

ARTICLE

Pillars of sustainable health and wellbeing among rural indigenous Swazi community women

Kayi Ntinda & Zandile C. Maseko

University of Eswatini

Address correspondence: Dr. Kayi Ntinda, Department of Educational Foundations and Management, Faculty of Education. Private Bag No 4, Kwaluseni, M201, Matsapha, Swaziland. kmntinda77@gmail.com



Abstract

The study sought to explore sustainable health and wellbeing resourcing of women in an indigenous Swazi rural community with Swazi young mother informants (n=25; age range = 18-21, all subsistence farmers). Participants were a convenience sample of married, subsistence farmer women. The participants completed focus group and individual interviews on their supports for sustainable health and wellbeing. Thematic analysis of the data yielded a resilient health and wellbeing theme defined by their being happily married, good weather, ability to profit from the land from farming/gardening, and hope for a better future. The participants also perceived their indigenous culture religion and social support systems to sustain their long-term health and wellbeing. Our findings suggest resilient living important for the sustainable health and wellbeing of subsistence economy communities.

Keywords: Eswatini, indigenous community, sustainable health, psychosocial wellbeing, & subjective wellbeing.

Introduction

Sustainable health and wellbeing are associated with quality of life in the lived environment (Di Fabio & Rosen, 2020; Di Fabio & Rosen, 2018; Di Fabio, 2017; United Nations, 2018). It is premised on a prevention framework in which communities engage in health promotion-oriented practices, leveraging the natural environment and socio-economic systems for prosperity, reduction of poverty and

health inequality, peace, and justice. Indigenous communities live closest to and with their natural environment. They place a high value on allowing members “good health, to work and move around as well as emotional, psychological, economic, mental and spiritual aspects of health” (World Health Organization [WHO] 2012, p.12). Their implementation of sustainable health and wellbeing support systems is less well studied (Nell, de Crom, Coetzee & van

Eedeh, 2015; Ogilvie, 2012; Oppong et al., 2021).

Sustainable health systems

Health systems refer to "all the activities whose primary purpose is to promote, restore, and maintain health" (WHO, 2020, p. 5). Sustainable community health systems comprise all the elements for enhancing population and individual health, including family, cultural, inter-agency, and inter-sectoral relationships, natural environmental safety, financing, and technologies for health (Mpofu, 2021; Schroeder, Thompson, Frith, & Pencheon). They are "designed for people to attain their highest possible health and to provide timely care for the specific needs of the members and with affordability, fairness and equity for members and providers" (Fineberg, 2012, p.1020), providing "a framework within which health gains and reductions in health disparities are possible and greatly facilitated" (Guidotti, 2018, p. 357). Sustainable health and wellbeing go beyond the disease management approach to include wellness actions for, and by community members, in so far as all human activities have health consequences (Ingman & Mpofu, 2021). The types of community activities members engage in may deliver various health benefits to the members, including recovery from stress and fatigue, increased self-esteem, improved life satisfaction, and improved health (Cummins, Mpofu & Machina, 2015; Hawkins, Mercer, Thirlaway, & 2013; Siu, Kam, & Mok, 2020; Van den Berg, van Winsum-Westra, De Vries, & Van Dillen, 2010). We sought to explore the drivers of sustainable health and wellbeing for indigenous community women from Eswatini, a Southern African country.

Indigenizing health and wellbeing in the Kingdom of Eswatini

Indigenous communities draw on their wisdom and practices to sustain their health in the modern and Fourth Industrial Revolution age [4IR] (Oppong, et al., 2021). Until now, the cultural health and wellbeing heritage of indigenous communities have been marginalized from being viewed by mainstream medicine as only complementary or alternative, even though indigenous health systems provide health care to billions of people around the globe (Oppong et al., 2021). Yet, indigenous communities survived for centuries, adapting in many different ways to difficult health and environmental conditions and managing to create sustainable livelihood systems.

Research has shown that the types of community activities members engage in may deliver various health benefits to the members, including recovery from stress and fatigue, increased self-esteem, improved life satisfaction, and improved health (Hawkins, Mercer, Thirlaway, & 2013; Siu, Kam, & Mok, 2020; Van den Berg, van Winsum-Westra, De Vries, & Van Dillen, 2010; Wood, Pretty & Griffin, 2016).

Context for the study: The kingdom of Eswatini

The Kingdom of Swaziland (now Eswatini) is located in southern Africa, bordered by South Africa to the north, west, and south and Mozambique to the east. Eswatini's population of about 1.2 million (females = 51%). About 22.1% are between the ages 15 to 24 years old. Eswatini is divided into four regions: Hhohho, Lubombo, Manzini, and Shiselweni. Each region is further divided into *tinkhundla* which translates to constituencies. While

Eswatini is of lower-middle-income status (Swaziland Demographic Profile, 2018), 58.9% of Swazis lived below the poverty datum line in 2017 (World Bank Eswatini, 2019). Unemployment is high at 49.0% (World Bank Eswatini, 2019), and a majority of the population are subsistence farmers. Women are the backbone of the economy and mostly in agriculture and informal open market trading.

We sought to explore how Swazi women in a rural setting perceived their health and wellbeing and the enabling personal and environmental resources support. The following specific question guided the study: How do rural Swazi women perceive resources for their sustainable health and wellbeing?

Method

Research Design

We followed an exploratory qualitative design (Charmaz, 2014) for this study. An exploratory qualitative design allows for an in-depth understanding of lived health from the informant perspective. Applying an exploratory qualitative design enabled an in-depth understanding of the women’s perspectives on their sustainable health and wellbeing in the rural community of Eswatini.

Participants and setting

We recruited 25 women for this study, all mothers (see in Table 1 for study sample characteristics). These participants all resided in the Ekhaya community in the Hhohho region of Eswatini. The Ekhaya indigenous rural community of the northern Hhohho of Eswatini is a subsistence farming area. All the participants had lived in the area for at least 10 years. Nineteen of the participants (76%) were mothers. Sixty percent (60%) of the participants self-

identified as moderately religious or engaged in informal employment.

Table 1. Demographic Characteristics of Participants (n= 25)

Item	Frequency	%
<i>Age range</i>		
18- 19	09	36
20-21	16	64
<i>Length of marriage</i>		
6 – 12 months	19	76
13 – 18 months	06	24
<i>Number of children</i>		
None	06	24
1-2	19	76
<i>Educational attainment</i>		
From 1 to 3	07	28
<i>Employment status</i>		
Employed	10	40
The indigenous African belief system	10	40

Data collection

The woman participants reported their demographical characteristics including (age range, marital status, number of children, employment status, duration of residence in the Ekhaya indigenous community, and self-reported religiosity). They also participated in (focus group and individual) interviews on sources of their sustainable health and wellbeing. Ten (10) participants took part in individual interviews while all the participants completed the focus group discussion interviews. Data collection was sequential with individual interviews conducted first

followed by focus group discussion interviews.

Individual interviews

For the individual interviews, we started with the broad open-ended question about resources for sustainable health and wellbeing. "Could you share with me personal and environmental resources you consider important for sustainable health and wellbeing in your community"? Relevant follow-up probing questions were then asked.

Focus group discussion interviews

We focused on the probe stem: What participants perceived to be important personal and environmental sources for their sustainable health and wellbeing. Two focus group discussion interviews, comprising of 12 and 13 women participants each respectively were conducted. All the participants took part in focus group discussion interviews based on their willingness.

For data credibility and trustworthiness checks, we did member checks with 12 of the participants. We also maintained field notes (Gunawan, 2015) for the dependability of the data observations.

Procedure

The Eswatini Ministry of Health and Social Welfare granted permission to the study. The women participants individually consented to the study. We informed the participants of the aim and procedures of the study and their voluntary participation and with the right to withdraw if they wished to do so, without penalty. We de-identified the data to ensure anonymity. The second listed author and a research assistant moderated individual and focus group discussion interviews in *SiSwati*, the first language of the participants. All interviews were digitally recorded with the permission

of the participants. Digital recordings were transcribed and translated into English using the forward translation procedure (Africa Scholarship Development Enterprise [ASDE], 2009).

Data analysis

We thematically analyzed the data following the guidelines suggested by Corbin and Strauss (2008) as follows. For the initial coding phase, we segmented data into units of meaning, assigning code labels. Next, we performed axial coding, codes examining the data for similarities and differences in order to group the data into meaning units. Finally, we integrated the meaning units into overarching themes.

Findings and Discussion

Two (2) main themes resulted from the analysis: resilient living and finding safety in religion and cultural systems adherence. We elaborate on these themes below and with the verbatim evidence for them.

Theme 1. Resilient living in marriage, ability to profit from the land, good weather, and hope for the future

Many of the participants (80%) reported their community was under-resourced and overwhelmed by high rates of unemployment, resulting in widespread poverty levels in the community. They also reported poor access to medical services. The following are example statements from participants:

I am not working so sometimes I don't have money to buy things that I need and can't always ask my husband for money (Participant # 13, 20 years, unemployed);

We are really struggling sometimes even if we are working, we don't get a lot to buy

basics such as food and clothes (Participant # 11, 21 years, employed).

We can't get all medical checkups we need here sometimes as women so one has to go to town (Participant # 2, 19 years, unemployed).

The clinic is too far and sometimes you have to wait in line for long to be seen by a nurse (Participant # 3, 21 years, employed).

Happy marriages

Participants reported being very happily married to spouses who provided for their basic needs such as food, clothing, and shelter. They also reported that being married gave them an opportunity to raise their children together with their spouses and earned them respect from the community members. The following are illustrative statements from participants:

I am happy now that I get support from my husband and in-laws. I don't have to worry about what to cook, who will buy me clothes and where to sleep because all these are provided by my husband since I don't work (Participant # 4, 19 years, unemployed).

I am happy that the father of my child finally married me. This makes it easy for our child to

be raised by both parents unlike my friends who struggle to bring up children alone. People here also respect me as am now a married woman. (Participant # 6, 20 years, employed).

Farming/ gardening

Participants reported their planting crops, cooperatively, and working as a village in farms or gardens to enhance their social and economic health wellbeing (See pictures 1 to 3). Farming/ gardening brought participants closer as women in the indigenous community than they perceived to have been before. Several participants who were self-employed farmers and gardeners found the planting and nurturing of the crops to give them a sense of purpose and fulfillment. The following are some of the verbatim quotations from participants:

I really like to farm and this brings me closer to other women in my community and we can share our problems as we work (Participant # 5, 20 years, employed).

Working in this garden makes me feel important as I am actually responsible for taking care of the crops since I have no child as yet to occupy my time (Participant # 10, 20 years, employed).



Picture 1: Illustration of farm/ garden of some of the vegetables the participants grew

Hoping for a better future

Participants stated that they certainly believed and hoped that poverty that was in the community would ultimately be eradicated and their living conditions would improve. Moreover, the participants reported that they were also grateful for the life they were living, as other people were homeless that they knew. Below are some of the illustrative statements from the participants:

We won't give up we have hope and believe one day we will also have better services here (Participant # 2, 19 years, unemployed).

This is my home I am happy with what we have and hope that things will change for the better to improve our lives here (Participant # 5, 20 years, employed).

Profiting from the land

As previously noted, participants also said to be happy from profiting from the land through growing crops such as maize, pineapples, sweet potatoes, and vegetables. Participants also indicated that they harvested and sold some of the crops they grew such as vegetables and maize (See pictures 1, 2, and 3 for illustration). They also indicated that the land provided good grazing for their goats and cattle owned by their spouses. The following are example statements from participants:

I am happy here as the land is very good to grow anything I want and I grow maize vegetables and sweet potatoes... (Participant # 9, 19 years, employed).

we are happy here the soil is rich for ploughing and animals have good shrubs to graze since we have lots of animals (Participant # 1, 20 years, unemployed).



Picture 2: Vegetables that participants grew and harvested for eating and selling from their farms/gardens.



Picture 3: Illustration of the maize participants sell to vendors from their farms/gardens who then roast the maize for reselling.

Most of the participants (88%) reported that their community had good weather, they indicated that the warm temperatures were the reason for being happy in their community. The following are verbatim quotations from participants:

I enjoy the warm weather here so much
(Participant # 12, 19 years, unemployed).

We like it here it is always very warm even in winter at times
(Participant # 13, 20 years, unemployed).

The finding that resilient living was enhanced through being happily married enabled participants to experience happiness, social and economic capital in their community. It appears that the participants' status of being married increased the psychological, social, emotional, and economic resources thereby enhancing their health and wellbeing. This finding mirrors those of previous studies that a happy marriage increases the psychological, social, and economic

wellbeing of individuals (Khumalo, Temane, & Wissing, 2012; Liu, Elliott, & Umberson, 2010; Uecker, 2012) and help individuals avoid the stress of relationship dissolution (Simon & Barrett, 2010). Cooperative subsistence farming plays an important role in reducing the vulnerability of indigenous communities, providing food securities, improving livelihoods, and helping to mitigate high food inflation improving livelihoods (Baiphethi & Jacobs, 2009; Oppong et al., 2021; Savo et al., 2016). Moreover, subsistence community activities such as farming and gardening promote resilient health and wellbeing among populations (Baiphethi & Jacobs, 2009; Machida, 2019; Siu, Kam, & Mok, 2020; Soga, Gaston, & Yamaura, 2017; Von Rueden, & Jaeggi, 2016). This is certainly the case among rural indigenous communities of Sub-Saharan Africa (De Luna, 2016; Nell et al., 2015) which draw considerable livelihood and food profiting off the land growing crops and rearing domestic animals.

Theme 2: Finding safety in religion and cultural authority of the indigenous community

Several participants (76%) reported experiencing a sense of cultural authority security and felt very safe when working or walking alone in isolated areas, even during the night. Below are example statements from participants:

I don't feel afraid when working in the field; it is very safe here everybody knows everybody no one can do anything bad (Participant # 7, 21 years, employed).

We feel safe here and don't mind walking alone even at night. (Participant # 2, 19 years, unemployed).

Most participants (80%) reported that they completely trusted other people within their indigenous community and had no fear that others would steal their possessions. For instance, many participants indicated that they left personal possessions such as buckets and containers for fetching water and baskets in public places in the community without worry that these would be stolen.

No one takes what does not belong to them containers for fetching water, baskets or firewood they know they belong to someone who will come and get them. (Participant # 14, 20 years, unemployed).

People do not take other people's things like spades, hoes and axes because they know you can just borrow them (Participant # 3, 21 years, employed).

Participants further indicated that crime levels were very low because they had traditional chiefs (*Indunas*) who are responsible for overseeing safety and are respected by community members. Below

are illustrative statements from participants.

"We have the Indunas who are there to see that there is no crime in the community (Participant # 1, 20 years, unemployed).

Let us say you have taken someone's possession they will report you to the traditional chiefs who will help sort you out (Participant # 6, 20 years, employed)

Religion

Participants reported that religion (both in terms of Christianity and indigenous religious belief systems) provided them a sense of safety as a source of daily support, providing for community members in times of need. The following are example statements from participants:

The church is very important because people support each other when in good and bad times for example when one is getting married church members help each other in cooking and skinning the animal (Participant # 13, 20 years, unemployed).

As church members we are always there for one another to support especially when one dies, we support each other through prayers and taking food (Participant # 6, 20 years, employed).

Apparently, the strong cultural identity and Christian religion positioning help to join community members around a key set of beliefs and cultural systems (such as the *induna* system). This in turn controls the behavior of community members in practical ways (as lowering the rates of crimes), which ultimately supports participants' safety and wellbeing in this indigenous community. Participants also reported practicing indigenous African belief systems (traditional healers) to address their health-related problems (Mpofu, Peltzer, & Bojuwoye, 2011; Nell, et

al., 2015; Peltzer, Mngqundaniso, & Petros, 2006). Previous studies confirm that the *Induna* system is a respected traditional system that is associated with administrations of social justice and the discipline the people exhibit with reference to traditional customs (Nell, et al., 2015). Religion beliefs are a health-protective factor (Hill & Pargament, 2003; Mpofu et al., 2011), providing a sense of meaning, purpose, and hope (Copeland et al., 2004; Mpofu & Mpofu, 2011; Murphy et al., 2000; Schafer, Ferraro, & Mustillo, 2011). For instance, religion (faith in God, prayer, church) comforts and brings relief from anxiety and depression (Koenig, George, & Titus, 2004). For participants of this study faith in God and church provide the security and contentment concerning challenges experienced in the community as the temporal.

Study limitations and suggestions for further research

There are some limitations inherent to this study. First, data were obtained from women from an indigenous Swazi rural setting and findings may only apply to this setting. Second, study participants may have under-reported challenges to

health and wellbeing to women in their communities out of social desirability. Finally, future studies should utilize mixed methods and with a larger sample of participants for more representative findings.

Conclusion

The findings revealed that young women in an indigenous Swazi community seemed to be more thriving in their health and wellbeing rather than languishing in poverty and unemployment. These findings affirm that self-employment in indigenous community sustenance economy makes for resilient health and wellbeing. These current study findings also further suggest that communal partnerships living on the land sustain the health of indigenous communities. The findings of this present study also highlight the fact that sustainable health and wellbeing of indigenous communities are improved by approaches that promote communal safety, effective utilization of natural environment leveraging their existing naturalistic social supports.

References

- Africa Scholarship Development Enterprise [ASDE]. (2009). *Development of a framework for implementation of tests in Ministry of Education and Skills Development*. Botswana: Africa Scholarship Development Enterprise.
- Baiphethi, M. N., & Jacobs, P. T. (2009). The contribution of subsistence farming to food security in South africa. *Agrekon*, 48(4), 459-482.
- Charmaz, K. (2014). *Constructing grounded theory*. Thousand Oaks, CA: Sage Publications.
- Copeland, J. R., Beekman, A. T., Braam, A. W., Dewey, M. E., Delespaul, P., Fuhrer, R., & Wilson, K. C. (2004). Depression among older people in Europe: the EURODEP studies. *World psychiatry*, 3(1), 45.
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research* (3rd ed.). London: Sage Publications.

- Cummins, R. A., Mporfu, E., & Machina, M. (2015). *Quality-of community-life indicators*. In E. Mporfu (Ed.), *Community-oriented health services. Practices across disciplines* (pp. 165–180). New York: Springer.
- De Luna, K. M. (2016). *Collecting food, cultivating people: Subsistence and society in Central Africa*. Yale University Press.
- Di Fabio, A., & Rosen, M. A. (2020). An Exploratory Study of a New Psychological Instrument for Evaluating Sustainability: The Sustainable Development Goals Psychological Inventory. *Sustainability*, 12(18), 7617.
- Di Fabio, A., & Rosen, M. A. (2018). Opening the black box of psychological processes in the science of sustainable development: A new frontier. *European Journal of Sustainable Development Research*, 2(4), 47.
- Di Fabio, A. (2017). Positive Healthy Organizations: Promoting well-being, meaningfulness, and sustainability in organizations. *Frontiers in Psychology*, 8, 1938.
- George, M. (2013). Teaching focus group interviewing: Benefits and challenges. *Teaching Sociology*, 41(3), 257-270.
- Guidotti, T. L. (2018). Sustainability and health: Notes toward a convergence of agendas. *Journal of Environmental Studies and Sciences*, 8(3), 357-361.
- Gunawan, J. (2015). Ensuring trustworthiness in qualitative research. *Belitung Nursing Journal*, 1(1), 10-11.
- Fineberg, H. V. (2012). A successful and sustainable health system how to get there from here. *New England Journal of Medicine*, 366(11), 1020-1027.
- Hawkins, J. L., Mercer, J., Thirlaway, K. J., & Clayton, D. A. (2013). "Doing" gardening and "being" at the allotment site: exploring the benefits of allotment gardening for stress reduction and healthy aging. *Ecopsychology*, 5(2), 110-125.
- Hill, P. C., & Pargament, K. I. (2003). Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *American Psychologist*, 58(1), 64.
- Ingman, S. & Mporfu, E. (2021). *The futures of sustainable community health*. In E. Mporfu (Ed.), *Sustainable community health: Systems and practices in diverse settings* (613- 631). New York, NY: Palgrave/Macmillan.
- Khumalo, I. P., Temane, Q. M., & Wissing, M. P. (2012). Socio-demographic variables, general psychological well-being, and the mental health continuum in an African context. *Social Indicators Research*, 105(3), 419-442.
- Koenig, H.G., George, H.K. and Titus, P. (2004). "Religion, Spirituality, and Health in Medically Ill Hospitalized Older Patients." *JAGS*, 52, 554–562.
- Liu, H., Elliott, S., & Umberson, D. J. (2010). Marriage in young adulthood. *Young adult mental health*, pp. 169-180. In J.E. Grant & M.N. Potenza. New York: Oxford University Press.
- Machida, D. (2019). Relationship between community or home gardening and health of the elderly: A web-based cross-sectional survey in Japan. *International Journal of Environmental Research and Public Health*, 16(8), 1389.
- Mporfu, E. (2021). *Concepts and models in sustainable community health*. In E. Mporfu (Ed), *Sustainable Community health: Systems and practices in diverse*

- settings (pp. 3-38). New York, NY: Palgrave/Macmillan.
- Mpofu, E., Dune, T. M., Hallfors, D. D., Mapfumo, J., Mutepfa, M. M., & January, J. (2011). Apostolic faith church organization contexts for health and wellbeing in women and children. *Ethnicity & Health, 16*(6), 551-566.
- Mpofu, K., & Mpofu, E. (2011). The positive effects of the gracious Christian religion on mental health. *Testamentum Emperum: An International Theological Journal, 3*, 1-13.
- Mpofu, E., Peltzer, K., Bojuwoye, O., & Mpofu, E. (2011). *Indigenous healing practices in sub-Saharan Africa*. In E. Mpofu (Ed). Counseling people of African ancestry (pp. 3- 21). New York, NY: Cambridge Press.
- Murphy, P. E., Ciarrocchi, J. W., Piedmont, R. L., Cheston, S., Peyrot, M., & Fitchett, G. (2000). The relation of religious belief and practices, depression, and hopelessness in persons with clinical depression. *Journal of Consulting and Clinical Psychology, 68*(6), 1102.
- Nell, W., de Crom, E., Coetzee, H., & van Eeden, E. (2015). The psychosocial well-being of a "forgotten" South African community: The case of Ndumo, KwaZulu-Natal. *Journal of Psychology in Africa, 25*(3), 171-181.
- Ogilvie, C. L. (2012, April). The socio-economic and biophysical factors affecting a rural community, Ndumo Game Reserve, KwaZulu Natal. Paper presented at the 5th Best of Both Worlds International Conference: Environmental Education and Education for Sustainable Development, Bela, South Africa.
- Opping, S., Brune, K., & Mpofu, E. (2021). *Indigenous communities health* (579-610). In E. Mpofu (Ed.), Sustainable community health: Systems and practices in diverse settings (579-610). New York, NY: Palgrave/Macmillan.
- Peltzer, K., Mngqundaniso, N., & Petros, G. (2006). A controlled study of an HIV/AIDS/STI/TB intervention with traditional healers in KwaZulu-Natal, South Africa. *AIDS and Behavior, 10*(6), 683-690.
- Savo, V., Lepofsky, D., Benner, J. P., Kohfeld, K. E., Bailey, J., & Lertzman, K. (2016). Observations of climate change among subsistence-oriented communities around the world. *Nature Climate Change, 6*(5), 462-473.
- Schafer, M. H., Ferraro, K. F., & Mustillo, S. A. (2011). Children of misfortune: Early adversity and cumulative inequality in perceived life trajectories. *American Journal of Sociology, 116*(4), 1053-1091.
- Schroeder, K., Thompson, T., Frith, K., & Pencheon, D. (2012). *Sustainable Healthcare*. New York, NY: John Wiley & Sons.
- Simon, R. W., & Barrett, A. E. (2010). Nonmarital romantic relationships and mental health in early adulthood: Does the association differ for women and men? *Journal of Health and Social Behavior, 51*(2), 168-182.
- Siu, A. M., Kam, M., & Mok, I. (2020). Horticultural therapy program for people with mental illness: A mixed-method evaluation. *International Journal of Environmental Research and Public Health, 17*(3), 711.
- Soga, M., Gaston, K. J., & Yamaura, Y. (2017). Gardening is beneficial for

- health: A meta-analysis. *Preventive Medicine Reports*, 5, 92-99.
- Swaziland Demographic Profile (2018). *Swaziland demographic profile report*. Available online: https://www.indexmundi.com/swaziland/demographics_profile.html (accessed on 15 October 2020).
- Uecker, J. E. (2012). Marriage and mental health among young adults. *Journal of Health and Social Behavior*, 53(1), 67-83.
- United Nations. (2018). The sustainable development goals. UN. Available online: <https://www.un.org/> (accessed on 6 September 2020).
- Van den Berg, A. E., van Winsum-Westra, M., De Vries, S., & Van Dillen, S. M. (2010). Allotment gardening and health: a comparative survey among allotment gardeners and their neighbors without an allotment. *Environmental Health*, 9(1), 74.
- Von Rueden, C. R., & Jaeggi, A. V. (2016). Men's status and reproductive success in 33 nonindustrial societies: Effects of subsistence, marriage system, and reproductive strategy. *Proceedings of the National Academy of Sciences*, 113(39), 10824-10829.
- World Bank Eswatini Report. (2019). *Fighting HIV/AIDS, improving governance, and increasing competitiveness*. Mbabane Office: World Bank Eswatini.
- World Health Organization (WHO, 2020). *The World Health Report 2000. Health systems: Improving performance*, WHO: Geneva, Switzerland: Author.
- Wood, C. J., Pretty, J., & Griffin, M. (2016). A case-control study of the health and well-being benefits of allotment gardening. *Journal of Public Health*, 38(3), e336-e344.
- World Health Organization. (2012). *Health systems in Africa: Community perceptions and perspectives*. https://www.afro.who.int/sites/default/files/2017-06/english---health_systems_in_africa---2012.pdf