

## Healing from War Trauma: The Psychological Benefits of Land Ownership among War Veterans in Gweru, Zimbabwe

J. Mutambara<sup>1</sup>, T. Sodi<sup>2</sup> & S. Mutambara<sup>3</sup>

Clinical Psychologists (<sup>1</sup>Midlands State University, <sup>2</sup>Allied Health Practitioners Council of Zimbabwe, <sup>3</sup>Pan African Psychology)

### Abstract

*Post war psychological adjustment of veterans has been a topical issue. However, there is a need to explore context specific ways of helping veterans heal from war trauma, especially in low resources countries. This qualitative exploratory study sought to understand the psychological benefits of owning land among veterans who received land during the land redistribution program. In-depth interviews were done with eight veterans who were selected through convenient sampling. The inclusion criteria was the veterans who answered yes to the question – “Besides other benefits, would you say you having land helped you psychologically?” The interviews sought to probe into the psychological benefits of land ownership. Content analysis was used and the following themes revealed the psychological significance of owning land: it led to a sense of satisfaction, seeing crops grow helped foster a sense of achievement, being occupied (as participants worked on the land) helped to as a distraction from ruminating about the war, land was seen as a source of legacy and security, connection with nature helped foster a sense of self-worth, land ownership helped participants to interact with other veterans and improved social support and the land gave the participants peace of mind as they felt they could leave an inheritance for their children. The study provides a glimpse into the post war psychological benefits of land ownership and research on trauma healing in low income countries can build upon this study.*

**Keywords:** veterans, land, trauma healing, Zimbabwe

### Introduction

Ways of healing veterans' war trauma have been under discussion globally. Some countries are well resourced and can afford symptom focused and office based approaches to healing. However, some veterans may not respond favourably to such regimens and, in countries where skilled manpower is lacking, calls have been made to adopt low resource, innovative approaches that are context specific. Amongst the approaches that are being recommended are nature/environment based modalities. Studies have shown that nature in its various forms is healing, redemptive, unspoilt, and curative (Walton, 2021).

Nature has been found to provide additional benefits compared to traditional therapy (Westlund, 2015). Ecotherapy refers to forms of treatment that encompass the natural world in healing and growth with a therapeutic basis (Chalquist, 2009). Agricultural programs on the other hand have a range of foci besides therapy but also link nature, human health and resilience (Fusaro, 2010). Activities done in horticultural therapy like gardening, ranking leaves, sowing seeds and weeding were found to have curative effect (Ulrich, 1999; Lewis, 1996). Integrating natural surroundings in the design of healthcare settings added to healing in medical interventions and helped improve patient outcomes, wellbeing and socialisation (Dustin et al., 2010; Pretty et al., 2005). A study that focused on nature as a buffer of life stress among rural children found that nearby nature moderated the impact of stressful life events (Wells & Evans, 2003).

The recognition that nature has therapeutic effects has led to the development of care farming in some regions. Care farming involves using and working on farms and agricultural landscapes to promote mental and physical health. Care farms are used to help military veterans to heal psychologically and to socially reconnect (Greenleaf & Roessge, 2017). Healing through nature by using care farming was found to have similar effects to other treatments that enhance emotional wellbeing like cognitive behavioural therapy, acceptance and commitment therapy, positive psychology interventions and mindfulness techniques (Greenleaf & Roessge, 2017). Care farms help foster peer to peer support and help veterans in their integration into civilian life (Westlund, 2015). A study to explore the therapeutic nature of gardens among individuals with stress disorder in Sweden found several positive experiences, for example, positive sensory experiences, physical and psychological well-being and more social interactions with other participants and caregivers (Adevi & Martensson, 2013).

Veterans reported that the farms provided comfort and prepared them for reintegration into the larger community. Engagement at the farms also gave veterans hope, motivation to change and improved feelings of self-worthy (Lederach & Lederach, 2010). More than 50% of participants reported that care farming helped them to increase life satisfaction and 40% said it helped them to become optimistic about the future. Care farming was found to decrease loneliness (Greenleaf & Roessge, 2017). In care farming, clients engage in various horticultural activities, including crop and vegetable production, animal husbandry, and woodland management.

Through this participation, they learn important skills within a natural environment and this has been shown to improve mental and social wellbeing (Hine, Peacock, & Pretty, 2008).

A study on the experiences of war veterans in Zimbabwe has shown that they experience unresolved bereavement issues, shattered hopes and expectations, feelings of worthlessness, resentment, strained relationships, fear and compromised spiritual wellbeing (Mutambara & Sodi, 2016). There were no formal programs in Zimbabwe to help war veterans in their reintegration into civilian life as well as psychosocial support in coping with traumatic experiences (Tony & Liisa, 2003). Veterans need interventions that best suit the experiences that they have been through. It has been noted that very few veterans utilise mental health services (Goldberg Looney, 2014). Veterans have been found to have difficulties in self-disclosure and help seeking (Bonar & Domenici, 2011), and have reported negative stigma from traditional therapies which some say made them feel weak and removed the warrior spirit in them (Goldberg Looney, 2014, Burnam et al. 2008). In addition, the mental health needs of military veterans differ from those of the rest of the population, and some may require unique interventions (Goldberg Looney, 2014). Use of nature to heal war trauma has been found to be effective and has been given different names, for example, ecotherapy, care farming or horticulture therapy depending on what is involved.

The study investigated the psychological benefits of owning land among veterans in Zimbabwe. Owning land is an important factor in the life of the people of African people. At independence (1980) around two-fifths of the total land area in Zimbabwe was occupied by the minority white commercial farmers, while the majority black peasants remained in less arable communal areas (Skalnes, 1995). Across the country, the formal land re-allocation through the fast trek land reform program in 2000 has resulted in the transfer of land to nearly 170,000 households by 2011 (Scones et al, 2011). Many war veterans were beneficiaries of that land reform program.

After the war, veterans faced post war hardships which include poverty, community and domestic violence, insecurity, inadequate housing and health care, stigma and discrimination, lack of social support and insufficient financial resources. These problems are usually compounded by mental health problems (Amone-P'Olak et al., 2014; Betancourt, Agnew-Blais, et al., 2010) like mood disorders, anxiety, psychotic disorders which predispose to drug and substance abuse and psychotic symptoms (Odenwald et al., 2005). Veterans may feel

isolated from loved ones, friends and communities and may withdraw even when they are surrounded by people who care. Mostly, they may find it difficult to relate to civilians whom they perceive as not appreciative of their combat experiences (Greenleaf & Roessge, 2017).

### **Aim of the study**

This study sought to explore the psychological benefits of owning and working on the land among war veterans in Zimbabwe. Some of the questions that were asked were: What do you think are the therapeutic benefits of tilling the land and growing crops? What are the healing benefits of being a landowner? What are the therapeutic benefits of rearing animals?

### **Method**

#### **Research design**

The study was qualitative in nature. The researchers interacted with the subjects of the study to obtain data (Coll & Chapman, 2000; Cousins, 2002). The in-depth interviews were conducted at the war veterans' district office. According to the qualitative approach, to better understand people's experiences events must be placed within a cultural frame to pinpoint causal influences and consequences (Marsella & Christopher, 2004). The qualitative study helped to describe the experiences of war veterans in relation to psychological benefits of land ownership (Leedy & Ormrod, 2001).

#### **Participants and sampling**

A total of eight veterans participated in this study. Five participants were male and three were female. The participants had received their farms/plots between 2000 and 2002 during the fast-track land reform program. The study targeted individuals who were previously based in urban areas before acquiring land. All participants provided verbal consent. Convenient sampling was used to identify participants through the help of the war veterans' Gweru district office staff. The age of the participants ranged from fifty-seven to seventy-two years. Two females and one male participant were formally employed. In terms of education, three of the participants had secondary education, three had a diploma and one had primary level qualification. Participants were recruited in accordance with following criteria: (a) answering yes to the question - "Besides other benefits, would you say having land helped you psychologically?"; (b) having resided in an urban area before occupying the farm; (c) having relocated to the farm.

### **Data collection procedure**

Interviews were done at the war veterans' district office using a structured interview guide. Cousins (2002) contends that in-depth interviews are important in phenomenological research because they allow the researcher to probe into individuals' subjective experiences. The interview guide helped to ensure consistency and credibility across each interview. Selection of war veterans to participate in the in-depth interviews ended when there was saturation of data (Ziebland & McPherson, 2006).

Participants were approached when they visited the district office. In total fifteen veterans were initially approached to take part in the study but seven were dropped because they did not meet the inclusion criteria. The staff at the district office helped to introduce the researchers and briefly explained the purpose of the study to the participants and thus helping to create rapport.

Interviews lasted about forty-five minutes to one hour. Prior to each interview and discussion, the participants were given an oral description of the study in a language that they understood. Interview data was audio recorded and transcribed.

### **Data analysis**

Content analysis was used to analyse the data. Content analysis refers to qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings (Zhang & Wildemuth, 2009). Data analysis was ongoing and from the first to the last interview in line with Ziebland and McPherson (2006). Two of the researchers were involved in data analysis. They first familiarised themselves with the text by reading through the transcribed material. Each researcher then reread the transcripts taking note of the main points and topics and these were used as codes. The codes grouped together common ideas in line with the psychological benefits of land ownership.

### **Ethical considerations**

Permission to conduct the study was obtained from the war veterans' executive. All participants verbally agreed to be interviewed. Participation in the study was voluntary. The aim of the research was explained to the participants before the interviews. Confidentiality was maintained throughout the study process.

## **Study findings**

Six main themes emerged from the interviews with the veterans. These were: self-discovery/sense of achievement; opportunity to bond/social support; feeling valued/ sense of satisfaction; hope/peace of mind; managing emotions; and being able to forget.

### ***Self-discovery/sense of achievement***

Participants revealed that owning land helped them to be at peace with their selves and to really know the types of person they were. Below are excerpts from the participants that showed that owning land and working on the land allowed them to discover themselves:

From the war I was a person who was withdrawn and would like to be isolated most of the time. When I began working on the land I now relate more and it's like I am back to my old self again. (Participant 4)

I have always known myself to be a person who should not be constrained by circumstances, thus land ownership has helped me to take charge of my life once again. I can plan my things and expect results without any hindrances. (Participant 1)

My parents were always hardworking they would always told us not to be lazy. I feel I have had good nurturance and the lessons that my parents instilled in me are bearing fruits from the hard work that I am putting in growing crops. (Participant 5)

Thus, to a greater extent, working on the land was therapeutic for the study participants because it gave them space and opportunity to rediscover their true selves.

### ***Opportunity to bond/social support***

Study participants also mentioned that land ownership helped them to bond with other veterans. Most of the participants reported that their plots were close to those of other veterans. This they said allowed for a sense of oneness among veterans. This helped them to interact with other veterans.

I know I am living with people who understand my situation. They have been through the same experiences as I had so they really know how we suffered during the war. (Participant 2)

I wish we had been given farms just after the war in 1980. I had a lot of problems trying to integrate into the civilian life after the war since no one knew what I had gone through. It seemed as though the civilians never cared. Most of the people thought I was very difficult but now I have friends who really know me. (Participant 6)

Some participants said they connected with other veterans during meetings. They said the meetings helped them to discuss issues that concerned them. One participant said:

I have made a lot of friends. We drink together, we do politics together. The neighbours that I have here are like my second family. I feel less alienated now. (Participant 8)

### ***Feeling valued and sense of satisfaction***

Participants also indicated that since they moved to the farms, they felt they were people of worth. They felt their confidence has been boosted because they could now provide for their families. This is shown by the extracts below:

I am now a person to be looked upon by my family members. If anyone is in need of something they look up to me to provide and assist and I am always happy to help my family. This makes me very proud (Participant 7)

I am staying with my aged parents at the plot. They are now in their late eighties and they had no one to live with. So they had to come to stay with us. Now I have a big family and I am proud of it. I always say to myself what could have become of my parents if I had not received this farm. They would be rotting in poverty now. I am proud to be doing something and this makes me feel good. (Participant 6)

Some veterans reported that although they would feel some civilians did not accept them when they were living in the urban areas; at the plots there was room for respect since the civilians could see their achievements.

### ***Hope and peace of mind***

Study participants reported that owning land helped them to be positive about the future. Most noted that, even though they were previously worried that they had no inheritance to leave for their children, land was a form of legacy/ inheritance for their children. This gave them encouragement and hope. Some participants noted that land ownership had transformed them to being important people in society. To most people, owning land was important as it pointed to a better future. Below are narratives from the participants that showed that owning land helped the veterans to be hopeful:

After the war I had lost everything. I had no formal education (as I had to leave school to go to war) and only had a four roomed house in town. I was always worried about how my children were going to survive after I passed on. I now have hope that my children can continue with a peaceful life because they now are entitled to the land as an inheritance. (Participant 5)

My future and that of my family is bright. We now produce our own food and I am happy that with the land that I got I am a father again. I had been struggling to make ends meet but am now very hopeful since I can see the benefits of owning land. (Participant 3)

### ***Managing emotions***

Participants reported that one way that farms helped them was to cope with anger and to better manage their emotions. Most noted that working hard on the land helped them to be at peace with their souls. Caring for crops from planting to harvesting helped to change their attitudes towards nature and helped them to care more about other people. Some reported that this gave them a sense of calmness and peace. Following are extracts from the participants that showed the usefulness of land in managing emotions:

I spend most of my time working on the land. This has helped me to change greatly. Being occupied most of the time has helped to reduce redundancy and boredom. Before getting this farm I would sit at home the whole day doing nothing. After getting land I am occupied most of the time. I am happy now compared to the days I was staying in town. (Participant 4)

My relationship with my family changed when I started to work on the land. I used to be someone who did not value relationships. I used to shout at my children and wife. My behaviour changed when I started working on the land. I now have a better relationship with my family. We now work as a team (Participant 5)

Being unoccupied for a long time had led me to abuse alcohol. When I drank alcohol I would become very violent most of the time. So, I would end up fighting with people. But when I started to work on the land, I now have few friends, I only drink beer during the weekend because most of the time I will be occupied. (Participant 6)

Some participants reported that caring for crops had helped them calm down and be more patient. The process of caring for crops was found to be beneficial.

### ***Being able to forget***

Study participants noted that working on the land was a distraction that helped them to forget the war experiences and the hardships that they had gone through. They noted that:

We can now boast that finally we have won the war. We had independence in 1980 but for us war veterans the war was not over because the resource that we fought for was unevenly distributed. Getting land was the end of the war in my mind. (Participant 4)

I am now at peace with myself because I got the land that I fought for. I feel a sense of achievement (Participant 8)

I am happy to see that even people who did not even participate in war are benefiting from the land resource. I rarely think of my war hardships because people are now able to produce food for themselves and their families and that makes me celebrate. (Participant 7)

## **Discussion**

The study participants reported that engaging in farming activities helped them to rediscover themselves. This implies that it made them aware of their potential and the ability to make a



difference. This, they said, was helpful for their mental wellbeing. Other studies have found that farming activities helped increase self-esteem, self-respect, responsibility and usefulness to society among participants with psychological disorders and addiction (Elings & Hassink, 2008). In addition, interaction with nature through agricultural activities promotes the formation of trusted interpersonal relationships and community connectedness (Krasny, Pace, Tidball, & Helphand, 2014).

Findings of the study were that participants had an opportunity to interact with other veterans at the farms and this was a source of social support and belonging. Interaction with nature through agricultural activities was found to promote the formation of trusted interpersonal relationships and community connectedness (Krasny et al., 2014). Being close to others who have been through the same experience helps to foster happiness and wellbeing while feeling disconnected from others has a negative impact on mental health (Chernyak & Zayas, 2010; Baumeister & Leary, 1995). The study found that veterans could link up with other veterans and help each other. This interdependence helped to reduce loneliness. Belongingness and social support are important for psychological and physical well-being. Studies have shown that social support and belonging helped to improve self-esteem, conscientiousness, wellbeing and helped reduce negativity caused by social rejection (McConnell et al., 2011). Farming has been found to reduce loneliness among veterans more than any other therapeutic intervention (Greenleaf & Roessge, 2017). Veterans have reported that farming together with other veterans in care farms greatly helped improve their sense of wellbeing and gave them hope also allowing them to reconnect (Greenleaf & Roessge, 2017).

Veterans also reported that they got respect from civilians by proving that they could work productively on the land and this made them feel worthy. Similarly, studies in the USA found that working on agricultural land helped veterans to feel that they were doing something that was important. They felt their lives had purpose again and it helped to boost their self-worth (Greenleaf & Roessge, 2017). Farming also helped the study participants to boost their confidence in executing tasks. They felt valued because they were able to take care of family members who now resided at the farms. This finding is an addition to research that has been done on the importance of care farms and other uses of nature as a therapeutic tool. In this study, more benefits were recorded since individuals owned the land and had to decide who to

stay with. Research has shown that people are psychologically healthy if they feel what they are doing is meaningful, for example, helping others (Kaplan & Kaplan, 2001).

Being landowners was said to be helpful as participants were assured of an inheritance to leave to their children in the event of death. They felt their children now had a secure future. This gave them a sense of contentment and hope. Land ownership has been found to be important in boosting farmers' psychological wellbeing and resulted in more happiness. Studies have found that owning land had more psychological benefits compared to renting land among farmers in Bangladesh (Khan, Jahan & Haque, 2007).

Another therapeutic nature of working on the land that was reported by the study participants was that it helped them to manage their emotions. Some of the study participants said that working on the land had helped them to be calm and cope with anger. Similarly ex-military personnel with combat-related mental health problems in the UK reported feeling relaxed after engaging in farming activities like planting and growing flowers and vegetables, making plant and bird boxes, and fishing classes (Atkinson, 2009). Participating in community agricultural programmes has been found to help participants to manage their emotional issues (Twill, Norris, & Purvis, 2011); and improved sleep and mood (Adevi & Martensson, 2013).

Caring for crops was reported as having therapeutic benefits as well. Participants said caring for crops had helped them to be calm and to be more patient. Caring for plants was found to result in improved self-esteem among participants who had stress disorder in Sweden (Adevi & Martensson, 2013). In addition, Kaplan and Kaplan (2001) noted that people are healthier psychologically and more reasonable if they have opportunities to explore new environments and experience the restorative value of nature. Care farming among USA veterans helped to improve self-esteem and offered a restorative environment, that is, an environment that promoted recovery from attention fatigue by allowing people to leave customary roles and distance themselves from stressors of daily life (Greenleaf & Roessge, 2017). Time spent working on the land was reported as a helpful distraction against terrifying memories of the war. Farming/plots greatly helped to reduce redundancy. Similarly, it has been found that spending time outdoors in care farms was therapeutic. These environments helped individuals to feel more energetic, active and connected with others (Elings & Hassink, 2006; Hassink, Elings, Zweekhorst, van den Nieuwenhuizen, & Smit, 2010).

## **Conclusion**

The study revealed the therapeutic nature of owning land and growing crops among veterans in Zimbabwe. Several psychological benefits were mentioned by the study participants, for example, increase in sense of satisfaction and achievement, distraction from war thoughts, land provided sense of security and helped to connect with other veterans thereby improving social support. Such benefits go a long way in indirectly resolving war related trauma. Findings from this study are consistent with outcomes from other structured programs that utilise nature in healing war trauma.

## **Implications of the study**

The study points to the therapeutic nature of land ownership and working on the land. It has implications for psychologists working with veterans in Zimbabwe to consider the use of care farming in healing war trauma and other forms of psychological disorders. This work could be done through collaboration with government stakeholders like agricultural extension officers to ensure sustainability of programmes. More studies are needed to modify and enhance farm ownership into trauma healing sites.

## **References**

- Adevi, A.A., & Martensson, F. (2013). Stress rehabilitation through garden therapy: The garden as a place in the recovery from stress. *Urban Forestry & Urban Greening*, 12(2), 230–237. doi: 10.1016/j.ufug.2013.01.007
- Amone-P'Olak, K., Stochl, J., Ovuga, E., Abbott, R., Meiser-Stedman, R., Croudace, T. J., & Jones, P. B. (2014). Post-war environment and long-term mental health problems in former child soldiers in Northern Uganda: The WAYS study. *Journal of Epidemiology and Community Health*, 68, 425–430. DOI:10.1136/jech-2013-203042
- Armstrong, D. (2000). A survey of community gardens in upstate New York: Implications for health promotion and community development. *Health & Place*, 6, 319-327
- Atkinson, J. (2009). An evaluation of the gardening leave project for ex-military personnel with PTSD and other combat related mental health problems. Retrieved from <http://www.gardeningleave.org/wp-content/uploads/2009/06/completeglsummary.pdf>
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497–529. Doi:10.1037/0033-2909.117.3.497

- Betancourt, T.S., Agnew-Blais, J., Gilman, S.E., Williams, D.R., & Ellis, B.H. (2010). Past horrors, present struggles: The role of stigma in the association between war experiences and psychosocial adjustment among former child soldiers in Sierra Leone. *Social Science & Medicine*, 70, 17–26.
- Bonar, T.C., & Domenici, P.L. (2011). Counseling and connecting with the military undergraduate: The intersection of military service and university life. *Journal of College Student Psychotherapy*, 25, 204-219.
- Burnam, M.A., Meredith, L.S., Helmus, T.C., Burns, R.M., Cox, R.A., ... Yochelson, M.R. (2008). Systems of Care: Challenges and Opportunities to Improve Access to High-Quality Care. In T.L. Tanielian & L. Jaycox (Eds.), *Invisible wounds of war: Psychological and cognitive injuries, their consequences and services to assist recovery*, 245–428. Santa Monica, CA: RAND.
- Chalquist, C. (2009). A look at the ecotherapy research evidence. *Ecopsychology*, 1(2), 64–74.
- Chernyak, N., & Zayas, V. (2010). Being excluded by one means being excluded by all: Perceiving exclusion from inclusive others during one-person social exclusion. *Journal of Experimental Social Psychology*, 46, 582–585. doi:10.1016/j.jesp.2010.01.004.
- Coll, R.K., & Chapman, R. (2000). Choices of methodology for cooperative education researchers. *Asia-Pacific Journal of Cooperative Education*, 1, 1-8. Retrieved from [http://www.apjce.org/volume\\_1/volume\\_1\\_1\\_pp\\_1\\_8.pdf](http://www.apjce.org/volume_1/volume_1_1_pp_1_8.pdf).
- Cousins, C. (2002). Getting to the “truth”: Issues in contemporary qualitative research. *Australian Journal of Adult Learning*, 42, 192-204.
- Dustin, D.L., Bricker, K.S. & Schwab, K.A. (2010), “People and nature: toward an ecological model of health promotion”. *Leisure Sciences*, 32, 3-14.
- Elings, M. & Hassink, J. (2008). Green care farms, a safe community between illness or addiction and the wider society. *Journal of Therapeutic Communities*, 29, 310- 323. Retrieved from [https://www.researchgate.net/publication/37789203\\_Green\\_Care\\_Farms\\_A\\_Safe\\_Community\\_Between\\_Illness\\_or\\_Addiction\\_and\\_the\\_Wider\\_Society](https://www.researchgate.net/publication/37789203_Green_Care_Farms_A_Safe_Community_Between_Illness_or_Addiction_and_the_Wider_Society).
- Fusaro, J.M. (2010). *Exploring the potential benefits and challenges to collaboration between small farmers and veterans*. Doctoral Dissertation, Humboldt State University. Retrieved from <http://humboldtdspace.calstate.edu/handle/2148/673>.
- Goldberg Looney, L. (2014). *Military service members’ and veterans’ preferred approach to mental health services*. Master of Science in Psychology Thesis, Virginia Commonwealth University. Retrieved from <http://scholarscompass.vcu.edu/etd/3608>.
- Greenleaf, A.T. & Roessge, K.M. (2017). Effectiveness of care farming on veterans’ life satisfaction, optimism, and perceived loneliness. Retrieved from [https://www.researchgate.net/publication/310952083\\_Effectiveness\\_of\\_Care\\_Farming\\_on\\_Veterans'\\_Life\\_Satisfaction\\_Optimism\\_and\\_Perceived\\_Loneliness](https://www.researchgate.net/publication/310952083_Effectiveness_of_Care_Farming_on_Veterans'_Life_Satisfaction_Optimism_and_Perceived_Loneliness).

- Hassink J., Elings M., Zweekhorst M., van den Nieuwenhuizen N., & Smit A. (2010). Care farms in the Netherlands: Attractive empowerment-oriented and strengths-based practices in the community. *Health & Place*, 16, 423–430. [PubMed]
- Hine, R., Peacock, J., & Pretty, J. (2008). Care farming in the UK: Contexts, benefits, and links with therapeutic communities. *International Journal of Therapeutic Communities*, 29(3), 245-260.
- Kaplan, S. & R. Kaplan (2001). Health, supportive environments, and the reasonable person model. *American Journal of Public Health*, 93(9), 1484-1489
- Khan, M.H.A, Jahan, S. & Haque, A. (2007). Effects of land ownership on psychological well-being of the poor farmers of the northern parts of Bangladesh. *Journal of Life Earth Sci.*, 2(2), 43-46
- Krasny, M.E., Pace, K.H., Tidball, K.G., & Helphand, K. (2014). Nature engagement to foster resilience in military communities. In K. Tidball & M. Krasney (Eds) *Greening in the Red Zone* (pp. 163–180). Springer Netherlands.
- Lederach, J.P. & Lederach, A.J. (2010). *When blood and bones cry out: Journeys through the soundscape of healing and trauma*. Oxford: Oxford University Press.
- Leedy, P.D., & Ormrod, J.E. (2001). *Practical research: Planning and design* (7<sup>th</sup> edn.). Upper Saddle River, NJ: Merrill/Prentice Hall.
- Lewis, C.A., (1996). *Green nature human nature: The meaning of plants in our lives*. University of Illinois Press, Urbana and Chicago, IL.
- Marsella, A.J., & Christopher, M.A. (2004). Ethnocultural considerations in disasters: An overview of research, issues, and directions. *Psychiatric Clinics of North America*, 27, 521–539. DOI:10.1016/j.psc.2004.03.011.
- McConnell, A.R., Brown C.M., Shoda, T.M., Stayton L.E. & Martin, C.E. (2011). Friends with benefits: On the positive consequences of pet ownership. *Journal of Personality and Social Psychology*, 101(6), 1239–1252
- Mutambara, J. (2016). *Towards the development of an indigenous psychological trauma model for war veterans in Zimbabwe* (Unpublished Doctoral thesis). University of Limpopo, Polokwane.
- Odenwald, M., Neuner, F., Schauer, M., Elbert, T., Catani, C., Lingenfelder, B., . . . & Rockstroh, B. (2005). Khat use as risk factor for psychotic disorders: A cross-sectional and case-control study in Somalia. *BMC Medicine*, 3, Article 5. DOI:10.1186/1741-7015-3-5.
- Pretty, J., Peacock, J., Sellens, M. & Griffin, M. (2005). The mental and physical health outcomes of green exercise. *International Journal of Environmental Health and Restoration*, 15(5), 319-337.

- Skalnes, T. (1995). *The politics of economic reform in Zimbabwe*, New York: St. Martin's Press.
- Scones, I., Marongwe, N., Mavedzenge, B., Murambinda, F., Mahenehene, J. & Masume, C. (2011). *Zimbabwe`s land reform: A summary of findings*. IDS: Brighton.
- Tony, A., & Liisa, L. (2003). The political economy of Zimbabwe's descent into conflict. *Journal of International Development*, 15(4), 457-470.
- Twill, S.E., Norris, M., & Purvis, T. (2011). Weeds and seeds: Reflections from a gardening project for juvenile offenders. *Journal of Therapeutic Horticulture*, 21(1), 6-17.
- Ulrich, R.S. (1999). Effects of gardens on health outcomes: theory and research. In X. Cooper Marcus & M. Barnes, (Eds.), *Healing gardens: Therapeutic benefits and design recommendations* (pp. 27–86). John Wiley, New York.
- Walton, S. (2021). Nature trauma: Ecology and the returning soldier in First World War English and Scottish fiction, 1918-1932. *The Journal of Medical Humanities*, 42(2), 213–223. <https://doi.org/10.1007/s10912-019-09591-9>.
- Wells, N.M. & Evans, G.W. (2003). Nearby nature: A buffer of life stress among rural children. *Environment and Behavior*, 35, 311. DOI: 10.1177/0013916503035003001.
- Westlund, S. (2015). Becoming human again?: Exploring connections between nature and recovery from stress and post-traumatic distress. *Work*, 50(2015), 161–174. DOI 10.3233/WOR-14193.
- Zhang, Y., & Wildemuth, B.M. (2009). *Qualitative analysis of content*. Retrieved from [http://ils.unc.edu/~yanz/Content\\_analysis.pdf](http://ils.unc.edu/~yanz/Content_analysis.pdf).
- Ziebland, S., & McPherson, A. (2006). Making sense of qualitative data analysis: An introduction with illustrations from DIPEX (personal experiences of health and illness). *Medical Education*, 40, 405–414. DOI: 10.1111/j.1365-2929.2006.02467.x.