

Indigenous Knowledge Systems as a vector in combating COVID-19

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Abstract

Indigenous Knowledge Systems have recently been regarded as an important commodity in global health development, thanks to local teas in China and a herbal remedy in Madagascar, just to mention a few. Although recommendations by World Health Organization in the 1978 Health for all Declaration highlighted the need for people to tap into their traditions and practices in Primary Health Care (PHC), this was largely ignored. The pandemic has caused a number of loopholes into the global functionality, for instance, the novel coronavirus 2019 has shaken World Food Security, exposed thousands of households into poverty worldwide and crippled multiple health systems and paved way for a new pandemic – death by hunger.

Indigenous people with their IKS are a living proof of humankind's resilience, with their Indigenous Knowledge Systems they have survived invasions, pandemics, and outbreaks for centuries, and at this point in time IKS may still be used as a vector to combat Covid-19 pandemic. To fight COVID-19, indigenous people can resort to hot-water-bath therapy (*ukufutha* in the isiNdebele Zimbabwean language) to kill the virus in one's windpipe; they can also adapt to indigenous food preservation in order to sustain consumption of food and cultivate their resilience when there's lack of food security. The presentation will highlight interventions by local communities on how they have deployed indigenous knowledge systems to treat COVID-19 symptoms and also enhance food security in light of job losses and lockdowns.

Introduction.

Covid-19 negatively affected the world in every aspect of life globally. However, there are notable breakthroughs that can be obtained from IKS. Indigenous Knowledge Systems can be used as a vector in combating covid-19. But for us to arrive at these interesting conclusions we need to have a perceptive-open mind which is not rigid enough to judge other people's knowledge systems based on our backgrounds, clearly, we all know that this world is too complex to be interpreted and understood through the eyes of one culture. Having said that, it is important for us to note that there are more than a thousand definitions of what people perceive to be IKS and therefore in this presentation and for the sake of the diversity of participants in this meeting, I thought it more prudent to look at multiple definitions by different authors so that we have a comprehensive approach. Malchias cited by Eyoung in 2007 defined IKS as to what indigenous people know and do, and what they have known and done for generations, practices that evolved through trial and error and proved flexible enough to cope

with change. If we take this as our working defining then it becomes easy for us to understand that since time immemorial people have always resorted to their IKS for survival and these are a living proof of humankind's resilience, with their Indigenous Knowledge Systems they have survived invasions, pandemics, and outbreaks for centuries, and at this point in time IKS may still be used as a vector to combat Covid-19 pandemic. The Chinese teas, Madagascar's herbal remedies, the Sub-Saharan medicinal plants, organic agriculture, traditional diets and relying on advices from the elders of the communities, one can submit that IKS including modern clinical interventions can indeed help fight covid-19 and improve food security that has been shaken all over the world. To fight covid-19, indigenous people can resort to hot-water-bath therapy (*ukufutha* in the isiNdebele Zimbabwean language) to kill the virus in one's windpipe; they can also adapt to indigenous food preservation in order to sustain consumption of food and cultivate their resilience when there's lack of food security. The agenda 21 of the UNCED conference emphasized on the need for governments to work towards incorporating IKS into contemporary socio-economic development programmes in order to attain sustainable development (Helvetas; 2011, Gaillard & Mercer 2012). Some of the Indigenous Ways of Knowing (IWK) that can be incorporated in extenuating or battling Covid-19 will be talked about as the presentation unfolds.

The effectiveness of language use in militating against Covid-19

Indigenous Knowledge Systems has a couple of critical dimensions and one of them is linguistics. Language may come handy in combating this pandemic. One of the pivotal aspects of dismantling and eliminating a threat or crisis is understanding it, knowing what it is, its causes, its limitations and delimitations and in most cases, this is usually best understood in a people's native language. WHO purports that, Africa (especially) have relatively weak healthy systems, proactive measures to prevent the spread, contain and to eliminate the spread of virus will be critical. Thus, indigenous people can turn to their indigenous knowledge and countries should step up campaigns to educate the general public on best practices. This can be achieved through using a people's native language to ensure to effectiveness of a campaign. The information on flyers used should be translated to guarantee maximum coverage. Some of the reading materials and media content that is meant to help and equip members of the public does not serve its maximum purpose and it is delivered to the wrong audience. Therefore, IKS through use of indigenous languages can breach the gap of communication barrier and ensure the effectiveness of the hand-outs given to the public. Indigenous proverbs and sayings can be capitalized to draw attention and for clarity of the risk that comes with the coronavirus, for instance an isiNdebele proverb '*kwabo kagwala akula sililo*' to advise the public to oblige to the stipulated preventive measures. To encourage societies to stay positive and create optimistic energy on people sayings like '*okungapheliyo kuyahlola*' meaning what doesn't come to an end is an abomination, and likewise the novel coronavirus will eventually come to an end if they work together.

Incorporating Indigenous Knowledge Systems in agriculture to combat Covid-19 and ensure Food Security

WHO postulated that many Africans risk becoming food insecure as a consequence of this coronavirus crisis, and now more than ever it is important to prioritize agriculture. The Covid-19 crisis has hit economy, health security and food security all at once which has affected household incomes due to unemployment and lockdowns which put businesses on go slow. Several indigenous peoples from different regions have identified hunger as the main effect of the COVID-19 crisis. Food shortages are resulting from the combined effects of isolation, remoteness, the lockdown, the disruption of the food value-trade chains, and the suspension of income generating activities. In as much as the world is devising means the cure and prevent the spread of the virus, it should also work tirelessly in handling the negative effects that befalls communities due to this crisis e.g. hunger. Indigenous people should work towards incorporating their IKS related to agriculture in battling Covid-19. For instance, they can adapt to climate change and explore their resilience skills by farming drought resistant crops and those that are quick to ripe like cow beans.

Indigenous vegetables, for example, often referred to as traditional vegetables, are a common household food in most of the Southern and Eastern African countries. The majority of the local farmers cannot always produce and eat exotic vegetables, such as cabbages, carrots, or beet roots due to unavailability of seeds and/or high production costs associated with these exotic vegetables. They, therefore, depend on traditional vegetables as a regular side dish or sauce accompanying the staple foods, such as maize, cassava, sweet potatoes, millet, and sorghum. The staple foods provide calories needed for the body energy but are very low in other nutrients, while traditional vegetables, such as *Amaranthus*, *Solanum aetiopicum*, *Manihotesculenta* (cassava leaves) and *Ipomea batatas* (sweet potato leaves), have high nutrient nutritive value (World Bank, 2004).

IKS form a basis for community-level decision making in areas pertaining food security, human health and more importantly the use of natural resources in battling this novel coronavirus. Local communities may also resort to indigenous food preservation methods to prevent their food stock from getting spoiled and to sustain consumption of food. A wise man once said, growing your own food is like printing your own money, so perhaps by ploughing their own food they may counter economic challenges at household level and ensure food security. Their traditional farming and food preservation skills could be linked with their current resilience skills and adopt the concept of modernizing tradition and traditionalizing modernity. Food and Agriculture Organization of United Nations says the COVID-19 socio-economic impacts have affected indigenous peoples across the world differently: Those who rely on their indigenous food systems and have adopted traditional lockdown practices are coping better than other communities who rely heavily on the market for their food needs. In Nigeria, for example, indigenous methods of weather forecasting are used by farmers to complement crop-planning activities.

The Medicinal aspects of Indigenous Knowledge Systems

Western Science is increasingly recognizing the value of IKS and is collaborating with communities to incorporate their knowledge in related projects and industries reveals how much IKS should be given enough platform to combat Covid-19 and all effects that bedevil societies, economies and health systems. Traditional Medicine is the sum total of knowledge of practices that enables diagnosing, preventing and eliminating a physical, mental or social disease which relies on IKS experience. Throughout history, traditional medicine has been a source of medical treatment for diseases such as malaria. In May 26, 2020 Kumbirai Nhongo wrote an article on the similar subject and stated that, **Madagascar has attracted global attention after announcing in April that it has the herbal remedy for the coronavirus.**

Unfazed by international criticism that scientific evidence was lacking, President Andry Rajoelina launched COVID-Organics, the herbal remedy that he claimed could prevent and cure the disease. "This herbal tea gives results in seven days," he said, to choruses of disapproval from health experts and pharmaceutical companies from the usually dominant industrialized nations and curiosity from other African leaders aware that the northern companies often find and patent medicines that originate in Africa, with little benefit to the continent. According to the Malagasy Institute of Applied Research, the organization that developed the beverage, the remedy consists of a number of indigenous herbs, along with **artemesia annua**, a plant with proven efficacy for malaria treatment. Figures from the Africa Centre for Disease Control (CDC) show that as of 10 May, Madagascar had one of the highest COVID-19 recovery rates on the continent at 52 percent.

- Equatorial Guinea, which as of 10 May had 439 COVID-19 cases and four deaths, became the first African country to receive the product from Madagascar on 30 April.
- The consignment contained 11,500 packets of COVID-Organics weighing 1.5 tons. Niger, with 821 COVID-19 cases and 46 fatalities as of 10 May, has taken delivery of the Malagasy product.
- Souley Zaberou, a health ministry official from Niger, said the consignment contained enough product to treat 900 people.
- The Senegalese President Macky Sall commended Madagascar for its "efforts in the search for therapeutic solutions which Senegal is following with interest."
- In the United Republic of Tanzania, President John Magufuli announced plans to import the product for use by locals.
- "I have been in talks with Madagascar. They say they have discovered the medicine for COVID-19. We will send a plane to bring the medicine so that Tanzanians can also benefit," he said. Other countries that have received the Malagasy remedy include the Republic of Congo and Guinea Bissau.

Kindamba (2003) listed some of the following medicinal plants found in the Sub-Saharan Africa which have stood the test of time:

- 1.1 *Acacia senegal* (L.) Willd. (Leguminosae: Mimosoideae)—Gum Arabic
- 1.2 *Aloe ferox* Mill. (Xanthorrhoeaceae)—Bitter Aloe or Cape Aloe
- 1.3 *Artemisia herba-alba* Asso (Med)—Asteraceae—Wormwood
- 1.4 *Aspalathus linearis* (Brum.f.) R. Dahlg. (Fabaceae)—Rooibos

- 1.5 *Centella asiatica* (L.) Urb. (Apiaceae)—Centella
- 1.6 *Catharanthus roseus* (L.) G. Don (Apocynaceae)—Madagascan Periwinkle
- 1.7 *Cyclopia genistoides* (L.) Vent. (Fabaceae)—Honeybush
- 1.8 *Harpagophytum procumbens* (Burch.) DC. (Pedaliaceae)—Devil's Claw
- 1.9 *Momordica charantia* Linn. (Cucurbitaceae)—Bitter Melon
- 1.10 *Pelargonium sidoides* DC. (Geraniaceae)—Umckaloabo

These are some of the herbs that Africa today still boast about. They have since time immemorial been relied upon to help strengthen the immune system and boost people's health in general. Nonetheless, there is still a paucity of clinical evidence to show that they are effective and safe for humans. Without this information, users of traditional medicinal plants in Africa and elsewhere remain skeptical about the value of such therapies. This denies people the freedom to choose plants that are potentially less costly and are more accessible. Another issue concerning the use of botanical remedies is the need to understand the safety of these therapies. For these reasons, information about efficacy and safety of traditional medicines is urgently required.

Traditional knowledge and practices

Indigenous peoples have been using their traditional knowledge and practices to find solutions to the challenges the pandemic brings them. As they have done for centuries, their communities continue to adapt to change while maintaining their cultures and traditions.

In Brazil, for example, the Juruna people had been providing culturally appropriate school meals for local children – and now that schools are closed, they are delivering food for free to vulnerable members of their community. In Colombia, the Calicanto Indigenous Association and the Inga community are mitigating the restrictions on movement by organizing the distribution of their harvests based on families' exact locations.

Siambombe and Mutale (2018) submitted that, the indigenous knowledge helped the BaTonga people to come up with means to cope with the effects of disasters such as starvation by farming in valleys and flood plains, storing excess food and praying to their gods to bring more rain and to control pests. In the face of widespread of innovation and technological advancements, traditional knowledge system is on the downward trajectory despite its value in community development discourse.

These examples, as well as other traditional practices of solidarity display the reciprocity and mutualism with which these peoples safeguard the food security of their community members. These traditions, practiced widely amongst many different indigenous peoples' communities, are key to these communities' resilience and ability to maintain their traditional cultures while adapting to the restrictions brought about by the pandemic.

Conclusion

In summary, it is indeed a truism that Indigenous Knowledge systems can be used as a vector in combating covid-19. As stated in the presentation, it is important to understand what IKS means to different people and what components constitute IKS. Contextually, IKS refers to age old longstanding traditions and practices involving wisdom, knowledge, teachings of communities and traditional technologies which have a significant contribution to modern resilience skills, technology and medicine having led to discovery of hundreds of new drugs. In this case, IKS was analyzed closely to understand its historicity and its immense contemporary contribution in fighting pandemics. We are talking about the use of language (linguistics) in order to convey proper messages to different native groups in the world, we are talking about the use of medicinal aspects of IKS, we talk of traditional practices which bring people together in solidarity and suggest uniform traditional interventions, for ensuring food security and fighting the effects of covid-19, we talk of organic agriculture, IKS-based weather forecasting, IKS-based food production, preservation and storage. All these can be relied upon that is if communities get proper support from the government. Examples of these traditional medicinal breakthroughs have been noted in Madagascar, Mali, Nigeria, Republic of Congo, China and other countries in Latin America. Needless to say, what remains critical is the fact that IKS is facing major threats as it is passed down by word of mouth from generation to generation and the reliable custodians are the elderly who may die with this vast knowledge. Another threat is that there is still reticence in the use of IKS which is considered by many to be anecdotal and not scientific. However, it is imperative therefore that, without delay, IKS in be protected, documented, studied, modified if necessary and then widely disseminated to promote development and complement public health facilities.