, or consultation and treatment with village herbalists.

1.7 Public Support for Herbalism

It is noteworthy that local leaders have also supported this adoption of herbal medicines in Arua. Whilst orientations of herbal medicine among health workers, government officials and policymakers are by no means homogenous, debates regarding herbal medicine have entered the public sphere, particularly with regards to alternatives to vaccination. Whilst data on COVID-19 vaccine uptake is limited, our research suggested that many Aruans feared to take the vaccine. A common refrain is that herbal medicines have been tested through local experiences, whereas vaccines have not. Discourses promoting local and herbal remedies over vaccines find fertile ground across the prevailing local political cleavages.

The events of a popular talk show are indicative of the disputed contours of the conversation. For example, on 16th October 2021, on a talk show, "Agbatara" on the popular Arua One FM station, a politician from the opposition Uganda People's Congress (UPC) party openly opposed vaccination in preference for herbal medicines and steaming practices. He argued that "local" remedies offered better cure and prevention to COVID-19 than vaccines. Kamure struck a chord with NRM politician and former Arua District Chairman Richard Andama Ferua who claimed that the leaves and roots of the Mahogany tree "does wonders" in the treatment of COVID-19, when dried, ground into a powder, and mixed with warm water. Kamure, known for being an outspoken critic of COVID-19 vaccines, claimed that his kins-people from the Terego clan (of Lugbara) had discovered a cure for COVID-19 and hence there was no need for vaccination. He said they believed that if one ate raw garlic as soon as they felt itching in the throat (locally interpreted as an early symptom of COVID-19), it would clear the itching. Such a treatment regime was claimed to be more efficacious against COVID-19 when complemented with herbal steaming.

Some religious authorities also viewed herbal remedies favourably. The communications officer of Anglican Madi and West Nile diocese, explained that the Church of Uganda "strongly supports the use of herbal medicine" and "has been a long-standing partner" through the institution's medical facilities. He did acknowledge, however, that medicines posed a challenge when administered by people who are not specialists. Not all Christian leaders spoke favourably of herbal medicines. Indeed, these cures represent an emergent ground for contestations among different denominations. A representative of the Catholic Church in Arua urged Christians to be careful in dealing with people who claim to be herbalists due to the infiltration of the industry by "witchdoctors". He explained, "[t]he questions that come into play are, is the product authentic? Has it been approved [by the relevant authorities]? And what is the source [make] and how did it come to the market and through whom?"

1.8 Key Findings

- Herbal treatments are simultaneously an established, as well as dynamic and diverse, treatment option in West Nile. It is not surprising then, that these approaches have been repurposed amidst the COVID-19 pandemic. Amidst inadequacy of formal healthcare, herbal therapies have flourished as alternative or/and complementary treatment for the virus in what has largely been embraced as a local solution for a local problem. With the herbal medicines

forged by blending locally accessible ingredients, these home-grown remedies have evoked nostalgia for the previous periods of self-reliance when border societies were cut off from the rest of Uganda by conflict. But this increased use of herbal treatments in West Nile during COVID-19 parallels a general trend across Uganda. A skyrocketing cost of clinical care has forced many Ugandans to turn to affordable and widely accessible treatment options and care sources such as herbal and faith-based/spiritual therapies. The country's COVID-era plurality of care and treatment is therefore often a coping mechanism amid escalating costs of biomedical healthcare, and lack of health coverage for most.

- The surge in demand for herbal remedies has been matched by the supply side. Locally manufactured herbal medicines such as Covidex and Covilyce-1 have captured the imagination of a nation struggling to secure vaccines and clinical treatments for COVID-19 amidst hoarding of supplies by Western countries. Considered a national scientific breakthrough, many Ugandans have particularly promoted Covidex on social media, some of whom narrate tales of how it has "saved" them from COVID-19. President Museveni even joined in on this narrative by claiming that he had interviewed several people cured of COVID-19 by Covidex. The Ugandan Government saw the enthusiasm for Covidex as an opportunity for politicking ahead of the 2021 general elections with Museveni describing the drug as a weapon for defeating what he called "the invisible enemy".

- In Arua, three dominant approaches for providing herbal-centric care and treatment against COVID-19 emerged. Under the first approach, licensed specialists and care facilities administer herbal medicine. Coming against the backdrop of the 2020 formalisation and legislating of the herbal sector, licensed practitioners seek to gain formal legitimacy by diagnosing patients in the fashion of a hospital consultation as well as dressing in the paraphernalia of clinical medicine such as white coats. These sorts of facilities were few in number, though. Under the second approach, village herbalists known in the Lugbara language as "daktari aro nyaku vuri", literally the doctor who administers medicines of the soil, administered herbal medicine. But specialists from Kampala, the DRC, Tanzania and Sudan, many of whom have been accused of pushing fake medicines, have infiltrated this group of herbalists. Such distrust has incentivised Aruans to seek cures from herbal practitioners who are recommended locally, and who are known to have resolved important cases. Notably, village herbalists charge much lower fees than licensed urban specialists, and sometimes accept payment in kind like food crops or animals. Under the third approach, care is provided at home among family members. Families have improvised therapies by mixing locally available ingredients such as cannabis, wild cucumber, lemongrass, basil, East African couch grass, orange tree leaves, eucalyptus leaves, guava leaves, lemon, mango leaves, tamarind, turmeric, ginger, onion, garlic, red pepper, honey, bitter leaf, neem, moringa leaves, etc. Extracts of edible ingredients were turned into concoction and ingested as juice or syrup while the leaves were boiled to generate herbal

steam for inhaling. In some cases, herbs were used complemented with antibiotics, painkillers, and/or vitamins including C and zinc tablets. The cost of home care was significantly moderated by the family size.

- Herbal treatment for COVID-19 was adapted from remedies for pre-existing ailments such as malaria, impotence, mental illness, diabetes, leprosy, reproductive health anomalies, schistosomiasis, yellow fever, sexually transmitted infections, arthritis, skin disorders, loss of appetite, hypertension, measles, kwashiorkor, etc. Whereas this demonstrates the flexibility of the traditional health knowledge system to quickly redeploy existing resources against emerging threats, it also exposes the lack of growth in the stock of locally available ingredients for herbal medicine as well as the limited innovation in the industry.
- Herbal medicines divided opinion among local public authorities in Arua. For instance, whilst politicians were united by a desire to promote herbal medicines as an alternative to foreign vaccines and clinical drugs, the representative of the Anglican Church saw them as being complementary to biomedical remedies. But a representative of the Catholic Church urged caution in the use of herbal medicines – arguing that witchdoctors had infiltrated the ranks of herbalists.

1.9 Recommendations

- Our study found that herbs were commonly used with prescription and over-the-counter pharmaceuticals for COVID-19. This mixing of herbal medicine and biomedical pharmaceuticals could pose a risk to the health of users through drug interaction. This therefore calls for an investigation of the interaction between herbal medicine in Arua and Uganda and pharmaceutical drugs as well as the effects of their combined use on the health of users.

- Whilst formalisation could help boost standards and rid the herbal sector of quarks, fake remedies and unethical practices, practitioners may require more time and support to meet new requirements such as licensing and state approval of remedies. Rural herbalists may particularly require sensitisation. Platforms for sector players to share experiences and ideas may also need to be formed.

- Given that herbal medicine largely acquires its legitimacy from local communities, capturing discourses about legislating the sector could help establish how the public views on-going efforts at formalisation.

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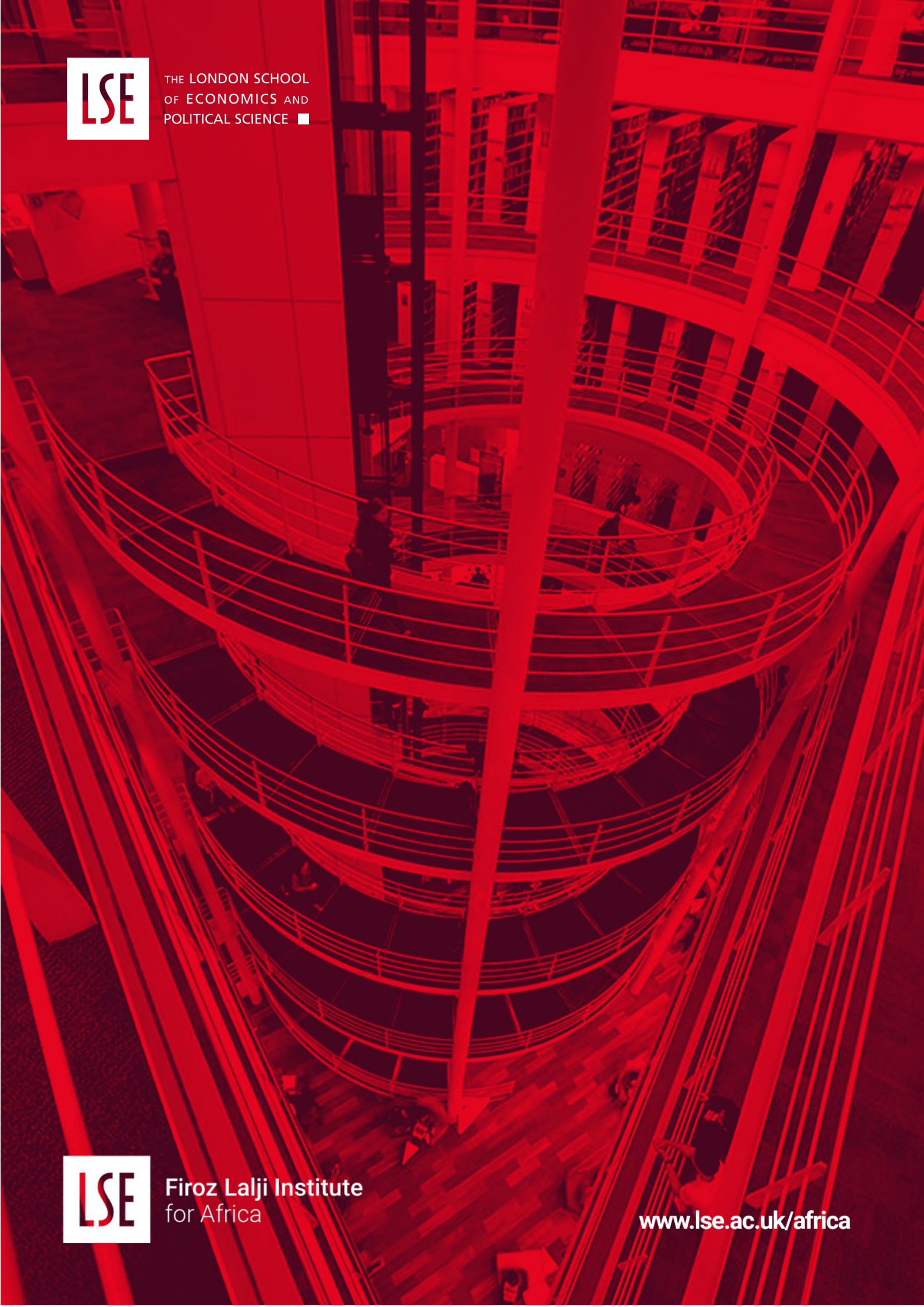
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