

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE
DEPARTMENT OF ENVIRONMENTAL SCIENCE



**A STUDY ON THE KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARDS CREMATION AS AN
ENVIRONMENTAL MEASURE AT BINDURA UNIVERSITY OF SCIENCE EDUCATION.**

By

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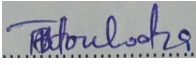
DECLARATION

To be compiled by the student

Registration number: B213765B

I, Tafadzwa Blessing Mutonhodza, do hereby declare that this project is my original work and has not been submitted before. The project indicates all the information derived from other sources.

Signature of the

student..........Date.....

To be compiled by the supervisor

This dissertation is suitable for submission to the faculty and has been checked for conformity with the faculty guidelines.

Signature of the supervisor..........

Date.....

DEDICATION

I dedicate this research project to my dear family and friends for the support they have given me.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my supervisor, Mr. Nyamugure, for the invaluable guidance, unwavering support, and insightful feedback throughout this research. I am also thankful to my academic lecturers, their expertise, encouragement, and attention to detail were instrumental in the successful completion of this dissertation. I am truly grateful for their patience and commitment to my academic growth.

ABSTRACT

Background: *According to Masona and Gwisai (2023), the disposal of a human body is a universal concern, with various methods practiced across different cultures. Common methods include ground burial, mummification, and cremation. However, rising death rates, especially from pandemics such as COVID-19, HIV/AIDS, and malaria, have heightened awareness of adopting cremation as a method of disposing of human remains. However, for this method to be accepted, the public must have adequate knowledge and hold favorable attitudes that support such practices. No previous research has been conducted in the study area to assess knowledge, attitudes and practices related to cremation. This study aims to address that gap.*

Materials and methods: *The study adopted a cross-sectional study design. A total of 50 questionnaires were administered among staff and students in the Faculty of Social Sciences and Humanities. All the questions on the questionnaire were closed-ended. The questionnaire was divided into four sections namely, socio-demographic information, knowledge, attitudes, and practices (KAP). The data collected through questionnaires was analyzed using SPSS.*

Results: *the study included 50 respondents, with 56% female and 44% male participants. the 18-25 age group made up 86% of the sample, the 26-34 age group made up 6%, and the 35-40 consisted of 8% of the sample. Participants demonstrated a relatively fair knowledge score of 55% and a total attitudes score of 68%. However, the practice score was notably low at 31%, showing limited engagement in cremation.*

Conclusion: *The findings indicate that while participants have good knowledge about cremation, their attitudes are generally negative and actual practice is very limited. These trends are strongly influenced by religious beliefs and cultural values. Therefore, even with sufficient knowledge, negative attitudes and cultural perceptions affect the acceptance of cremation. The study also showed a significant relationship between socio-demographic factors and KAP. Higher education levels correlated with greater understanding of cremation's environmental*

benefits compared to secondary education. Participants in the 18-25 age group showed greater openness to cremation as compared to participants in the 26-34 and 35-40 age group. religious beliefs also influenced both knowledge on cremation and attitudes towards its practice, especially in the Christian community.

Recommendations: *to promote cremation, environmental and public awareness campaigns should be done to address challenges related to decreasing burial spaces and the associated health and environmental risks. The benefits of cremation should be emphasized and promoted to help shift people's negative perceptions towards cremation. The responsibility of burials should also be transferred to local authorities, like government bodies and municipalities, who are aware of the environmental concerns, rather than churches.*

ACRONYMS AND ABBREVIATIONS

BUSE	Bindura University of Science Education
FAES	Faculty of Agriculture and Environmental Science
KAP	Knowledge, Attitudes and Practices

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CHAPTER 1

1.0 INTRODUCTION

The Encyclopedia of Cremation defines cremation as the practice of purposefully heating a dead human body to between 1400 degrees and 2100 degrees to incinerate the body's soft tissue and reduce the skeleton to small pieces (Jones, 2010). Cremation is also defined as a method of final disposition of a dead body through burning (Breschi, Ruiu, & Francini, 2018). However, burial has been the traditional choice for many cultures and religions in Zimbabwe. It involves placing the deceased in a casket, which is then buried in a grave. Cremating the deceased rather than burying them offers a high degree of flexibility. The ashes can be kept in an urn, scattered or incorporated into jewelry or a memorial, art (Molenaar, Mennen, & Kistenkas, 2009). This allows families to create personalized and meaningful memorials that can be kept close or shared among family members. Cremation is often seen as a more environmentally friendly option compared to traditional burial. It does not require the use of land or caskets, which can have ecological impacts.

The shortage of burial space in urban centers has become a problem as most allocated spaces have been filled, with limited substitutes for burial. Burial cemeteries create an opportunity cost for land that could be used for other economic activities. People need to adopt other burial options like cremation, to save land for the growing population. In many Zimbabwean societies, burial has deep cultural and spiritual significance. This research will explore how cultural beliefs, traditions, and misconceptions shape knowledge, attitudes, and practices towards cremation as an environmental measure.

1.1 BACKGROUND OF THE STUDY

The disposal of a human body is a universal concern, with various methods practiced across different cultures. Common methods include ground burial, mummification, and cremation (Masona & Gwisai, 2023). However, rising death rates, especially from pandemics such as COVID-19, HIV/AIDS, and malaria, have heightened awareness of adopting cremation as a method of disposing of human remains in various municipalities (Jones, 2010). For instance, the

COVID-19 death rates in Zimbabwe increased from less than 500 deaths by December 2020 to 4500 deaths by October 2021. Therefore, a continued increase in death rates, against a constant land size, will pressure the availability of municipal burial sites (Afla, 2020). The HIV/AIDS pandemic also impacted KwaZulu-Natal, leading to high numbers of deaths and increasing strain on traditional burial methods (Zondi & Zwane, 2014).

Cremation offers a solution to land scarcity and high burial costs, but it is often met with resistance due to cultural and religious beliefs (Masona & Gwisai, 2023). For example, Shona traditions in Zimbabwe prefer traditional burial practices, viewing cremation as ‘un-African’ (Shoko, 2008). Many religions in Zimbabwe see death as sacred and respect that the handling of the body should be done in a manner that is acceptable to their religions. In the ATR, they believe that when a person is dead, their spirit connects with the ancestors, and hence it is proper to preserve the body and give it proper burial (Zondi & Zwane, 2014). Over the years, cremations have surpassed burials as the most popular burial option in the United States, according to the National Funeral Directors Association. Cremation and some innovative methods to honor the deceased are often promoted as environmentally friendly alternatives to traditional and casket burials. Additionally, in other parts of the world, cremation has been influenced by factors such as changing religious views (Breschi, Rui, & Francini, 2018).

1.2 PROBLEM STATEMENT

Zimbabwe faces increased environmental concerns related to traditional burial practices. In today’s world, land use is becoming critical due to increasing population, increasing death rates, an increase in urbanization, as well as the increased demand for raw materials, especially for industrialization. It has become a call for concern that people adopt cremation as a burial method over traditional burial so that larger parts of land that are being used for burial purposes could be repurposed for more productive uses, such as agriculture. By considering cremation as an alternative to traditional burial, we can conserve land, resources, and use the land for purposes that are environmentally beneficial to the planet, like agriculture.

Cultural beliefs and practices help in shaping attitudes towards the adoption of cremation as an environmental measure, and examining the differences in cultural perspectives is important for

understanding how they influence individuals' acceptance or rejection of cremation as a burial method.

1.3 JUSTIFICATION OF THE STUDY

Burials have been the most common way to lay the deceased to rest, but they can harm the environment. As people become more aware of ecological issues, it's important to look at how traditional burials affect the planet and explore greener options such as cremation. As urban populations grow, the management of human remains is causing several public health challenges. Cremation is recognized as a more environmentally friendly alternative to traditional burial practices. Traditional burial practices use a lot of land for cemeteries, which leads to urban sprawl and the destruction of natural habitats. As cities grow, valuable ecosystems, plants, and animals are pushed out, upsetting the environmental balance. This research will assess the knowledge, attitudes, and practices towards cremation, which could promote land conservation and lessen the risk of contaminating groundwater. This research can help to highlight the environmental benefits of cremation in protecting the environment.

1.4 AIM

This research aims to assess the Knowledge, Attitudes, and Practices towards cremation as an environmental measure.

1.5 RESEARCH OBJECTIVES

2. Assessing the knowledge levels of staff and students at BUSE towards cremation as an environmental measure
3. Assessing the attitudes of BUSE students and staff towards cremation as an environmental measure
4. Assessing the practices of BUSE students and staff towards cremation as an environmental measure over traditional burial practices
5. To relate KAP on cremation to socio-demographic factors.

1.5 RESEARCH QUESTIONS

1. What is the level of public knowledge on cremation as a burial method over traditional burial methods?
2. What are the cultural beliefs and practices that influence an individual's attitudes towards cremation as a burial option?
3. What are the current practices of Bindura University students and staff on cremation as an environmental measure?
4. What is the relationship between KAP and socio-demographic factors?

1.6 LIMITATIONS

This research provides input for the discussion on the effects of burials on the environment, which is particularly a comparison of traditional burial and cremation. Attitudes and practices can change over time, and this study captures them at a specific point, which can be a challenge. The people may provide information that does not correspond with their behaviors or practices. Respondents may even lack the knowledge of what cremation is, and this is a major challenge for the researcher to collect data or get biased information.

CHAPTER 2: LITERATURE REVIEW

2.0 INTRODUCTION

This chapter examines and reviews existing research or literature that has been published, written, and issued by other authors on knowledge, attitudes, and practices (KAP) regarding cremation. The chapter is structured into three sections: Knowledge, Attitudes, and Practices, focusing on global and local perspectives.

2.1 KNOWLEDGE TOWARDS CREMATION

Public knowledge on cremation varies with religion and cultural differences, beliefs, environmental awareness, and formal education. In developed countries like the United Kingdom and some parts of Europe, cremation is well understood and accepted as a practical and environmentally friendly burial method (Kazmier, 2009). In many African regions, including Zimbabwe, knowledge about cremation remains limited. Traditional burial practices are dominant, and cremation is viewed as foreign or an unconventional burial practice (Hadder, 2013). A study by Itegi (2014) on knowledge and perceptions of cremation found that church members had very limited knowledge of the practice. The research recommended that churches begin educating their congregants about cremation to help them make environmentally friendly decisions. (Zondi & Khuzwayo, 2015), revealed that the lack of knowledge about cremation and its environmental benefits, like reduced land use and degradation, lower resource consumption, and low costs, contributes to its low adoption rates. However, in contrast, cemeteries can be also considered as potential sources of soil and groundwater contamination in burial places where there is no system for collecting and treating grave leachate (Jonker & Olivier, 2012).

Reports show that cemetery pollution increases the concentration of heavy metals and toxic organic pollutants in the soil, water, and air, and some have even been discovered in the air (Neckel et al, 2017). The process of burning a dead human body generates several potential contaminants that are capable of contaminating the environment (Gwenzi, 2021). Research conducted in Nigeria by Daraloma et al (2016) found that 75% of people lacked knowledge that

traditional burial practices could pollute rivers and wells with the chemicals used to preserve bodies.

In Zimbabwe and other sub-Saharan countries, including South Africa, knowledge of cremation is limited and is influenced by a lack of exposure rather than formal education (Zondi & Zwane , 2014). Burial remains the dominant method of body disposal, deeply tied to spiritual, ancestral, and communal values. Furthermore, knowledge levels among university students and other educated populations are uneven. Studies indicate that academic exposure does not always equate to in-depth knowledge about cremation, especially since family traditions and cultural values dominate one's belief system (Zondi & Zwane , 2014).

A study by (Zondi & Zwane , 2014) revealed that among Zulu people, even those who recognize the economic benefits of cremation remain unwilling to adopt the practice due to ritualistic components such as visiting graves, performing ancestral rites, and maintaining physical continuity with the dead. However, increasing urbanization, land scarcity, and environmental degradation are creating a shift in public discourse. (Masona & Gwisai, 2023) argue that cremation is becoming an important alternative due to its potential to reduce environmental pressure from land-use and pollution caused by decomposing corpses and chemically treated coffins.

Cremation has multiple environmental advantages, such as reduced land consumption, lowering groundwater contamination, and reducing deforestation associated with coffin production and firewood use (Poudel & Uprety, 2017). However, such knowledge is not widespread. Research by (FREDERICK PETERSON, 1881) revealed that cremation has been legalized in many countries, for example, in Italy since 1877, and has been practiced at Milan and Padua. There are also several crematories in Germany, and incineration has been performed at Breslau, Dresden, and Gotha. The London Lancet of Dec., 1878, reports the Sanitary Council of Munich to have recommended cremation; after battles, during certain epidemics, or when the transportation of dead bodies is difficult to be done.

Zimbabwe also has legislation regarding cremation under the Burial and Cremation Act Chapter 5:03 of 2016. Part III of this act stipulates the provisions that are deemed necessary during

cremation. For example, section 12(1) stipulates that unless authorized by the minister, no person shall burn any human body in or at any place other than a crematorium. Subsection (3) also stipulates that any person who contravenes the provisions/ requirements of (1) shall be guilty of an offense and can be imprisoned for up to a period of one year. To minimize environmental contamination and protect public health under the Burial and Cremation Act, section 14(1) stipulates that no body shall be burned in or at a crematorium unless the crematorium and the situation, site, and facilities have been approved by the minister responsible for health.

2.2 ATTITUDES TOWARDS CREMATION

Attitudes towards adopting cremation are highly influenced by cultural, religious, and social beliefs. In many western countries, cremation has become very popular, and this shift is influenced by changing societal values, urbanization, and rising environmental issues (Televantos et al., 2014). The CIA World Fact book confirms the dominance of Christianity in Zimbabwe, saying that about 84% of the Zimbabwean population follows Christian groups. In Zimbabwe, traditional Shona and Ndebele cultures emphasize burial as a sacred rite necessary for ancestral veneration. (Masona & Gwisai, 2023). Cremation is often viewed as a violation of these traditions, as it disrupts rites like kutema rukawo (the first grave dig).

A study by (Chitando, 1999) states that many Christians in Zimbabwe say that “cremating the body” resembles hellfire, and Christians support the idea that cremation should be carried out for criminals and severe sinners as a way of punishing them. Additionally, some people believe that cremation contradicts the belief in the resurrection, which is a key Christian belief for most Zimbabweans. While some Christian denominations oppose cremation due to resurrection beliefs (Huggins & Hinkson, 2019), others, like Hindus, fully embrace it (Jones, 2010). (Masona & Gwisai, 2023) revealed that religious groups play a crucial role in shaping attitudes, as mainline Christian denominations such as Catholicism and Pentecostal churches often emphasize the sanctity of the body and the traditional notion of resurrection, which is interpreted as requiring bodily integrity. This doctrinal standpoint reinforces burial as the preferred method.

In another study, (Zwane, 2011) states that until May 19, 1886, Catholics were not allowed to be part of societies that believed in cremating the dead or having their bodies cremated. She further explains that during World War II, German Catholics who chose to be cremated were officially

expelled from the church (Zwane, 2011). She also asserts that the concept of cremation has been met with mixed feelings by Zambians, who argue that cremation is not part of the new Christian religion that most Zambians follow. Additionally, she explains that many Kenyans still have concerns about cremation, which they believe does not align with African traditions.

A study by (Shoko, 2008) reviewed that many Shona people have a powerful belief that conducting a traditional funeral is an important preparation for the body's journey after a person has died, and destroying that body through cremation could also destroy the soul of the deceased. (Rebay-Salisbury, 2012) says that most Africans believe in the continuance of life after the death of a person, and that is why during a funeral, many communities provide the needs of the deceased, or express the deceased's social personality. (Chitando, 1999) notes that many Zimbabwean Christians from different religious groups have strong views against the exercise of cremating the dead. Their choice for burial does not come from Christian conviction or religious introspection, instead, it is the cultural factors or the "traditions of the elders" that have significant power in this thought. (Zwane, 2011) states that perspectives of cremations in Zimbabwe have not changed; the number of Zimbabweans choosing cremation as a burial option is still very low. In support of this statement (Zwane, 2011), references Michael Galiao of Mashfords Funeral House in Harare, who implied that their business performs about eight cremations per day, many of which are of white people who accept that cremation is a more environmentally friendly way of disposing the human body compared to traditional burial (Zwane, 2011).

A study in South Africa revealed that, within traditional Zulu culture, respectable individuals are buried at home, regardless of gender or age. They are interred at the back or sides of their family's huts, except for the head of the family, who is buried at the top of the cattle kraal. (Ngubane, 2019). Another study was conducted by Omonisi (2020) in Africa, which showed that most African traditional believers honor the transitional period of the deceased, where burying them with their favorite items or personal belongings aids them in their journey. In South Africa, cremation is significantly increasing in the Western Cape province, where 12% of burials are cremations. In provinces with predominantly black populations, those numbers are lower (Mbaranga 2017). In Zimbabwe, resistance remains strong, with many associating cremations with economic desperation (Rotar, 2014). Similar resistance is documented in South Africa and

Nepal. In KwaZulu-Natal, Zulu respondents rejected cremation due to its incompatibility with ancestral traditions (Zondi & Zwane , 2014). In Nepal, resistance was due to fears that modern cremation would erode collective mourning rituals and family roles traditionally involved in open pyre cremation (Poudel & Uprety, 2017) . Furthermore, in Romania, cremation was stigmatized due to its historical association with communism and atheism, particularly after 1990, when cremation came to symbolize moral and spiritual decay in Orthodox Christian discourse (Rotar & Teodorescu, 2012).

Studies in other African countries indicate that awareness campaigns highlighting pollution from cemeteries can shift attitudes (Kabiru et al., 2019), but without culturally sensitive messaging, cremation may continue to face rejection. However, recent studies indicate that attitudes are shifting, particularly in urban areas and among younger, more educated populations. For example, in Nepal, electric cremation is gaining acceptance, including among devout Hindus, largely due to its environmental and economic benefits (Poudel & Uprety, 2017). Some people are beginning to view cremation pragmatically rather than spiritually, especially when burial costs are prohibitive or cemetery space is limited.

2.3 PRACTICES TOWARDS CREMATION

Cremation practices are different globally, with some regions adopting advanced technologies to minimize environmental impacts, such as reducing emissions and energy use (Jungklaus & Biermann, 2021). Many studies have been conducted on the topics of burning and transforming bodies and as well as focusing on how these practices connect to cultural traditions, especially cremation (Novacek & Grosskopf, 2021) . The growing practice of cremation has influenced funeral and burial practices among rural populations. Traditional burial practices often involve land-intensive processes and the use of non-biodegradable materials, raising concerns about sustainability. Other researchers have examined the decision-making process behind choosing cremation and the discussions involved, especially in countries in the global south (Roberts, 2010).

In African traditions, family disagreements over burial versus cremation have always been a topic of discussion (Frekleton, 2009), whilst in developed countries, cremation has become very

common. In Zimbabwe, most people prefer traditional burial as it allows families to create a resting place that can be visited by future generations to honor the deceased. This preference makes cremation unpopular and creates challenges for those who support it. Furthermore, in Zimbabwe, some city councils have proposed cremation as a solution to land pressure, uptake has been limited. For instance, city officials have noted that even when cremation facilities exist, few families use them due to cultural resistance (Olando, 2019). A study in Ile-Ife, Nigeria, found that 77% of residents preferred to bury their dead around or within their household compounds, a practice that has negative impacts on public health and environmental sanitation but continues due to religious and cultural beliefs (Daraloma et al., 2016). Cremation numbers in places like Nairobi have remained significantly lower than burials, even when cremation is promoted for cost and space-saving reasons (Daily Nation, 2018).

Countries like Nepal have piloted modern electric cremation to combat deforestation and pollution. The Pashupatinath temple in Kathmandu, a major Hindu site, has adopted both traditional and electric cremation. While traditional methods still dominate, electric cremation is becoming popular due to its affordability, speed, and environmental friendliness (Poudel & Uprety, 2017). In Romania, practices around cremation remained minimal, not because of a lack of facilities but due to the powerful symbolic link between cremation and political oppression under communism. The Orthodox Church, dominant in Romania, equated cremation with atheism and moral deviance, influencing public behavior despite state secularization (Rotar & Teodorescu, 2012).

In Europe, there has been a shift from burial practices to cremation, especially in the Czech Republic (Hupkova, 2014). Unlike Zimbabwe, many European countries, such as the United Kingdom, have widely adopted cremation (Kazmier, 2009). From a European perspective, scholars have examined historical, biblical, and theological views on cremation (Jones, 2010). This has shaped beliefs and attitudes, leading to some resistance to cremation when making end-of-life decisions (Televantos et al., 2013). Traditional burial practices in many African and rural communities use a lot of land and also contribute to environmental degradation over time (Zondi & Khuzwayo, 2015). However, the adoption of cremation in such communities becomes difficult due to cultural resistance, lack of knowledge on cremation and its benefits, lack of infrastructure, and limited knowledge on its environmental benefits.

Studies have highlighted the need for policy changes and public education to promote cremation as an alternative, environmentally friendly burial method (Kazmier, 2009) . For example, in some European countries, government initiatives and regulations play a crucial role in encouraging the adoption of cremation, and similar approaches can be used in regions where traditional burial practices are dominant. Historically speaking, cremation has been sparingly practiced in cultures that have been influenced by Judeo-Christianity (Jones, 2010), he further explains that Greeks and Romans preferred cremation, especially those who were of higher classes. In comparison, he mentioned that Jewish people avoided cremation with a written collection of Jewish oral traditions (Mishnah) stipulating that cremation is an unacceptable practice. Even where cremation is legal, adoption is low due to cultural resistance, for example, in Italy, Southern regions lag due to stronger Catholic adherence (Breschi, Ruiiu, & Francini, 2018). Limited crematoriums in regions like Southern Italy and rural Africa restrict accessibility (Hadder, 2013). Lack of clear communication about environmental benefits and religious allowances may deter adoption.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter outlines the research study area and procedures employed to evaluate the Knowledge, attitudes, and practices (KAP) towards cremation as an environmental measure at Bindura University of Science Education. It also details the sample size, sampling techniques, target population, and overall research design. Additionally, the chapter addresses the research instruments used, considerations for research reliability and validity, ethical guidelines, and data analysis plan.

3.1 STUDY AREA

The research was conducted at Bindura University of Science Education in the Faculty of Social Sciences and Humanities, or Town Campus. The university is located at approximately 17.3251⁰ S and 31.3326⁰ E in Bindura town, Mashonaland Central Province, Zimbabwe. Bindura University of Science Education is situated about 87 kilometers northeast of Harare, the capital

city of Zimbabwe. The town is connected by major roads, including the Chimurenga and Trojan

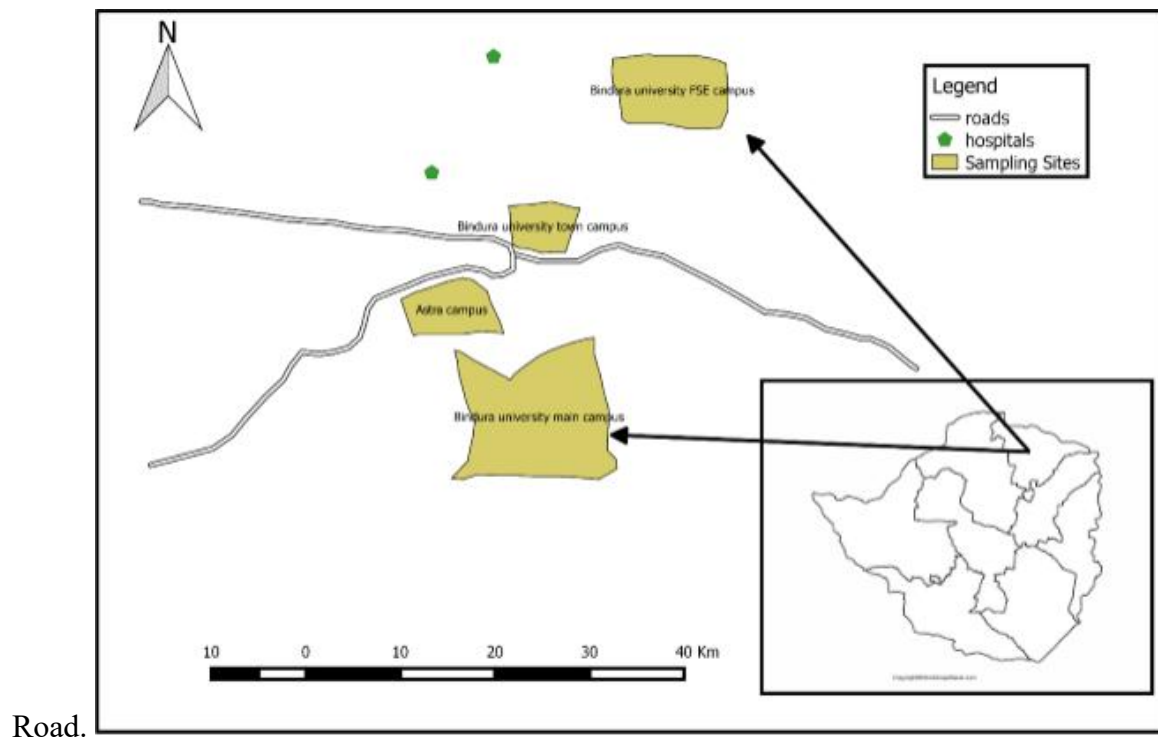


Figure 3.1: Study area map

3.2 STUDY DESIGN

The research adopted a cross-sectional study design to assess the knowledge, attitudes, and practices towards cremation as an environmental measure. A cross-sectional study design is a type of observational study design, where the researcher measures the outcomes and the exposures in the study participants at the same time. This design is essential for the examination of the associations between KAP and demographic factors. Cross-sectional studies are essential for population-based surveys and are useful in examining the presence or absence of a specific outcome, for example, knowledge, attitudes, and practices, in this case towards cremation and its association with certain exposures like religion, age, and educational levels (Girolamo and Mans, 2019). The study was descriptive, and the data collected through questionnaires was analyzed using quantitative tools. Cross-sectional studies are quick and easy to carry out, they can also be used to collect primary data that can be used for future long-term research studies.

3.3 DATA SOURCES

In this research, the researcher used both primary and secondary data sources. Primary data refers to information that is directly collected by the researcher from sources such as questionnaires, surveys, or interviews. In this study, the primary data was collected through questionnaires. Secondary data, on the other hand, was gathered from e-journals and other websites on the internet.

3.4 SAMPLE SIZE AND SAMPLING METHOD

In this research, a sample of 50 participants was used to collect data. The researcher used a random sampling technique to collect data from the 50 participants. Random sampling is a method of selecting a sample from a larger population in a way that everyone in the population has a chance of getting picked. This sampling method has the advantage of minimizing bias. (Noor, Tajik, & Golzar, 2022).

3.5 RESEARCHER TOOLS

The researcher used questionnaires with closed-ended questions as a research tool. A questionnaire is a structured set of questions designed to gather statistically relevant data on a specific subject (Roopa & Rani, 2012). The questionnaires were distributed physically by the researcher to the participants, and all participants were given sufficient time to complete answering the questions.

The questionnaire consisted of four sections:

- (i) Socio-demographic information
- (ii) Knowledge about cremation
- (iii) Attitudes towards cremation
- (iv) Practices towards cremation

The researcher collected the completed questionnaires for analysis.

3.6 RELIABILITY AND VALIDITY OF RESEARCH INSTRUMENTS

Reliability refers to the consistency of a measurement tool, whilst validity indicates the accuracy with which a concept is measured in quantitative research. Reliability is also defined as the extent to which measurements can be repeated consistently when conducted by different individuals under varying conditions (Drost, 2011). The researcher assessed the consistency of the results by comparing them with other measures of the same concept and established theories.

3.7 STATISTICAL ANALYSIS

Data analysis was conducted using SPSS (Statistical Package for Social Sciences). The research questionnaire included 4 questions on demographic information, 7 questions to assess the participants' knowledge, 7 questions to assess their attitudes, and 6 questions to assess their practices towards cremation as an environmental measure. Each correct answer was assigned a score of 1, while incorrect or "don't know" responses received a score of 0. The average score for each participant was then calculated, and the responses were categorized as 'good' if the score exceeded 70%, "fair" if it ranged between 51%-69%, or poor if it was below 50%. The overall knowledge, attitudes, and practices (KAP) scores were derived by adding the individual scores. These total KAP scores were used to rank the participants' level of knowledge, attitude, and practice towards cremation as an environmental measure. After analyzing the results, tables were then used to display the data.

3.8 RESEARCH ETHICS

The participants in this study took part voluntarily, no one was forced to participate in this study. The participants were informed by the researcher that not choosing to participate in the study was not going to result in any consequences. The researcher provided all the necessary details about the study, including its benefits, risks, funding sources, and institutional approval. Due to privacy rights, the researcher ensured the protection of participants' personal information. Anonymity was also maintained, and in cases where anonymous data collection was possible, the researcher took measures to protect the participants' identities.

CHAPTER 4: RESULTS

4.0 INTRODUCTION

This chapter discusses and presents the analysis of the data collected in this research. The researcher used tables to present the data.

4.1 SECTION A: DEMOGRAPHIC INFORMATION

Table 4.1: showing demographic information of participants

Demographic variables	Category	Sample size (n=50)	Percentage % 100
GENDER	MALE	22	44
	FEMALE	28	56

AGE	18-25	43	86
	26-34	3	6
	35-40	4	8
	41-49	0	0
	50+	0	0
EDUCATIONAL LEVEL	Primary	0	0
	Secondary	4	8
	Tertiary	46	92
RELIGION	Christianity	42	84
	Islam	1	2
	ATR	2	4
	No religion	5	10

The study had 44% male participants and 56% female participants. 86% of the participants in this study were between the 18-25 age group, 8% were between the 35-40 age group, and the remaining 6% were between the 26-34 age group. In this study, 92% of the participants had a tertiary level as their highest educational level, while the other 8% had a secondary level as their highest. 84% of the participants follow Christianity as their religious group, 10% do not have any religious group, 4% follow ATR as their religious group, and 2% follow Islam.

4.2 SECTION B: KNOWLEDGE ON CREMATION AS AN ENVIRONMENTAL MEASURE

Table 4.2: Knowledge of participants on cremation as an environmental measure

No	Knowledge	Participant response	Number of respondents	%	Preferred response	Score
1	Have you ever heard of cremation as a method of body disposal?	YES	49	98	YES	0.98

2	Are you familiar with the process of cremation?	YES	20	40	YES	0.4
3	Do you think cremation can be considered as an environmentally friendly alternative to traditional burial?	YES	34	68	YES	0.68
4	Do you think cremation uses fewer resources than traditional burial methods?	YES	36	72	YES	0.72
5	Do you think cremation can reduce the risk of groundwater contamination as compared to traditional burial?	YES	31	62	YES	0.62
6	Do you think cremation rates are rising globally?	YES	19	38	YES	0.38
7	Are you familiar with any laws or regulations regarding cremation in Zimbabwe?	YES	3	6	YES	0.06
	Total knowledge score					3.84

According to Table 4.2 on the knowledge of participants towards cremation as an environmental measure, the total knowledge score is 3.84 out of 7, showing that the percentage knowledge score is 55%, which is fair.

98% of the participants responded that they knew cremation as a method of body disposal, and only 40% were familiar with the process of cremation, leaving out 60% who were not familiar with how the process is carried out. 68% of the respondents agreed that cremation can be considered as an environmentally friendly alternative to traditional burial, whilst 34% had less

knowledge on that. 72% of the participants understood that cremation uses fewer resources as compared to traditional burial, 62% knew that cremation could reduce the risk of groundwater contamination as compared to traditional burial, but 38% of the participants scored incorrectly on the question. 38% of the participants believed that cremation rates are rising globally and only 6% of the participants were familiar with laws and regulations regarding cremation in Zimbabwe.

4.3 SECTION C: ATTITUDES TOWARDS CREMATION AS AN ENVIRONMENTAL MEASURE

Table 4.3: Attitudes of participants towards cremation

No	Attitudes	Participant response	Number of respondents	%	Preferred response	Score
1	Would you consider cremation for yourself or loved ones?	YES	26	52	YES	0.52
2	Do you think cremation can lead to loss of cultural traditions?	YES	40	80	YES	0.8
3	Do you support cremation as a method of body disposal?	YES	32	64	YES	0.64
4	Do religious beliefs influence your attitudes towards cremation?	YES	34	68	YES	0.68
5	Do you think cremation is more acceptable in urban towns compared to rural areas?	YES	34	68	YES	0.68
6	Are you aware of the environmental benefits of cremation	YES	39	78	YES	0.78

7	Do you believe that promoting cremation could help to address land scarcity in Bindura?	YES	32	64	YES	0.64
	Total Attitudes score					4.74

According to Table 4.3 on the attitudes of participants towards cremation as an environmental measure, the total attitudes score is 4.74 out of 7, showing that the percentage attitudes score is 68%, which is fair.

52% of the participants responded that they could consider cremation for themselves and their loved ones as a method of body disposal, 80% of the participants believed that cremation can lead to loss of cultural traditions, which require the grave to be available in physical form. 64% of the participants correctly scored that they support cremation as a method of body disposal compared to traditional burial. 68% of the participants responded that their religious beliefs influence their attitudes towards cremation, but 32% disagreed. 68% of the respondents correctly scored that cremation is more acceptable in urban areas as compared to rural areas. 78% of the participants agreed that they were aware of the environmental benefits of cremation. 64% of the respondents said that promoting cremation could help address land scarcity in Bindura urban town.

4.4 SECTION D: PRACTICES TOWARDS CREMATION

Table 4.4: Practices of participants towards cremation

No	Practices	Participant response	Number of respondents	%	Preferred response	score
1	Have you or anyone in your family ever used cremation as a method of body disposal?	YES	3	6	YES	0.06

2	Have you ever faced resistance from family or community when suggesting cremation?	YES	6	12	YES	0.12
3	Are you aware of anyone of anyone in your community who has been cremated?	YES	2	4	YES	0.04
4	Have you ever attended a cremation service or visit a crematorium?	YES	1	2	YES	0.02
5	Do you think the government should consider cremation as an environmental measure?	YES	41	82	YES	0.82
6	Do you encourage community members to consider cremation for environmental reasons?	YES	41	82	YES	0.82
Total Practices score						1.88

According to Table 4.4 on the practices of participants towards cremation as an environmental measure, the total practice score is 1.88 out of 6, showing that the percentage practice score is 31%, which is quite poor.

6% of the respondents responded that they knew people in their family who had used cremation as a body disposal method. 12% of the respondents agreed that they had faced resistance from their family and community members when they suggested cremation. 4% of the participants knew of some of their community members who had used cremation as a body disposal method. Only 2% of the participants agreed that they had attended a cremation service or visited a crematorium. 82% of the participants agreed that the government should consider cremation as

an environmental measure to fight land scarcity. 82% of the participants agreed that communities should be encouraged to consider cremation for environmental reasons.

4.5 RELATIONSHIP BETWEEN KAP AND SOCIO-DEMOGRAPHIC FACTORS

The analysis revealed a statistically significant association ($\chi^2 = 17.215$, $p = 0.002$) between the age of participants and their opinion on whether the government considers cremation a practice. Most of the (18-25) age group responded that the government should consider cremation, and the other age groups had different responses. There was a significant association between the education level of participants and their knowledge regarding whether cremation reduces groundwater contamination ($\chi^2=8.440$, $p=0.015$). All participants with secondary education responded that they 'don't know' if cremation reduces groundwater contamination. Most participants with a tertiary level believed that cremation reduces groundwater contamination. There was a statistically significant association between the education level of participants and their attitudes regarding the environmental benefits of cremation ($\chi^2=13.470$, $p=0.001$). participants with secondary education showed a different pattern of attitudes compared to those with tertiary education, who held positive attitudes towards the environmental benefits of cremation.

There was a significant ($\chi^2=12.222$, $p=0.002$) association between the education level of participants and their views on whether the government considers cremation practices. The majority of the tertiary educated participants supported that the government should consider cremation. There was a significant association between the religion of participants and their knowledge of the cremation process ($\chi^2=9.184$, $p=0.027$). Most Christians indicated that they knew the process of cremation. A highly statistically significant ($\chi^2=25.075$, $p<0.001$) association was found between religion and knowledge of cremation as an environmental measure; most Christians believed it to be an environmental measure compared to ATR. There was an ($\chi^2=14.456$, $p=0.025$) association between religion and attitudes toward considering cremation. Participants with no religion responded that they could not consider cremation for themselves, whilst most Christians believed that they could consider cremation, but their religion influences this decision, with a statistically significant ($\chi^2=13.365$, $p=0.038$) association. There

was a statistically significant association ($\chi^2=18.205$, $p=0.006$) between religion and views on practices of encouraging cremation in communities.

CHAPTER 5: DISCUSSION OF RESULTS

This chapter discusses the results and findings presented in Chapter 4, comparing them to existing literature.

5.0 KNOWLEDGE OF CREMATION

From the study, the respondents had a fair knowledge score of 54% on the knowledge of cremation as an environmental measure. Despite a fair score of 54%, there is potential for them to deepen their knowledge of cremation as an environmental measure. The results in this study showed that respondents understood well the concept of cremation as a body disposal method and its environmental benefits, but there were also gaps in knowledge of the participants on the laws and regulations regarding cremation in Zimbabwe, as well as the actual process of cremation. Only a few participants had knowledge on the process of cremation.

Less than half (6%) of the respondents were familiar with laws and regulations surrounding cremation in Zimbabwe, this may be because cremation is not yet widespread in Zimbabwe. This

corresponds with a study by Hadder (2013), which revealed that in many African regions, including Zimbabwe, knowledge about cremation remains limited. Traditional burial practices are dominant, and cremation is viewed as foreign or an unconventional burial practice.

64% of the respondents agreed that cremation can be considered as an environmentally friendly alternative to traditional burial which also aligns with a study conducted by Masona and Gwisai in 2023, which highlights that cremation is becoming an important burial alternative due to its potential to reduce environmental pressure from land-use and pollution caused by decomposing corpses and chemically treated coffins.

The findings from this research showed that 72% of the respondents knew that cremation uses less resources than traditional burial methods which is consistent with research by Poudel and Uprety (2017) which also showed that cremation has multiple environmental advantages, such as reduced land consumption, lowering groundwater contamination, and reducing deforestation associated with coffin production and firewood use.

According to the study findings, 38% of the respondents agreed that cremation rates are rising globally, suggesting that the majority lacked knowledge on this aspect. This shows that even those who know the benefits of cremation, still opt for traditional burial methods, which is in alignment with a study by Zondi and Zwane (2014) amongst the Zulu people which revealed that even those who recognize the economic benefits of cremation remain unwilling to adopt the practice due to ritualistic components such as visiting graves, performing ancestral rites, and maintaining physical continuity with the dead.

5.1 ATTITUDES TOWARDS CREMATION

From the findings of the study, the total attitude score was 67%, which is quite fair. This showed that the attitudes of people towards cremation were highly influenced by their religious beliefs. 52% of the respondents agreed that they could consider cremation for themselves. However more than half, 68% of the respondents confirmed that their attitudes towards cremation were shaped by their religious beliefs even if they support cremation, they face resistance from their family members and the community, this may be because 84% of the Zimbabwean population follows Christian groups (CIA World Fact Book). Many Christians believe that cremation is a sin and it

resembles hellfire. This was confirmed in a study by Chitando (1999). This is also in alignment with a study by Shoko (2008) which reviewed that many Shona people believe that burial prepares the body for its journey after a person has died, and destroying that body through cremation could also destroy the soul of the deceased. Rebay-Salisbury (2012) also says that most Africans believe in life after death of a person, and that is why burial is the dominant method.

From the study findings, 80% of the respondents believed that cremation can lead to the loss of cultural traditions, this is similar to a study by Masona and Gwisai (2023), they indicated that in Zimbabwe, traditional Shona and Ndebele cultures emphasize burial as a sacred rite necessary for ancestral veneration and cremation is often viewed as a violation of these traditions, as it disrupts rites like kutema rukawo (the first grave dig).

64% of the respondents said that they support cremation as a method of body disposal, which is in contrast with a study conducted in South Africa and Nepal, where respondents rejected cremation due to its disparity with ancestral traditions (Zondi & Zwane, 2014). In Nepal, resistance was due to fears that modern cremation would erode collective mourning rituals (Poudel & Uprety, 2017). In Romania, cremation was stigmatized due to its historical association with communism and atheism, particularly after 1990, when cremation came to symbolize moral and spiritual decay in Orthodox Christian discourse (Rotar & Teodorescu, 2012).

On religious perspectives, only 32% of the respondents agreed that their attitudes towards cremation are not influenced by their religious beliefs, and 68% of the respondents believed that cremation is more acceptable in urban towns compared to rural areas. This corresponds to a study which was conducted by Televantos et al., 2014, who said that in many Western countries, cremation has become very popular, and this shift is influenced by changing societal values, urbanization, and rising environmental issues.

5.2 PRACTICES TOWARDS CREMATION

In terms of practices, only 6% of the respondents confirmed that they had a family member who had been cremated. From the study findings, the total practice score was 1.82, which is quite

poor. This indicates that the practices are significantly lower, and people prefer traditional burial over cremation. This aligns with a study conducted by Daraloma et al., (2016) in Ile-Ife, Nigeria, which found that 77% of residents preferred to bury their relatives around or within their household compounds.

2% of the respondents agreed that they had either attended a cremation service or visited a crematorium, this indicated that cremation practices are still low in Zimbabwe, which is in contrast with a study by Jones (2010), which highlighted that in most developed countries like the United Kingdom, the practice is becoming very popular. He further explains that in some European countries, government initiatives and regulations play a crucial role in encouraging the adoption of cremation.

5.3 RELATIONSHIP BETWEEN KAP AND SOCIO-DEMOGRAPHIC FACTORS

Relating KAP to socio-demographic factors, participants with tertiary level education were more knowledgeable that cremation reduces groundwater contamination compared to those with a secondary level education, this can be due to the difference in exposure to scientific concepts, tertiary education offers deeper scientific knowledge on environmental processes which is not covered in much depth in secondary schools. Most of the (18-25) age group responded that the government should consider cremation, and the other age groups had different responses. This may be because younger generations are often more exposed to global trends and innovative solutions through digital media and diverse cultures, and they also have less attachment to traditional practices. Similarly, participants with a tertiary education level had positive attitudes towards the promotion of cremation, where they believed that the government should consider cremation compared to those with a secondary education level. This may be explained by the fact that secondary participants may rely more on cultural and traditional values, which can sometimes favor conventional burial practices over cremation; in contrast, tertiary education participants might be more open to changing traditional practices due to environmental considerations.

Participants with no religion responded that they could not consider cremation for themselves, whilst most Christians believed that they could consider cremation, but their religion influences

this decision, this is similar to a study by Masona and Gwisai (2023) which revealed that religious groups play a crucial role in shaping attitudes because Christian denominations such as Catholicism and Pentecostal churches often emphasize the sanctity of the body and the traditional notion of resurrection, which is interpreted as requiring bodily integrity. This doctrinal standpoint reinforces burial as the preferred method, which therefore affects the attitudes of even those who would want to consider cremation as a burial option. In addition, many Christians believe that "burning the body" is non-scriptural and that it foresees hellfire. Christians believe that since Jesus' body was buried, this was a representation of how the human body of all Christians should be sent to rest.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study explored the Knowledge, Attitudes, and Practices (KAP) towards cremation as an environmental measure, aiming to understand public perceptions and trends surrounding this alternative to traditional burial. The findings revealed that respondents had fair knowledge on cremation, but the practices are very poor because they are affected by their attitudes towards cremation, as most religions do not want to practice it. The study revealed a significant relationship between socio-demographic factors and KAP. Higher education levels correlated with greater understanding of cremation's environmental benefits for example reduced groundwater contamination as compared to secondary education, this may be due to differences in exposures to scientific knowledge. Participants in the 18-25 age group showed greater

openness to cremation as compared to participants in the 26-34 and 35-40 age group, this may be due to increased exposure to global trends in the 18-25 age group. Additionally, religious beliefs significantly influenced both knowledge on cremation and attitudes towards its practice, especially in the Christian community. Consequently, cremation is unlikely to be widely adopted without a significant change in public perception.

6.2 Recommendations

There is a need for public awareness campaigns to address the challenges related to decreasing burial spaces and the associated health and environmental risks. The benefits of cremation should be emphasized and promoted to help shift people's negative perceptions towards cremation. The responsibility of burials should also be transferred to local authorities, like government bodies and municipalities, who are aware of the environmental concerns, rather than churches.

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APPENDICES

APPENDIX 1: APPROVAL LETTER

DEPARTMENT OF ENVIRONMENTAL SCIENCE



Bag 1020

BINDURA, Zimbabwe

Tel: 263 - 71 - 6505

Cell : 0778371588

Email : vamugure@gmail.com

BINDURA UNIVERSITY OF SCIENCE EDUCATION

14 May 2025

Dear Sir/Madam

REQUEST FOR PERMISSION TO COLLECT DATA FOR ACADEMIC RESEARCH PROJECT

PROJECT TITLE: *A STUDY TOWARDS THE KNOWLEDGE, ATTITUDES AND PRACTICES ON CREMATION AS AN ENVIRONMENTAL MEASURE AT BINDURA UNIVERSITY OF SCIENCE EDUCATION.*

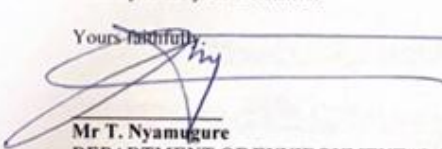
ACADEMIC SUPERVISOR: Mr T. NYAMUGURE

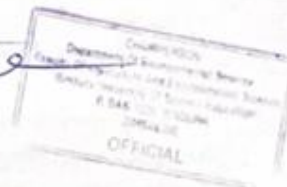
This letter serves to inform you that **TAFADZWA BLESSING MUTONHODZA , Registration Number (B213765B)** is a fourth-year student at Bindura University of Science Education, in the Department of Environmental Science. During her fourth year of study she is supposed to do a research project in her area of specialisation.

Please assist in any possible way. Data collected will be used for academic purposes only and will not be published without your prior consent.

Thank you for your assistance.

Yours faithfully,


Mr T. Nyamugure
DEPARTMENT OF ENVIRONMENTAL SCIENCE



APPENDIX 2: RESEARCH QUESTIONNAIRE

My name is Tafadzwa Blessing Mutohndza, a Bindura University of Science and Education fourth-year student studying an Honors Degree in Safety, Health and Environmental

Management. I am conducting **A STUDY TOWARDS THE KNOWLEDGE, ATTITUDES, AND PRACTICES ON CREMATION AS AN ENVIRONMENTAL MEASURE AT BINDURA UNIVERSITY** as my research project. Your input will guide the research and enhance understanding of cremation as an environmental measure. Participation is completely voluntary, and you are free to withdraw at any time without any consequences. I kindly ask that you respond to all questions truthfully. Thank you for your time and contribution.

INSTRUCTIONS TO RESPONDENTS

- *Tick all the appropriate boxes*
- *Do not write your name on any part of the paper.*

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

1. Gender: Male ☐ Female ☐
2. Age (years): 18-25 ☐ 26-34 ☐ 35-40 ☐ 41-49 ☐ 50+ ☐
3. Highest Education Level: Primary ☐ Secondary ☐ Tertiary ☐
4. What is your religious affiliation? Christianity ☐ Islam ☐ ATR ☐ No religion ☐

SECTION B: KNOWLEDGE ON CREMATION		
Number	Knowledge	Answers
5.	Have you ever heard of cremation as a method of body disposal?	Yes ☐ No ☐ Don't know ☐
6.	Are you familiar with the process of cremation?	Yes ☐ No ☐ Don't know ☐
7.	Do you think cremation can be considered as an environmentally friendly alternative to traditional burial?	Yes ☐ No ☐ Don't know ☐
8.	Do you think cremation uses less resources than traditional burial methods?	Yes ☐ No ☐ Don't know ☐

9.	Do you think cremation can reduce the risk of groundwater contamination as compared to traditional burials?	Yes ☐ No ☐ Don't know ☐
10.	Do you think cremation rates are rising globally?	Yes ☐ No ☐ Don't know ☐
11.	Are you familiar with any laws or regulations regarding cremation in Zimbabwe?	Yes ☐ No ☐ Don't know ☐
SECTION C ATTITUDES TOWARDS CREMATION		
12.	Would you consider cremation for yourself or loved ones?	Yes ☐ No ☐ Don't know ☐
13.	Do you think that cremation can lead to loss of cultural traditions?	Yes ☐ No ☐ Don't know ☐
14.	Do you support cremation as a method of body disposal?	Yes ☐ No ☐ Don't know ☐
15.	Do religious beliefs influence your attitude towards cremation?	Yes ☐ No ☐ Don't know ☐
16.	Do you think cremation is more acceptable in urban towns compared to rural areas?	Yes ☐ No ☐ Don't know ☐
17.	Are you aware of the environmental benefits of cremation?	Yes ☐ No ☐ Don't know ☐
18.	Do you believe that promoting cremation could help to address land scarcity in Bindura?	Yes ☐ No ☐ Don't know ☐
SECTION D: PRACTICES TOWARDS CREMATION		
19.	Have you or anyone in your family ever used cremation as a method of body disposal?	Yes ☐ No ☐ Don't know ☐
20.	Have you ever faced resistance from family or community when suggesting cremation?	Yes ☐ No ☐ Don't know ☐
21.	Are you aware of anyone in your community who has been cremated?	Yes ☐ No ☐ Don't know ☐
22.	Have you ever attended a cremation service or	Yes ☐ No ☐ Don't know ☐

	visit a crematorium?	
23.	Do you think the government should consider cremation as an environmental measure?	Yes ☐ No ☐
24.	Do you encourage community members to consider cremation for environmental reasons?	Yes ☐ No ☐ Don't know ☐
