



THE ROLE OF
THE MEDIA IN
ENVIRONMENTAL
DISCOURSES IN
ZIMBABWE.

 KONRAD
ADENAUER
STIFTUNG

The role of the media in environmental discourses in Zimbabwe.

Edited by Dino Ndlovu

PUBLISHED BY



26 Sandringham Drive - Alexandra Park
P.O. Box 4325 Harare, Zimbabwe
info.zimbabwe@kas.de | +263 242 744602

DESIGN ILLUSTRATIONS & LAYOUT

OnaDsgn
hello@onadsgn.com | www.onadsgn.com

Preface

Climate change as an issue continues to be a major point of discourse with its implications shaping policy, politics and the way economies of scale are run. There is an ongoing debate between people that acknowledge that climate change is an issue that needs to be addressed and those on the other side of the spectrum that deny the existence of environmental degradation and its effect on climate change. This school of thought also argues that climate science is bad science. Since climate change has become a very topical issue amongst climate activists and climate denialists, this conversation is one that should move from journals and the diction that limit its accessibility by the average person on the street so that the world becomes a climate conscious and embraces a climate-adaptive ethos.

The Zimbabwean media could be playing a more prominent role in making sure that the legislation that governs the interaction between humans and their natural environment is known by everyone in Zimbabwe. Protecting the environment should be allocated more space within political discussions. These discussions should also become more inclusive, so that more members of society contribute towards a better environment and call out authorities in instances where they are not acting or not acting fast enough to engage and punish those that damage the environment. The media should ground their reporting based on facts founded on completed research complimented by an effort to make the findings and their implications well known by the average person. These facts should also be communicated as early as possible so that they are reacted to in a timely and responsible manner.

Environmental degradation is an issue we cannot shy away from anymore. Doing the bare minimum or even putting some effort is not enough because our energy must match our crises. This means not only do

we need to be aware of the issues plaguing us but we need to have more local collaborative efforts. There is a need to give more spotlight to environmental issues and making sure everyone understands why this is a serious discussion that should happen in Zimbabwe. As much as climate change and environmental degradation concerns are global issues, Zimbabwe still has an integral role it can play in addressing the destruction of our natural environment.

Environmental discourse is often mired in diction and statistics next to other numbers and pie charts that an average person can find somewhat confusing. A lot of it reads as very legal and academic and it is the job of different members of media practitioners to make sure the conversation is mainstreamed, understandable and simplified. Concepts that could be initially considered as confusing could be simplified through visual aids and other creative ways that break down the most nuanced and complicated issues into concepts that more people can grasp. This is why different stakeholders ranging from journalists, filmmakers, artists, talk-show hosts, e.t.c can bring light to these issues.

Environmental degradation and its impact on climate change should be more than just a science story. Fake news and reports on climate change and environmental issues should be debunked and exposed. This publication is an attempt to contribute to the conversation on environmental issues by bringing together different writers from different disciplines of study and experiences to share their insights, opinions, and findings on a single document hopefully contributing to a growing trend of discourse collaboration by different types of content creators and researchers for the purposes of forming a more rounded publication.

In chapter one, the author looks at the “Post-statist strategies for improving public awareness of climate

change in Zimbabwe". This is an insight to the different avenues in the media that non-state actors can follow to put across different messages to protect the environment and mainstream the climate change conversation. It approximates the degree of public concern about climate change in Zimbabwe. It analyzes the dominant discourses and their varied sources and proposes ways to increase public consciousness in a way to mobilize a public debate for a concerted effort on the impact of climate change in Zimbabwe.

In chapter two, the conversation looks at, "Unpacking discourses in the Media representation of Zimbabwe Artisanal Small Miners (ASM) operations and their contribution to climate change". The paper effectively analyzes the way the media has been influential in swaying public sentiment in its portrayal of Zimbabwe's Artisanal Small Miners(ASM) operations. The media's contribution in this research is important because it provides insight into the ASM operations through image formation. The paper also effectively shows the role that the media can play in creating public buy-in or public reluctance to buy into certain practices in society that could lead to environmental degradation. This is very important in creating an understanding of the power that the media has and how it exercises that power.

In Chapter three, the conversation is on, "Smallholder Farmers Perceptions of Climate Change and Implications For Adaptation: A case study of Matobo District in Zimbabwe". Individuals and societies' reaction to climate change rely in large part on how they view climate change, its causes and impacts. Therefore, recognizing how societies view the causes, effects and wider consequences of climate change is crucial. This paper examines how a specific community in Matobo views climate change, its causes, and

uses these perceptions in directing how they act in response to their opinion.

In Chapter four, the topic is on "Challenges faced by journalists when reporting on climate change in developing countries". The chapter analyses the relationship between climate scientists and the media in Zimbabwe. It discusses the impact of climate change discourses in climate change adaptation practices in Zimbabwe. It explains the perceptions of young Zimbabweans on climate change in Zimbabwe and it describes the challenges of reporting on climate change in Zimbabwe.

Media practitioners are uniquely positioned with the ability to partake in the acceleration of environmental action through advocating and making learning easier, unfortunately that potential is remains underutilized and up until research, legislation and activism come together in an amalgamated effort towards making sure that the environment is protected, efforts will always punch below their weight.

It is hoped that the publication positively contributes to a growing collaborated effort between media practitioners, climate scientists and environmentalists to create a more inclusive public discussion on the protection of the environment. Special thanks to Tafadzwa Dhlakama for reviewing the chapters. Special mention to David Mbae and Tafadzwa Mupandira for their work that inspired the inception of this book. Lastly, a lot of gratitude to the contributors that made this publication possible.

Dino Ndlovu

Project Coordinator Konrad Adenauer
Stiftung Zimbabwe KE4 Project.

CONTENTS

CHAPTER 01

Post-statist strategies for improving public awareness of Climate Change in Zimbabwe. **08**

CHAPTER 02

Unpacking discourses in the Media representation of Zimbabwe Artisanal Small Miners (ASM) operations and their contribution to climate change. **20**

CHAPTER 03

Small-holder Farmers' Perceptions of Climate Change and Implications for Adaptation: A case study of Matobo **34**

CHAPTER 04

The Relationship Between Climate Scientists and Media in Zimbabwe. **48**

Bibliography. **61**

Newspaper Articles **63**

Abbreviations

Advocates for Earth (A4Earth)	Systems (IKS)	Convention on
	Information and Communi- cation Technologies (ICTs)	Climate Change (UNFCCC)
Artisanal Small Miners (ASM)	Konrad Adenauer Stiftung (KAS)	United States of America (USA)
British Broadcasting Cor- poration (BBC)	Low Emissions De- velopment (LED)	World Commission on En- vironment and Develop- ment (WCED) World
Cable News Network (CNN)	Movement for Demo- cratic Change (MDC)	Meteorological Or- ganisation (WMO)
Central Waste and Environ- mental Management (CWEM)	National Adapta- tion Plans (NAP)	Young Volunteers of the Environment
Early Childhood De- velopment (ECD)	National Climate	Zimbabwe (YVE)
Early warning systems (EWS)	Change Response Strategy (NCCRS)	Zimbabwe African National Union Patriot- ic Fund (ZANUPF)
Environmental Manage- ment Agency (EMA)	National Determined Con- tributions (NDCs)	Zimbabwe Broadcast- ing Corporation (ZBC)
Fast Track Land Reform Programme in Zimbabwe (FTLRP)	Research and Advocacy Unit (RAU)	Zimbabwe Environmen- tal and Science Journal- ists Association (ZESJA)
Frederick Stiftung Foundation (FES)	Television (TV)	Zimbabwe Environmental
Green Climate Fund (GCF)	The Labour and Economic Development Research Insti- tute of Zimbabwe (LEDRIZ)	Law Association (ZELA)
Heinrich Boll Foun- dation (HBF)	United Nations (UN)	Zimbabwe Union of Journal- ists (ZUJ)
Indigenous Knowledge	United Nations Framework	

Post-statist strategies for improving public awareness of Climate Change in Zimbabwe.

Zwelithini Eugene Xaba

LLB Hons (MSU) / Diploma in WTO Law / Advanced Certificate in Human Rights(U.P Center for Human Rights).



Abstract

This paper approximates the degree of public awareness on climate change in Zimbabwe; analyses the prevailing discourses and their diverse sources; and recommends proven and effective methods of increasing public awareness and leveraging public discourse for a communal attack on the effects of Climate Change in Zimbabwe. The author proceeds on the hypothesis that public awareness makes for improved national preparedness which is essential given Zimbabwe's vulnerability to Climate Change. The study concludes that indelible investments have been made to raise awareness on climate change but that without prejudice, more can and should be done as apathy remains persistent. To compliment past and ongoing efforts, the author elicits multi-stakeholder action to mainstream and normalize climate change discourse. As a consequence, two core recommendations are posited: Firstly, that the Government commits to and religiously implements the National Climate Change Response Strategy. Secondly and most importantly, the author makes a strong case for Post-statist action designed to make communities hubs of climate change knowledge. This strategy utilises Social media activism, blog culture, green media, edutainment, infotainment and out-of-classroom learning. It incorporates individual narrators, Artists and creatives, Ambassadors and Influencers, researchers and academics and you.

Introduction

Writing about climate change in Zimbabwe might be considered academic showmanship, elitist¹ and aloof, but recent trends show that this subject demands all of our attention. For Zimbabwe, climate change poses an environmental, economic and social apocalypse which places livelihoods on shaky ground. The country's economic reliance on agriculture and natural resource based tourism demonstrates Zimbabwe's vulnerability to the effects of Climate Change. Perennial droughts, regular heat waves and most recently Cyclone Idai illustrate that Climate Change is not a far-fetched alien concept but rather a visible Zimbabwean reality. Central to building national preparedness is cultivating public awareness and engagement on climate change, its impacts and strategies for adaptation and mitigation. Whilst there are several past and ongoing drives towards meeting this demand, ensuring that no one remains behind is the persistent challenge. Evidence suggests that in the effort to teach the public about climate change, some, including the most vulnerable members of our communities are still falling through the cracks.² Rural communities, the illiterate, young people and the poor remain apathetic about climate change. The two most pressing needs are to align the climate change message with the cognitive demands of every Zimbabwean and to take the message to every corner of the country.

1 T Murombo 'Zimbabwe-Climate Change, Law and Policy' in T Murombo et al (eds) Climate Change Law in Zimbabwe: Concepts and insights (2019) 1.

2 The author conducted a survey for this study, the statistics are presented in part two; The Zimbabwe National Climate Change Response Strategy (2018)60.

This paper stands on the shoulders of other work that has been put out on climate change in Zimbabwe.³ The subject of climate change has been aggressively researched on and that has most certainly set the foundation for many formal discussions surrounding the subject. The body of work on climate change is a multi-dimensional corpus, the result of immense contributions by scholars, consultants, activists, government, civic society and International organisations. The Konrad Adenauer Stiftung Foundation (KAS),⁴ Frederick Stiftung Foundation (FES),⁵ Zimbabwe Environmental Law Association (ZELA),⁶ the Research and Advocacy Unit (RAU),⁷ The Labour and Economic Development Research Institute of Zimbabwe (LEDRIZ)⁸ and the Heinrich Boll Foundation (HBF)⁹ should go down in history as having pioneered civic society research on Climate Change in the country. These organisations have commissioned publications, funded research and extended the reach of those voices who speak on climate change. The work on Climate Change in Zimbabwe covers Renewable energy, the Green Economy, Adaptation, Mitigation, Climate Finance, Agriculture, forecasts

for the future, policy advice, international response measures and most recently climate change law. It is impossible to exaggerate the value of this wealth of knowledge and information. However, this does not at all mean that gaps do not exist, there still remains an urgent demand to mainstream this work as well as any other available and credible information on climate change. A multi-stakeholder approach to compliment the efforts of the forbearers is still very much in demand.

The issue of climate change is not in itself a subject that is overly confounded. It is arguably very intuitive if approached through a perspective the listener can relate to. It is something that with strategic framing can be impressed upon each and every member of society. An interesting example to illustrate this can be found no further than in our own rural homes. Most farmers in Zimbabwe regardless of their scale of agricultural work know for a fact that local weather patterns have been irreparably altered. Rainfall timelines have disrupted their planting season making it near impossible to grow maize especially. Many of

3 See generally SL Uganai 'Historic and future climatic change in Zimbabwe'137-145D (1996) Climate Research; Brown et al 'Climate Change Impacts, Vulnerability and Adaptation in Zimbabwe' (2012) IIED Climate Change Working Paper 3 <http://pubs.iied.org/pdfs/10034IIED.pdf> (accessed 3 April 2020); R Davis & and R Hirji 'Climate Change and Water Resources Planning, Development and Management in Zimbabwe' (2014); J Manjengwa et al 'Children and Climate Change in Zimbabwe' (2014); Zvigadza, et al ' Communities and Climate Change: Building Local Capacity for Adaptation in Goromonzi District, Munyawiri ward, Zimbabwe' African Centre for Technology Studies <http://africanclimate.net/en/node/6553>(accessed 12 April 2020); E Shumba et al Assessment of Sugar Cane outgrower schemes for biofuel production in Zimbabwe and Zambia (2011)

4 See generally t murombo et al (eds) climate change law in zimbabwe: concepts and insights (2019); 'climate change in zimbabwe, a guide for planners and decision makers' (2017)

5 See generally T Muzamwese et al 'Exploring Zimbabwe's Green Economy potential: The energy sector' (2017) G Kanyeze 'Opportunities for Green jobs' (2014);

6 See generally T Dhlakama 'The policy framework for green energy production in Zimbabwe' (2015); ' Report on the scientific investigation of the impact of Marange Diamond mining operations on water quality in the Save and Odzi rivers: including assessment of the health, environmental and livelihoods impacts' (2012)

7 A brazier 'climate change in zimbabwe, facts for planners and decision makers' (2015)

8 G Kanyeze et al (eds) Beyond the enclave: Towards a pro-poor and inclusive development strategy for Zimbabwe (2011); N Chakanya 'Green Jobs in the energy sector in Zimbabwe: A situational and potential analysis' (2015) Climate Change, green jobs and the role of trade unions in Zimbabwe: An education and training manual for trade unions in Zimbabwe' (2016)

9 See generally T Chagutah 'Climate Change vulnerability and adaptation preparedness in Southern Africa-Zimbabwe Country Report' (2010)

them might not know what Climate Change is and what the science entails but they do know that there changes in climatic patterns as they know them. As it appears their concerns are cogent arguments corroborated by the science which they aren't privy to. What this proves is that it is possible to teach people about climate change if you use a language they understand. Even the most complex scientific concepts can be unpacked until they become accessible to everyone. The most important task is to make contextual sense. Building on this example and borrowing from the best practices of different success stories all around the world this paper suggests strategies designed to give all Zimbabweans a good understanding of climate change.

The state of public knowledge and discourse on Climate Change.

The ordinary Zimbabwean citizen is ignorant of climate change and its intricate details. The most that many individuals know for a fact is that apparently the climate is changing. There is also a sizable fraction of society that considers climate change to be an event and not a process. Even more alarming is the fact that climate change is understood to be a future occurrence. It has not occurred to a great many Zimbabweans that climate change is as we speak, altering the course of life as we know it. This stems from the larger ignorance on the impacts as well as environmental developments that are symptomatic of climate change. The problem with this perception is that it allays all fears and concerns about climate change delaying and dismissing urgent action to mitigate and adapt. Even worse is the misinformed belief that climate change is

a western problem that only affects countries in the global north. This is a common misconception that is attributable to the comparative dearth of African reporting and discourse on climate change. These sentiments are synonymous with earlier beliefs on Africans being immune from COVID-19. Whilst this example is easily the result of disinformation, it is important to note how in both cases, disinformation thrives in environments where an information gap exists.

The governmental Climate Change communication : Strategy and practice.

Ever since the political alarm was raised on climate change, the Government of Zimbabwe responded as expected, establishing institutions and writing policy. Since the early 2000s, the country has had a ministry responsible for environmental affairs (Ministry of the Environment, Water and Climate). Zimbabwe is also a member of the United Nations Framework Convention on Climate Change (UNFCCC) as well as a party to the Paris Agreement of 2015. The country has a National Climate Policy¹⁰ that is implemented by the National Climate Change Response Strategy (NCCRS).¹¹ The vision of the strategy is to "create a climate change resilient nation" whilst the mission is to "ensure sustainable development and a climate proofed economy"¹² whilst the goal is to "mainstream climate change adaptation and mitigation strategies... through multi-stakeholder engagement".¹³ Due to its strong economic bias, the strategy is primarily adaptation-based with hints of mitigation. It aspires to reduce GHG emissions, promote sustainable environmental practices especially land and water usage and mainstream climate change response.¹⁴

10 National Climate Change Response Strategy (NCCRS) (2016)

11 NCCRS (n10 above) iii

12 NCCRS (n10 above) ii.

13 NCCRS (n10 above) ii.

14 NCCRS (n10 above) iii.

The NCCRS sets as part of its objectives, the development of “an effective climate change communication information management and communication system that facilitates access by all stakeholder groups”¹⁵ As a consequence, under Section 4 on ‘Strategy enablers’ is section 4.2 on ‘Climate Change Communication and Public Awareness’. This is presumably the National Communication Strategy on Climate Change. The government is set to tackle climate change awareness via a two-pronged approach, through education and training¹⁶ and public awareness-raising.¹⁷ The NCCRS is in pursuance of the state’s obligation in terms of Article 6 of the UNFCCC requiring education, awareness and training on climate change. In the policy, the government commits to teaching climate change in schools from Early Childhood Development (ECD) to Advanced level but concedes that present syllabi are unprepared for this purpose.¹⁸ Teacher training colleges currently don’t teach candidates on climate change and that is another change the government commits to make.¹⁹ In terms of the other arm which is communication and awareness raising, the government commits to utilise posters, pamphlets, television, radio and road shows.²⁰ Further the NCCRS seeks to use public figures, community leaders to spread climate change knowledge.

On a positive note, the strategy is incredibly ambitious and this demonstrates that the government knows for a fact that climate change response is vital. It is also worth pointing out that having a communication strategy itself is a good thing. The strategy also makes

important concessions on present shortcomings, this is important in approximating national readiness in teaching the public on climate change. Furthermore, the merging of indigenous knowledge with western understanding of climate change is important in addressing rural communities.

However, there are a lot of things that can improve about the state’s communication strategy. The strategy insists on using very archaic means of communication such as radio shows, posters and pamphlets, whilst these are important, they cannot form the core method, they need to be utilised alongside more popular and modern media and methods. Road shows are useful for making the public look up from what they are doing but they don’t show a long-term interest in the subject, neither do they provide any substantial information. The strategy does not set any goals, targets or deadlines which is problematic and demonstrates a lack of urgency. Furthermore, it does not designate responsible officials or particular implementation strategies; it merely suggests means and methods of communication. It is also unfortunate that the policy is framed in very soft line language which does not seem to create any peremptory legal obligations for anyone. This allows for complacency in implementation. Overall the communication strategy is dated, lacks innovation and is homogeneously generic.

That being said, the Communication strategy in the NCCRS itself is not fatally flawed. The biggest

15 NCCRS (n10 above)iii.

16 NCCRS (n10 above) S4.2.1

17 NCCRS (n10 above) S4.2.2

18 NCCRS (n10 above)59.

19 Current efforts are however underway to develop the National Climate Change Learning strategy (NCCLS) to address the current gap. <https://www.unclearn.org/news/zimbabwe-develops-their-national-climate-change-learning-strategy-action-plan>

20 NCCRS (n10 above)61.

problem however seems to be with implementation. None of the government's commitments in the strategy have been followed through. It is safe to say that despite there being a concerted climate change narrative or communication strategy much of what is discussed has been left in theory and not put into practice. Currently teachings on climate change only occur exclusively in Universities and tertiary institutions specifically for students of Environmental and Natural Sciences.

The government hardly speaks directly to the people of Zimbabwe about climate change. Most governmental communications are in policy briefs and statements with a very limited target market. Not only are those documents restrictively voluminous but they are incredibly convoluted. Beyond that, it is common cause that people generally don't read policy documents. Even assuming that people did read policy documents, one would be forgiven for believing that the government does not want them to do so. This is because they are prohibitively worded. This begs the question, are government policy documents intended to be read by the people or they are just memos for internal circulation? External to policy documents and briefs there is no communiqué or information released by the government of Zimbabwe exclusively for the people to know about climate change. In the past there have been awareness drives targeting Ozone layer depletion in the early 2000s and educational campaigns in schools by the Environmental Management Agency (EMA).²¹ Apart from those and other similar projects, there has been no sensitisation campaign on climate change which is not coincidental to a related subject or specific event.

Due to this erratic and disorganised manner of communication, there exists an asymmetry of information regarding climate change in society also owing to the homogeneity which with the audience is often treated. This often involves omitting some members of our societies on the assumption that they won't understand anyway. Vulnerable groups like rural communities, People with disabilities and the poor are often excluded in such awareness programs. Special programs are desired to reach people who live in rural areas and other remote locations. They are often excluded because of the difficulty of getting to them. These difficulties include prohibitive distances, impassable roads and telecommunications inaccessibility. Special programs are desired to target these communities. People with disabilities often suffer exclusion because of lack of representation in decision-making platforms. Zimbabwe unfortunately is still a terribly ableist country. Information on climate change in whatever medium is almost exclusively always designed for people without disabilities. Deaf, dumb and visually impaired people are always forgotten.

Climate Change and the Media: The science-journal divide.

There are very scarce media reports on climate change not just in Zimbabwe but in Africa as a whole. There are several factors that account for why climate change remains on the fringes of mainstream journalism. For starters, O, Owuor; D, Otunge and N, Mungai posit that many editors believe climate change communication should be placed in specialised outlets especially peer-reviewed journals.²² Similarly there appears to be a disconnect between scientists and journalists so reporters often have to depend on journals as sources

21 EMA hosted an annual high schools debating competition on environmental issues. Throughout the years of its subsistence, the topics that were debated covered the subjects of pollution, protection of wetlands, and prosecution of environmental crimes as well prevention of veldt fires.

22 'Effective reporting of climate change' 2011 Report of the media workshop on effective reporting of climate adaptation

of information to write on.²³In the experience of the 'Science Direct' magazine "It is a major professional challenge for even those with the best communication skills when one is to reduce piles of jargon and statistics into short, simple and clear message sentences and paragraphs, which, for example reduce a 15 page research paper into a quarter page news story."²⁴ On a different note, sparse climate change reporting may be attributed to a lack of understanding of the subject by reporters and editors.²⁵This appears to be a singular manifestation of a larger estrangement from science related issues. The inability to report on climate change or science broadly speaking is sired at journalism schools where greater focus is given to politics, business and sports.²⁶The academic courses hardly mention the coverage of climate change.²⁷There is however gradual improvement in the reporting of climate change, more articles touching on different subjects can be seen in wide and circulation newspapers. Newspapers have begun giving experts spaces to tackle climate change issues.

Academia : The out-of-classroom gap.

The academic study of climate change is a consistently incremental culture. Environmental scientists and scholars in Zimbabwe have risen to the occasion. In the classroom, the narrative has transitioned from climate change being part of traditional environmental science of conservation and preservation to it being a stand-alone subject of study. In Zimbabwe, almost all universities offer a degree program on Geography and or environmental science with a series of courses on climate change. Outside of the classroom scholars have made significant contributions to

expanding knowledge about climate change, what is in contention however is how much of that knowledge is public. Research is far too often academic and scholarly; this implies its inaccessibility to the general public. Scholars produce high level research that is unfortunately not suitable for general public consumption. Whilst students and other scholars are now in the loop because of the considerable saturation of climate change information, more can be done in creating access to the general public.

Recommendations

Government

The first thing to say here is that things would significantly improve if the government implemented the communication strategy in the NCCRS. The commitments towards including Climate Change Studies in school curricular should be seen through. The widespread usage of state-owned media needs to commence. The Government of Zimbabwe controls multiple state media platforms. These include the state broadcaster Zimbabwe Broadcasting Corporation(ZBC), the Herald Newspaper, the Chronicle and various state radio channels. With these resources and platforms at its disposal, the government should aggressively propagate accessible information about climate change.

Despite widespread subscription into private media, there remains a sizeable portion of Zimbabweans who still rely on the state broadcaster for news and information.ZBC and local media over the past couple of months have been very instrumental in teaching

23 Owuor et al (n22 above) 6

24 Owuor et al (n22 above) 6

25 Owuor et al (n22 above) 6

26 Owuor et al (n22 above) 6

27 Owuor et al (n22 above) 6

people about the COVID-19 pandemic providing essential information regarding the global crisis. What this has put out of doubt is the capacity of the state broadcaster to raise public awareness on pressing issues. An even more amusing consideration is that at every stage of the lockdown millions of Zimbabweans switched over to ZBC to listen to the President provide updates on the way forward. This puts into context the viewership that ZBC commands. Beyond that, the state media has previously been used with success to promote propaganda. The reality is that the state has the necessary skills and tools to mainstream the climate change discussion.

As to the specific content the state can utilise to spread the message, reference may be made to the success stories of other countries that have long committed to relentlessly funneling out the climate change message.²⁸ Nordic countries have risen quite to the occasion when it comes to public appraisal and engagement on this issue of our time. In the United Kingdom, the British Broadcasting Corporation (BBC), the oldest News Broadcaster globally and also the state broadcaster has multiple programs on its channels that spotlight climate change, these include documentaries, news shows and interviews with climate change experts.²⁹ Short, sensational and informative videos about the subject are also used by multiple media houses globally to spark a sense of urgency and cultivate curious interest in climate change. The Cable News Network (CNN) a newscaster in the United States of America (USA) and one of the largest news networks globally started an initiative where they would interrupt regular programming in the middle of a news bulletin to report

on an ongoing awareness project aimed at alerting their viewership on global warming and the melting of glaciers.³⁰ This is a seemingly radical method but it is naturally coerced by circumstances, the Zimbabwean State media can take a leaf out of this book. Inspiration for the exact kind of initiatives can only be derived from the understanding of Zimbabwe's public and the kind of information to be impressed upon them. The lesson really is that state media should take the initiative to lead the conversation.

Post-Statist strategies for the promotion of Climate Change awareness and discourse.

Fundamentally a post-statist conception of anything demands individual proactiveness. It rejects dependence on the state for anything and everything. A post-statist approach to the narrative imagines Zimbabweans taking charge of each other's awareness and ability to engage with climate change. This means citizen-based initiatives to create information and to propagate it. Stakeholders can and should collaborate to turn communities into bastions of empowering knowledge. It is now incumbent upon everyone with the necessary knowledge and information to empower fellow Zimbabweans on climate change. This implies individuals practicing peer to peer communication. Community projects and initiatives also command popular support because of its flexibility in approach.

Individual action.

If anything should be taken away from this paper it is that, everyone can do something about climate change and everyone can contribute to raising public awareness about climate change. The government,

28 L Lester & S Cottle 'Visualizing climate change: Television news and ecological citizenship'3 International Journal of communication 925.

29 See generally David Attenborough's 'Climate change-The Facts' <https://www.bbc.co.uk/programmes/m00049b1> on BBC; See https://www.bbc.co.uk/programmes/topics/climate_change for a catalogue of shows on BBC News on climate change.

30 Leah Asmelash 'This giant glacier in Antarctica is melting and it could raise sea levels by 5 feet ' <https://www.google.com/amp/s/amp.cnn.com/cnn/2020/03/25/world/denman-glacier-antartica-melt-trnd/index.html>

civic society, academia and other stakeholders may and should contribute to this cause but they are not the be-all end-all, the work can go on with or without them. The urgency of climate change has demonstrated that there is no time to rely on interventions by third parties. There are several ways in which individuals can be resourceful in shaping the climate change narrative. Good-old peer to peer communication is one of the fastest ways to communicate important issues, it is flexible, inexpensive and leverages on relationships of trust between contemporaries. Discussions amongst friends, colleagues, family and classmates are massively crucial in spreading the word on climate change. Even if they do not immediately change opinions they might spark curiosity and a personal interest in the subject. Further, individuals may themselves be climate ambassadors, activists and champions. Social media activism and blog culture spread information faster than most formal media. Greta Thunberg, Swedish Climate Change activist demonstrated that one does not require a formal designation or affiliation to preach the gospel of climate change action. Individuals hold more power than they can possibly imagine, that power should be used to fast-track the movement of important climate change narratives in Zimbabwe.

The Arts and entertainment industry.

The media and arts industry have two tasks incumbent upon them, to make climate change worthwhile entertainment and to take it far and wide. Climate Change information needs to be spun into infotainment and edutainment, content that informs, educates and entertains at the same time. The reason why this is important is because generic information

about climate change has historically failed to appeal to the public. Black and white print and statistics are insufficient in adequately putting into context what people should know and understand about climate change. Documentaries and news shows have incredibly limited viewership because they lack entertainment value. In the global North, climate change infotainment and edutainment has massively shaped public opinion and awareness on the subject.

Edutainment and infotainment.

Popular media, both private and state-owned can work with local content creators and filmmakers to produce more climate change-oriented films and movies. In the USA, Australia and the United Kingdom, climate change centered movies have been in vogue for almost thirty years, being very instrumental in climate change public awareness.³¹ Zimbabwe is well endowed with talent and Bulawayo specifically is the arts hub of the country. Bulawayo hemorrhages artists to different parts of the world because of lack of opportunities in Zimbabwe. An Infotainment and edutainment drive for climate change would not only raise public interest in the subject but create employment opportunities for local artists.

Moreover, local Television (TV) shows that are already screening can diversify their storylines to feature conversations about climate change. Soapies, drama shows and comedies can utilise their airtime and social capital to drive essential narratives about society. This again is something that is already happening and working tremendously, not just in the West but as close as our neighboring South Africa. Almost all popular prime time TV shows on prominent South

³¹ 'An inconvenient sequel to truth and power' 2017, 'Before the flood' 2016, 'Chasing ice' 2012, 'Planet of the humans' 2019, 'The day after tomorrow' 2004, 'The eleventh hour' 2007, 'Cool it' 2010.

African television channels are teaching their viewers one important lesson. A great example is the soapie 'Rhythm City' on ETV which tackled the issue of toxic masculinity in high school, the 'male gaze' and objectification of female bodies. The show also unpacked the issue of depression and mental health among teenagers, the psychological impacts of bullying and suicide. 'Scandal' another soapie on ETV created conversations about predatory sexual conduct against women in the workplace. These precedents demonstrate that it is possible to teach fundamental social lessons on the public's favorite television show. Film makers simply need to diversify to content that is relevant to the subject in question.

Photojournalism.

Photojournalism is the activity of using photographs to report news stories in magazines or newspapers.³² Photojournalism has historically been one of the most effective ways of alerting the public because of its sensational nature.³³ Photographs mobilize hearts, minds and actions. They bear the trace of what they depict. For years the World Meteorological Organisation (WMO) has been working with photographers to capture the everyday effects of climate change. These images range from scientists at work to people living on the edge of climate change. The 'National Geographic', a magazine run by the National Geographic Society in the USA. The National Geographic 'uses the power of science, exploration, education and storytelling to illuminate and protect the

wonder of our world'.³⁴ The magazine has an annual Climate Change issue which provides a platform for photographers to share their most poignant images.³⁵ These practices can be replicated in Zimbabwe, all it requires is for local media to open its doors to climate change and environmental photography. This in turn demands the allocation of space for climate change columns that photojournalists can use. The practice can also be encouraged by making use of the incentives that exist globally for more work to be produced on climate change. An example is the 'Photographer of the year award' run by Central Waste and Environmental Management (CWEM), a charity focused on sustainability.³⁶ Photographers may also apply for a wide array of grants that fund photojournalism in climate change.

Influencers as ambassadors.

When the Australian veld fires took place, it was the social media activism of celebrities that set public discourse alight calling for the world to learn from that particular incident. This information had already been widely reported on almost all news networks globally but seemingly that did not have a similar impact. People's ability and willingness to understand a message depends heavily on who the messenger is and how they transmit the message. Sometimes messages don't appeal to people because they cannot relate with the messengers. It is an undeniable truism that individuals are selective on who they choose to listen to. Equally indelible is the fact

32 SJ O'Neil 'Image matters: Climate Change imagery in US, UK and Australian newspapers' (2013) 49 *Geoforum* 12

33 J Nurmis 'Photojournalism as a vehicle for public engagement with climate change' (2015)

34 <https://www.nationalgeographic.org/about-us/>

35 <https://api.nationalgeographic.com/distribution/public/amp/photography/proof/2019/10/20/seven-nat-geo-photographers-on-witnessing-climate-change>

36 <https://www.euronews.com/living/amp/2019/10/13/incredible-environmental-photographer-of-the-year-winners-show-raw-impact-of-climate-change>

that individuals are more likely to listen to the people that they love and adore. That is the central logic behind using popular individuals as mouthpieces for vital narratives. The United Nations (UN) has long utilised celebrities, socialites and other public figures to speak on climate change. These individuals include Leonardo Di Caprio and George Clooney.³⁷ Government and other stakeholders can create these important partnerships with influencers to weaponize their social capital for a good cause. However, in the true sense of statist, influencers do not always have to do this work for the government. Influencers can run their own campaigns on climate change as individuals. In the USA and Australia, this has significantly triggered discussion in the arts industry that has slipped into the world at large. Hollywood heavyweights like Cate Blanchett, Ellen Pompeo, Daniel Momoa and Chris Hemsworth have used their Instagram and other social media accounts to advocate for greater urgency and co-operation in responding to climate change.

Academia.

Institutions of learning are pivotal in the supply of expert information on climate change. There are a number of ways in which they can strategically use their resources to promote public awareness both in and outside the academic environment. The first and most important step is to understand that their mandate exceeds the four corners of the university and so naturally their work should have a non-academic reach. Universities should promote community-based learning methods that encourage students to interact with the general public in putting their studies into practice. This method is already being implemented in other areas of study for example in Law faculties where legal clinics are utilised to

provide students with hands-on practice of handling a case and assisting clients. Natural and Environmental science departments may also invest in these methods where students can teach local communities especially the most vulnerable parts of our society on climate change impacts and how to combat it. In addition to community outreach projects, academic institutions can also create primers, infographics, pictograms and posters to unpack their complex content for general understanding. Genuine efforts for teaching people about climate change require that we all go back to basics to ensure that no one is left behind.

There are also creative ways in which academic research can be utilised to fuel public awareness and interest in climate change. Academics and scholars should endeavor to take their voice beyond the confines of academic spaces. This may best be implemented through the utilisation of the public media and social media. It is common practice globally for experts in different fields to use their expertise to influence policy or public discourse through different media. Zimbabwe itself is no stranger to this practice. In 2016 when the Reserve Bank of Zimbabwe went public about introducing the bond notes, prominent academics and experts in the field of economics, finance and financial law and regulation provided a wealth of published commentary on popular media. Advocate Fadzai Mahere, an expert on Constitutional Law and administrative justice did a series of interviews on social media and on international news channels giving her learned opinion on why the policy was a bad idea economically and an egregious violation of the Constitution and the principles of public financial management that it espouses. It was Advocate Mahere's public outcry that gave popular dissent pushing traction. Whilst conceding

37 <https://www.unclearn.org/ambassadors> ; <https://www.un.org/en/isotope-articles/9180/780>

that climate matters do not attract the same attention as economics, experts may share their findings and knowledge on public media to spark discussions and elevate the knowledge level of popular discussions. The greatest transformation that needs to take place in academia insofar as the climate change narrative is concerned is that the scholar and the learning institution need to take climate change outside of the book and the classroom and present it as the sentient reality that it is. Teachers need to eviscerate the culture of grade-oriented understanding in approaching climate change. Students need to be inspired to live the climate change narrative and that is all contingent on how the teacher unpacks it to them. The learning process demands a teaching style that encourages long-term appreciation of the subject and practical implementation. Students by themselves may and should become vessels of the climate change message transmitting it to their contemporaries and appropriately repackaging it for the general public. Academic institutions must include climate change studies to the curricular of those departments that are not focused on geography, environmental or natural sciences, all students must learn about climate change in one way or another. For this to happen scholars must conceive climate change dimensions to different academic studies and research areas. Because climate change affects every single aspect of our livelihoods that should not pose a challenge. Finally, then to cultivate and incentivise interest in the subject, learning institutions may utilise competitions and awards to honour those students who are working towards improving the public discourse on the greatest issue of our time.

Special focus areas.

Special programs are desired to reach people who live in rural areas and other remote locations. They are often excluded because of the difficulty of getting to

them. These difficulties include prohibitive distances, impassable roads and telecommunications inaccessibility. Special programs are desired to target these communities. Funding and political will is needed to arrange for the transportation of individuals to remote areas. Content used in rural outreach programs should be considerate of the elderly and illiterate. To accommodate people with disabilities, material should be translated to Braille and sign language and distributed far and widely. Another need is to critically focus on ways in which climate change disproportionately affects different members of society. For example, as the full effects of climate change gradually manifest, women in agriculture are likely to suffer the economic and social impacts. Information on climate change needs to point out these disparities.

Conclusion.

While Climate Change is easily the most topical issue globally, in Zimbabwe the topic is still finding its feet. Despite the general public having a sense of what climate change entails in the most basic sense, ignorance and apathy still pose a challenge. This needs to change. Public awareness on Climate change is the prerequisite of any sustainable and meaningful response to climate change. Beyond that it is the obligation of all Parties to the UNFCCC. The first takeaway from this paper is that the state needs to commit fully to implementing its Climate Change communication strategy. The second conclusion is that given the visible challenges faced by the government, intervention on the part of individuals and the private sector is fundamental. A post-statist strategy to raise public awareness is important in driving cross-cutting discourse and fast-tracking that. Whilst how to best communicate with the public is almost fully resolved, states and all relevant stakeholders need to iron out the controversies surrounding how to frame the climate change message.

Chapter 02

Unpacking discourses in the Media representation of Zimbabwe Artisanal Small Miners (ASM) operations and their contribution to climate change.

Dr. Mandiedza Parichi

Media lecturer ,Gender Specialist,Educationist, Researcher, Trainer, Facilitator,
Former Bulletin Editor, Former News Reporter, Former Newswriter and Former
News Anchor.



Abstract

This paper critically analyses the way the media has been instrumental in the representation of Zimbabwe Artisanal Small Miners (ASM) operations in Zimbabwe to shape societal public opinion. The contribution of the media is crucial in this research as it gives an insight on the ASM operations through image creation. The research is key because while ASMs have always existed in Zimbabwe, the turn of the century witnessed an influx of these operations for various reasons that will be unpacked in the article. The period under examination will enter the annals of history as arguably one of the most socio-economically challenging epochs in Zimbabwe's history. The development of the Third Chimurenga discourse also framed two distinct ideological frameworks of the Zimbabwe African National Union Patriotic Front (ZANU PF) (the ruling party) and the major oppositional political party in Zimbabwe the Movement for Democratic Change (MDC). ZANU PF created an ideology rooted in indigenisation through land reform programme and the implementation of nationalistic policies while they framed MDC as a puppet of the West as they spearheaded the regime change agenda in Zimbabwe. Through its Indigenisation policy, ZANU PF argued that the need for economic emancipation of the black Zimbabwean people through the Third Chimurenga. However, predictably these nationalist processes had a backlash that resulted in devastating economic consequences as the country was put under economic sanctions. The economic meltdown resulted in massive unemployment which saw many Zimbabweans turning to either farming or small scale mining operations popularly termed ASMs (Mawowa

2013). This paper made use of the qualitative research methodology to unpack the discursive practices used by the media to sanitise or condemn ASMs operations. The paper also makes use of the representation and frame theory to explain media influence in shaping the culture sanitisation of ASMs. The major finding was that the media plays a key role in image creation around ASMs.

Introduction

This paper interrogates the role played by the media in the sanitisation or condemnation of ASMs operations. The paper focuses on the opinion shaping role of the media to sanitise and decriminalise ASMs in most instances besides the detrimental role ASMs are playing in Zimbabwe. The indigenisation ideology which was intensified during the Fast track land reform programme was instrumental in the development of farming and ASMs. However these two livelihood sources ran parallel and became a source of unavoidable conflicts in Zimbabwe. The development of ASMs was further complicated by loosely constructed policies that governed its operations. This article also critically analyses the role played by the government in colluding with the media deliberately or subtly in the sanitisation of the ASMs operations in Zimbabwe (Hilson and McQuilken 2014). This is arguably due to government policies that were put in place to promote ASMs in Zimbabwe. In the early 1990s the government mandated district-administered and nationally administered licensing in-order to capacitate citizens. This was later revoked as a measure to manage the deepening economic crises

and conflicts in the turn of the century which contributed to livelihood insecurity and further marginalised informal livelihoods (Spiegel 2014). Over time these inconsistent policies resulted in acute exploitation of the environment and miners, with devastating consequences on the environment (Chipangura 2018). This is machinated through carefully structured discursive practices coined to coerce and justify society acceptance of ASMs as a career. The government's role cannot be ignored in the process as it determined relations of domination and subordination in the manifesting conflicts around ASMs in various regions of Zimbabwe. This understanding underpins decisions of what should be included or excluded in various news stories, published around the ASMs, the effects as well as how included subjects are portrayed in terms of their nature, social function and behaviour. In most instances, the government colluded with law enforcing agents to sanitise the ASMs operations particularly the police in most regions in Zimbabwe (Chipangura 2018). This study is specifically concerned with media framing of ASMs to shape public opinion around its operations. This was done through ASMs themes and images generated through the analysis of the purposely selected newspaper stories. The selected research created a corpus of stories that had ASMs operations content. The paper is premised on the understanding that most images and behaviour traits of ASMs are socially constructed and naturalised through such social entities such as the media.

Background of the study

The socio-economic significance of the ASM has been debated by many authors and has been at the fulcrum of intense controversy and trajectories over its development abilities, (Yelpaala and Ali 2005) and destructive efforts. It provides employment (Hilson 2016), supports livelihoods of poor rural populations (Fisher et al 2009) and contributes to national income (Shen and Gunson, 2006), through taxes and export

earnings. Despite the economic gains of ASM, it is known to cause security, safety and environmental issues such as mercury contamination, (Hilson et al, 2007; Serfor-Armah et al 2005), land degradation, which has been witnessed in affected areas of ASMs in Zimbabwe (Hentschel et al 2002), population and harm to biodiversity, (Kitula 2006). Though considered as the entry point for development, (Davis and Tilton 2003), negatively it has been glaringly criticised for its impact and its role in conflict and underdevelopment, (Ross 2001) in several towns and cities across the African continent. As such, despite the contribution of ASM to employment and production, it has its adverse attributes that attract international attention such as informality, mercury pollution, hazardous and unhygienic working conditions, prostitution, disease, drug abuse and child labour, (Hilson and McQuilken 2014). ASMs' contribution to changes in a variety of ecosystems is already being detected, particularly in Southern African ecosystems, at a faster rate than anticipated (Boko et al, 2007). The challenge has worsened by the discovery of mineral resources such as coal in South Africa, oil in Sudan and Uganda, as well as diamonds and gold in Zimbabwe.

This article is located in socio-linguistics and explores the way media uses the closely related processes of agenda setting and framing to connect the representations it constructs and naturalises with ideology, thus appropriating and deploying its influence over society. The article assumes the use of language is geared at sanitising or in some cases condemning the mushrooming industry. This is possible because of the potency of the fluidity of the concept of representation, often employed as a dynamic tool to apprehend equally dynamic socio-cultural realities for the benefit of powerful social interests (Parichi 2017). Chakanyuka (2015) denotes that gold panning in Shurugwi increased in Zimbabwean because of economic meltdown which saw many people losing

jobs, earning less or not paid thus resorting to ASM. The arduous and expensive process to acquire mining licences resulted in most of them resorting to illegal unlicensed ASM. As such, most places along the Great Dyke within Shurugwi have been destroyed with disturbing effects because huge tracts of grazing area were lost due to veldt fires and digging. The challenges surrounding this growth is hardly publicised. The economic meltdown in Zimbabwe coincided with a political economy largely controlled by the ruling ZANUPF which operated under gullible youths within the mining areas (Mawowa, 2013; Spiegel, 2017; Mabhena, 2012).

What worsens the situation are the gold mills sprinkled around Boterekwa that endlessly spill cyanide onto the land as well as into Mutirikwi and Manzi-mudhaka rivers (Mbewe 2016). While this is largely the reality it is rarely reflected in the Zimbabwean media because what is commonly referred to as reality can be seen as constructed representations of objective reality repeated and emphasised over time until they seem natural and even material through societal narratives (Parichi 2017; Brooks and Herbert, 2006; Wallis 2012). Media is crucial as it can be used to manage and shape positive use of the environment or abuse as a tool to justify the destructive role of the miners. The contribution of the media in the period under study has been of paramount importance. Global media portrayed a simplistic position of the fast track land reform programme in Zimbabwe (FTLRP) as violent and chaotic (Chari, 2013). Elsewhere some of the major outcomes of the FTLRP lie in how it allowed newly resettled peasant farmers access to natural resources that were previously enclosed and enjoyed by a minority of white farmers under the dualistic agrarian structure inherited from colonialism (Scoones, 2015; Mushongah and Scoones, 2012; Rutherford, 2016; Chimhowu & Woodhouse, 2008, 2010). In the same vein authors

of climate change discourse thrive on the use of metaphors that instil fear, panic and surprise, hedging techniques, compound words as well as ideologies of construct (Makwanya 2018). As such the dangers of climate change through the environmental degradation associated with ASMs are hardly highlighted through the media even though environmental degradation points to the need of close scrutiny (Moyo, 2011:501; Makwanya 2013). As Höjjer (2011:3) argues, representation

“...specifies a number of communicative mechanisms explaining how ideas are communicated and transformed into what is perceived as common sense. This touches the very heart of mediated communication – how the media naturalizes social thinking and generates collective cognition.”

Theoretical framework

Frame Theory

The frame theory arguably originates from the Agenda setting theory. Framing is essentially concerned with how the media encourages audiences through its production processes. This process is also rooted in the culture of the society of the audience (Parichi 2017). This is evident as the correct representational images and terms of the ASMs are captured more in indigenous languages than the English language newspapers that push the commercialisation component of ASMs and in a way disadvantages and abuses the community members' human rights. For this reason it can be clearly pointed out that an issue can be represented in various angles while a frame can be employed to cover diverse issues. According to Van Gorp (2007:70):

“In framing research, attention can be paid to

alternative hypotheses, such as the prediction that the media can take up an issue from the political agenda but use an opposite frame to cover it, or the particular ways a frame can become dominant and how it subsequently is applied to cover a diversity of topics. These aspects slip the notice of agenda-setting research.”

Framing is the way a communication source defines and constructs any piece of communicated information. Framing is an unavoidable part of human communication as we all bring our own frames to our communications. The frame theory is much more relevant as a framework of analysis because it critically analyses the frames that are employed by the media through the language that is employed by the media. ASMs were, for the reason, used to justify the Indigenisation and nationalist discourses framed as one of the major successes and pillars of the Zimbabwean economy (Dube et al., 2016; Spiegel, 2015)

Representation Theory

Representation entails the generation of images, ideas and concepts of objective reality, which are then packaged, disseminated and consumed as the real thing of which they really are but mental substitutes. According to Hall (2007), representation is the process, channel or medium through which meanings are both created and reified or transformed into material reality. The media is instrumental in selecting a reality it prefers to represent to the audience. All the specialised media personnel are responsible for making changes and selections suitable for their media houses. In most instances, what the audience consumes is assembled or created information and narratives which may be different or completely opposite to the reality on the ground. Representations of ASMs by the media are also pointers to the way media includes or omits certain discourses in

relation to societal power dynamics (Moyo, 2011). These ideas are normally determined by socialisation of the personnel behind production processes. Thus, what is commonly referred to as reality can be seen as constructed representations of objective reality repeated and emphasised over time until they seem natural and even material. This also suggests the ways in which poverty-driven gold mining fits or remains invisible within academic discourses on rural livelihoods and development (Mkodzongi and Spiegel 2018; Hilson and Maconachie, 2017; Huggins, Buss, and Rutherford, 2017; Mutemeri, Walker, Coulson, and Watson, 2016).

The intentional representation approach holds that power of definition lies with the individual constructing the meaning. It explores whether the writer or researcher's personal meaning is portrayed. The definer imposes ideology and assumptions to the meaning. This is often captured in documentaries and historical accounts where it can be difficult to decide what is factual and what is not. The third approach is the constructivist view of representation which contends that meaning is constructed by individuals but normalised in societies. Societies, thus understand themselves and their existence from the way they are portrayed. Representation produces images that situate people as subjects. Therefore, though both the ASMs and farmers in Zimbabwe have been referred to as the major pillars of the Zimbabwean economy, there is a dearth in literature that explores and expose how left unbridled the ASMs contributes to environmental degradation and in turn adverse effects of climate change (Mkodzongi and Spiegel 2018; Maconachie and Binns 2007). Therefore, media representation is crucial as people make sense of the world and experiences and take decisions pertaining to how to act upon the world from its meanings.

Methodology

The article made use of qualitative content analysis to examine the language employed in the representation of ASMs in selected newspapers. The paper made use of information collected from The Herald, a public newspaper and Newsday, a privately owned newspaper, to generate themes for the study. The choice of the newspapers was generally to have generalisable results as the two newspapers are informed by different and parallel ideologies which have contributed to polarity in Zimbabwean media. The themes generated in the findings were influenced by analysis of stories that were collected from newspaper articles. The article thus made use of the purposive sampling method. The content analysis used themes derived from literature as indicators of print media representation of ASMs. Secondary sources of data were particularly important for identifying explicit or implicit hegemonic documented activities or strategies to sustain ASMs. Some of the prominent literature that was used in this study included important policy documents, speeches and interviews concerning ASMs from different media outlets.

Findings

This paper made use of discourse and content analysis to unpack the way the media uses language to sanitise or condemn ASMs operations in Zimbabwe. The paper made use of qualitative research analysis that made use of interpretive research design. Through qualitative content analysis of text in the form of newspaper stories, the paper unpacked important aspects of culture captured in the terms that will be discussed around ASMs through the newspapers analysed. Excerpts from the newspaper stories from both newspapers were used to demonstrate and illustrate the various constructs of ASMs through generated themes identified and discussed below. An objective of this present article revealed the effect of

language choice on the representation of ASMs in the newspapers analysed and the effects of the discourses used. Though both newspapers are in English both carried terms of the vernacular Shona language that point to the culture and socialisation of the communities in which ASMs operate. The analysis of Shona words around ASMs is key as language represents a people's or cultural worldview of a society. This paper analyses how language was used by the media to sanitise or condemn ASMs operations of the purposively sampled newspaper stories from The Herald and Newsday. The findings are categorised under two major themes which are:

1. the representation of ASMs as important pillars to Zimbabwean economy, and
2. Derogatory representation of ASMs by the media.

Representation of ASMs as important pillars of the economy

Despite the detrimental consequences of the operations by ASMs, most media narratives glorify their operations. Stories analysed under the theme of ASMs as important pillars of the economy consistently insist on the glorification of the ASMs operations. In the story from The Herald on the 16th of January, 2020 by Takunda Maodza titled, Chiefs speak on illegal mining both the reporter and Chief Charumbira struggle to sanitise the ASMs operation and contradict themselves throughout the story as they fail to fully venerate them and their activities in the communities because of the evidence and reality on the ground. A multiplicity of arguments and evidence from previous scholars point to redefined livelihoods from ASMs operations in both the farming and mining sectors in most communities (Hilson 2016; Kitula 2006). Consistently Chief Charumbira plunges into an inescapable dilemma of whether to blame the government or lower level officers under the Ministry

of Mines about the chaotic licensing system around ASMs. This poses a challenge as no common definition for the Artisanal & Small-Scale Mining sector has been adopted as its legal status, defining criteria, and local definitions vary from country to country. The fact that Artisanal and Small-Scale Mining (ASM) are defined as either formal or informal operations with predominantly simplified forms of exploration, extraction, processing and transportation is evidence that it cannot be defined with finality.

This justifies the importance of ASMs by arguing that they produce more gold than conglomerates, making their input in the national economy critical. This is however contradictory to existing empirical evidence which indicates that very few individuals have made it through ASM which is the reason why a huge population continues hanging in there without any tangible investments but instead surviving from hand to mouth (Mkodzongi and Spiegel 2018). One of the major reasons why people still continue to seek opportunities within this sector is the rampant poverty and unemployment resulting from the country's economic meltdown.

In this story by The Herald, there is evident contradictory content and the reporter initially tried to use neutral language calling the miners 'artisanal miners' even though the title captures them as illegal miners and later terms them 'makorokoza', which is even more derogatory than referring to the as illegal miners. The word 'makorokoza' Makorokoza is a derogatory term often used to describe informal, unregistered or illegal miners. The fact that even when the Chief and reporter attempt to sanitise the ASMs, they fail dismally because both are describing how these miners have destroyed the land and are involved in criminal activities within the communities. This is inevitable as allowing ASMs to operate ordinarily would result in the livelihood disruption for farmers

in ASM operating areas. Central and alluded to in the story Chiefs speak on illegal mining is the government policy structures around the ASMs as pointed by the reporter when he says: "the fight is not between the traditional leaders and the artisanal miners. The fight is between the traditional leaders and the Ministry of Mines and Mining Development". The Ministry issued licences without consulting with the Chiefs which consequently led to unavoidable clashes with the community members about land. Naturally, the advent of ASMs was predictably meant to alter the farming activities in the host areas they operate. Therefore, the chiefs fingered government operations as key agents in the destruction of the environment by the ASMS because of the haphazard licensing policy. The media in this regard is being used as the mouthpiece for the disgruntlement of the community which is under siege from the criminal element of the ASMs. This is well captured in the choice of terms used by both the major sources in the story namely Chief Charumbira, who was the then President of Chiefs Association, who are in control of most of the rural land and societies being destroyed by ASMs. The damage to land by ASMs is not unique to Africa as the proliferation of ASMs has arguably been observed as one of the major causes of climate change for Africa. This is suggested in the statement he expressed when he said:

"the National Council of Chiefs has blamed the chaotic situation in the artisanal mining sector on some officials in the Ministry of Mines and Mining Development, who corruptly facilitate the haphazard issuance of mining permits to prospectors even in villages".

The use of terms such as chaotic is derogatory and sharply contradicts neutral words used in the same sentence such as mining permits, prospectors and artisanal miners. He also describes the licensing process

as haphazard to suggest the disorganised, unplanned and unsystematic way the Ministry of Mines does business.

However, contradictions continued in the story in a bid to sanitise ASM operations when Chief Charambira alluded to the government permitting these miners to operate, essentially showing the inconsistencies in policy by government but also vindicating the ASMs. He adds that it was wrong to completely blame the ASMs and view them as illegal miners because of their possession of legal documents issued by the government. The fact that ASMs have legal documents points to the inconsistencies and outright insensitivity of the policies that disadvantage the host communities who are now perennially affected by the effects of climate change as a result of ASM operations. The issue of policy also recurs in the story in the editorial section by The Herald of the 19th of February 2019 titled “Artisanal mining needs regulation, support”. In the second and third paragraph the reporter, the government and policy makers pretend to be unaware of the dangerous conditions the ASMs operate in or the extent of destruction to the environment their operations have caused, until the Battlefields disaster. This is prompted by the several deaths of the miners that were trapped at the Battlefields Mine. The perceived shock and eye opener by the journalist is captured in the statement,

“The Battlefields national disaster has shone light on the risks facing artisanal gold miners as they search for the precious stone. The disaster of such a magnitude, calls for an urgent address of several challenges that multitudes of artisanal miners face daily.”

The above utterances sound exaggerated as it is known in Zimbabwe that most people that seek opportunities in mining areas are often poor unemployed youths without adequate resources. As such, they sell their

labour to abusive mine owners who pay them very little to sustain livelihoods. This story persistently glorifies mining operations despite the dangers already known to be associated with ASMs. This fact is also justified by the several deaths recorded at the mine due to hazardous conditions miners are subjected to. The contradiction and hypocrisy is captured in the reporter’s later admission of the government’s evident neglect of the ASMs while acknowledging their role and ability to transform the economy.

Phrases such as ‘growing sector’ which suggest great development ‘contributes significantly to the growth of the country’s economy’ denote an attempt to glorify ASMs operations and justify its importance. The government and the ASMs share a paradoxical relationship as indicated in the media. In some instances they are venerated while in other circumstances the government shows its displeasure on ASMs’ violent and destructive activities. The elevation of ASMs operations is further developed in The Herald story stating that artisanal mining needs regulation, support through the statement that says,

“Such a positive narrative calls for the Government to give the necessary support to the sector, to protect and sustain it. Of immediate concern is the need to address safety and security issues in artisanal mining to prevent further loss of life”.

These inconsistencies and double standards by the government are particularly damaging as most of these miners continue to destroy the environment aggravating the consequences of climate change. The chief conveniently avoids direct blame to the government which is the highest policy making body and shifts blame to lower level officers within Ministries for haphazardly issuing claim offer letters to the miners who are responsible for environmental

destruction and rampant violent episodes in these societies. He expressed this in saying:

“I do not think there is anybody in this country who does mining without some papers that allow them but when they come to communities people label them illegal miners yet it is the Ministry of Mines and Mining Development that is issuing them these papers. I believe there is a bit of corruption at lower levels by these officers when they issue these papers,” said Chief Charumbira.

As a political figure, Chief Charumbira was struggling to sanitise the miners while also attempting to protect the government because of the need to generate revenue from ASMs though he could not turn a blind eye to the adverse effects of the miners in these rural societies. He dismissed the miners as ‘rowdy and disrespectful’ and as threats to their communities. However, throughout the story he implicitly blames the government by criticising both the miners and workers within the Ministry through mentioning most of the ASMs criminal acts and at the same time pointing out they are licensed and registered. He says,

“There is disrespect...but what I am saying is that the makorokozas have permission to come into our areas disregarding the interest of the local communities. That is where the war is.”

The reporter, throughout the story, cues the reader to accept the implication of ASMs operations and also suggests hopelessness around the situation by pointing out that they are legal miners with permits from the government which views them as an important element in Zimbabwe’s economy. In the same story the reporter argues that he could not get any comment from the government which strengthens

the assumption above. The policy makers have avoided having discussions on ASMs operations and yet it is crucial for a government to enact policies that also protect the human rights of the citizens involved in different livelihoods within societies. The purpose of the glorification of ASMs therefore is bound to happen as the government is heavily dependent on them for revenue generation. It is evident as many articles suggest ASMs are key to the economic development of the county. Although some stories reveal how they threaten stable societies through their often disruptive behaviour and activities, the government promises to manage their excesses through regulation.

This is also suggested in the stories titled “Artisanal mining needs regulation” by The Herald and “New Mines Bill to regulate artisanal miners’ by Veneranda Langa. Both stories acknowledge the criminality of most ASMs but also venerate it as an important economic sector in the country. In the story “New Mines Bill to regulate artisanal miners”, the Minister of Justice, Ziyambi Ziyambi, promised to make policy that regulated ASMs activities after the Battlefields disaster which killed more than 24 miners. The Minister points to this necessity as a strategy though it is clear they either have challenges or are not committed enough to regulate their operations. The sanitisation and veneration of the ASMs is also suggested in discourse strategies in the story by The Herald on the 8th of March 2016 titled “Artisanal miners embrace new RBZ policy” by Conrad Mwanawasha. The story points to the fact that the government which is struggling under sanctions, is heavily dependent on the operations of the ASMs. This is implicitly pointed out in the paragraph, particularly in the phrase “no questions asked”, which points to the desperation of the government and points to its dependence on ASMs.

“According to the new policy, the central bank’s gold buying unit Fidelity Printers and Refinery is now buying gold from artisanal miners on a “no questions asked” basis through mobile buying centres to be deployed across the country; the primary gold buyer to issue permits to buyers to cover mining areas that have high activity of artisanal miners; and that FPR, shall in the process, gradually develop a database and account for production by artisanal miners.”

Almost all the stories have a recurrent theme of trying to manage and regulate by claiming that the conduct of the miners can be managed while overlooking the damage these activities have on the environment, which is also the other section of the community members’ source for survival. The reporter argues that,

“Another miner from Mukaradzi, Mount Darwin, Mr Jacob Mudombe said while gold deliveries to FPR may rise this might have a negative impact on the environment because prior to the policy a good number of people have always wanted to deal in gold but have been barred from doing so as it was illegal to be found in possession of the gold.”

The desperation by the government also clearly suggests the sanitisation of the ASMs at the expense of the community members. Despite their aggression and crimes, the recurrent dependence on the miner alludes to the government’s hopelessness. This is clearly pointed out in the ‘no questions asked’ attitude as pointed in the statement above. The reporter magnifies this need and desperation in the story on the 20th of September 2019 titled “Gold sector pins hope on small-scale, artisanal miners” by Mthandazo Nyoni. In this story, he argued that:

“Zimbabwe’s small-scale miners could produce an average of three tonnes of gold per month if the current 1,5 million unregistered miners were registered and brought into the mainstream economy, an official has said.”

The journalist uses The Zimbabwe Miners’ Federation chief executive officer Wellington Takavarasha as a source in his story and the executive argued that:

“...small-scale and artisanal miners had capacity to produce more gold if the government could come up with light-handed policies for them.”

This predicament of the ASMs operations and farming land is also suggested in the story by Newsday on the 25th of February 2016 titled “Enhancing miner-farmer relations” by Sam Spiegel and Wellington Takavarasha which criticises the aloofness of the government particularly in the farmers-miner conflicts. Climate change has worsened the situation because of the persistent droughts caused by regular floods which have resulted in most people shunning farming to become miners, further destroying the environment through their operations. The challenge has always been that left uncontrolled as ASMs destroyed land, communities and, in most instances, contributed to land degradation (Mpofu and Mpofu 2017). In most mining areas farming land has been destroyed resulting in poor agricultural output in a country that was, for decades, dubbed the continental bread basket. The importance of both trades is suggested by the reporter when he argues that,

“Now a half decade later, both farming and small-scale mining continue to be vital pillars of Zimbabwe’s rural economy, and land sharing presents ever-increasing challenges.”

The reporter points out that without proper environmental laws the relationship between the miners and farmers remain complex and a challenge:

“The diverse interpretations of the visual (top right) underscored the deep complexities involved. Some groups saw, first and foremost, a farmer’s land being damaged by the miner. Their interpretation of the image focused on degradation, pollution and potential risks to cattle that fall in pits. Others suggested there was a severe lack of understanding by the farmer – and drew on their own experiences.”

The prioritisation of ASMs over farmers is evidently captured in the government’s preference to trade against farming. The story from *Newsday* on the 3rd of April 2020 by Fidelity Mhlanga titled “Miners seek reprieve during lockdown”, which was granted, is a clear indicator to the government’s preference and over glorification of the trade as the country’s pillar of economy. While almost all activity was halted because of the COVID-19 pandemic, ASMs were given the green light to resume operations even though they were not initially mentioned in the Statutory Instrument 83 of 2020 among the essential critical staff. The justification by the government as captured by the reporter was that:

“Small-scale miners contribute significantly to gold production. However, gold deliveries have dropped due to the currency volatility in the economy”.

Representation of the ASMs as an economic pillar is alluded to in the story by *The Herald* on the 3rd of February 2020 titled “Mining houses urged to support artisanal miners” by Joseph Madzimore which also suggests the paradoxical contradicting complexities of condemnation and sanitisation of the ASMs. The story constructs the industry as viable but in the

same encouragement of bigger mining companies to collaborate with ASMs. The reporter also alludes to the chaotic operations of ASMs when he says that there is need for formalisation of their operations. He argues that:

“Established mining companies should make a tribute agreement with prospective small-scale miners as part of formalising their operations, a mining official has said”.

The reporter also points out that most ASMs are not registered. What this means is that their operations and activities are difficult to manage as there are no records for their existence. Like other reporters pointed above Madzimore attempts to dignify the ASMs operations by pointing to their contributions to the revenue and economy in Zimbabwe. The recurrence of dangerous weapons such as the machetes point to the danger of the ASMs operations. The reporter alludes to the vulnerability of people in the mining communities in the following statement:

“We were very happy that the police took a very decisive and firm stance against machete gangs,” he said. “Those are criminals tormenting people in our communities. That position is really commendable. “Majority of young people, particularly in rural areas, do not have any other source of income besides mining. They survive on small-scale mining.”

The recurrent desperate theme from the stories also points to the instability of the economic situation which now considers the mining sector crucial in the sustenance of the economy.

Derogatory representation of ASMs operations by the media.

This section explores the derogatory and pejorative themes generated from the analysis of the newspaper stories from both The Herald and Newsday. While the theme analysed above focused on the media attempt to mask and sanitise ASMs operations, this section explores stories that exposed the negative conduct of ASMs in their operations.

In the story by The Herald on the 7th of November 2019 titled “ED condemns violence in artisanal mining” by Freedom Mupanedemo, the negative conduct of ASMs in the country is exposed. The first paragraph is riddled with accusatory tones by the reporter to describe conduct of ASMs. He argues that:

“There have been numerous reports of violence among artisanal miners who invade mining claims while attacking competitors with machetes.”

The association of the ASMs with violence is also clearly meant to annihilate them from the public. The story makes use of disturbing symbols that are used by ASMs, which point to the violence unleashed on people as well as the land. The language used by the journalist predisposes the readers against the ASMs. The phrase ‘attacking competitors with machetes’ builds the impression of the gravity of the violent disposition of the ASMs, as intended by the reporter. The phrase likens the way ASMs operate to wild, lawless animals which cannot be controlled and portrays the mining sites as mini battlegrounds where survival of the fittest prevails. The word “invade” is used to show violation of land by the ASMs. The language used also strips the ASMs of the flimsy dignity by the reference of brutality associated with their operations. He uses language that suggests and portrays

the ASMs as inherently immoral, heartless and represents them as huge threats to each other as well as the community members. This is also captured in the story by Newsday of the 26th March 2020 by Darlington Mwashita titled “Fort Rixon artisanal miners up for murder”. In the story, the reporter describes the miners’ heinous acts and portrays them as harmful to communities. These themes also recur in Freedom Mupanedemo’s story where ASMs’ conduct is described as dangerous. Throughout the story, the reporter uses images that point to ASMs as lawless, heartless, brutal and threats to the stability of any society. These images are also alluded to in the words such “assaulted” that are used by the journalist.

In another story titled “Fort Rixon artisanal miners up for murder” by Newsday on the 26th of March 2020 by Darlington Mwashita, it follows a story of a community member murdered by the miners. The fact that the victim is a villager portrays the picture of a dangerous criminal versus an innocent helpless unarmed victim. The reporter made use of language strategies that not only make the ASMs unpopular but makes them inherent criminals who cannot live in normal, stable societies or harmoniously with others. This idea is emphasised by the terms ‘okapi knife’ and ‘electrical cord’ that were allegedly used to assault the villager. The fact that the reporter points out that the villager was killed over an unspecified issue suggests that ASMs are bloodthirsty murderers. Over an ‘unspecified issue’ points to how trivial the dispute which allegedly claimed a human life was.

Elsewhere The Herald reporter Mupanedemo also alleges that the ASMs based in Shurugwi have coined out notorious intimidatory nicknames that have been used to intimidate other mining gangs and society. The choice by the reporter to make use of the vernacular is also not coincidental as language is coined by society which suggests these names describe the conduct of the ASMs. Words such as machemba and

mashurugwi are derogatory but aptly describe the ASMs conduct. In the same story the President is cited threatening the ASMs for their violent activities. He said that:

“We have said we don’t want this, anyone found in possession of these dangerous weapons should be arrested and jailed”.

However, the President’s sentiments which berate a section of ASMs are complex as it is generally challenging to separate registered from unregistered ASMs as most of them behave criminally or are forced to behave as such as a defence strategy or survival tactic. The phrase ‘dangerous weapons’ suggests the brutality of the industry and operations. As such, the attempt to create the good ASM and the ‘mabhembamba’ element or image within this industry falls flat if the government does not take steps to properly manage the sector. The criminal element theme recurs within the stories as the government has not funded the industry and the miners use rudimentary techniques for mineral extraction or technology and often operate under hazardous, labor-intensive, highly disorganized and illegal conditions (Chambers 2015). This is coupled by the mobile nature of the unregistered ASMs who continue to destroy the environment.

This degradation of the environment and callousness of the miners is also captured in the story titled “All that glitters is not gold” in the *Newsday* on the 23rd of January 2020 by Eddie Cross. The story outlines the destruction of farming livelihoods. Most of the land that had been originally distributed for farm work was re-allocated for ASMs which has resulted in conflicts of the ASMs and the farmers. Besides this challenge the reporter pointed out that fights and arguments that are encouraged by buyers from urban areas have

become rife in most mining cities which have earned the ASMs notorious names. Most of the crimes remain unaccounted for because ASMs are highly mobile and unregistered. The situation is also worsened by the porous borders as most of the minerals are sold to buyers from neighbouring countries.

This is also echoed by Stephen Chadenga and Terry Madyauta in the *Newsday* on the 4th of September 2019 titled “Artisanal miners should stop being nomadic”. The reporters cite this behaviour as the source of bloodshed and dangerous fights between ASMs gangs. Citing speakers at a workshop they argue that:

“...Friday, Sibanda said gold panners were invading each other’s claims, fuelling machete wars, thereby causing loss of lives. “We read reports of artisanal miners referring to themselves as MaShurugwi and MaFilabusi, going as far as Mazowe (in search of gold).”

Conclusion

From the above analysis, it is evident that the media plays an instrumental role in shaping public concern regarding ASMs in Zimbabwe. From the newspaper articles analysed there is a clear indication that some sections of the media glorify and venerate the activities of the ASMs despite their evident contribution to the degradation of land and use of chemicals that have contaminated water systems which in turn have destroyed the ecosystems and inevitably farmers’ livelihoods in various communities. Some sections of the media have gone on a campaign to expose the destructive and negative impacts of the ASMs in relation to climate change. Most of the newspaper articles that have written or included vernacular

terms in their analysis have captured the derogatory terms that are used by the ASM host communities and capture the objective feeling of the host societies. Some of the terms that have negative connotations that were noted in the analysis include 'makorokoza', 'mashurugwi' and 'mabhembra'. Most English publications tend to be more accepting and use neutral language void of moral judgement. Therefore, it seems that official discourses accept, embrace and promote this sector as necessary while unofficial or private discourses perceive them as a moral plight, a security threat and an environmental hazard. This, as noted, has to do with the paradoxical and ambiguous attitude that has been adopted by the government of Zimbabwe regarding the trade which they consider to be an important pillar and thus crucial for the development of the country. This is the reason why some newspapers are forced to confront and address their violent and destructive behaviours and promise to clamp down on what they perceive as the rogue unlicensed miners, while some newspapers try to sanitise and glorify their operations at the expense of the environment within which they operate.

Chapter 03

Smallholder Farmers' Perceptions of Climate Change and Implications for Adaptation: A case study of Matobo District in Zimbabwe

Thulani Dube

PhD (Fort Hare), MA (Leeds), PGD (Stellenbosch), MA, BA Hon's (UZ).

Dean: Faculty of Humanities and Social Sciences Lupane State University Zimbabwe



Abstract

The response of individuals and communities to climate change is largely dependent on the way in which they perceive climate change, its causes and impacts. Therefore, it is critical to understand how communities perceive climate change causes, impacts, and wider implications. This study examined the farmers' perceptions of the causes and impacts of climate change in Matobo District in Zimbabwe and the implication of these perceptions on adaptation thinking within the communities. A mixed methods approach was utilized in the study, combining a survey questionnaire, focus group discussions and key informant interviews. Data was analysed using SPSS for the survey questionnaire and thematic analysis for focus group discussions and key informant interviews. While acknowledging a variety of factors, the study established that one key factor driving perceptions about the causes of climate change in Matobo District is religion. This is not surprising given the location of the Njelele Shrine in Matobo District and the growth of the Christian faith. This paper details the implications of the findings for policy making, programming and adaptation planning.

Introduction

The impacts of climate change on the livelihoods of communities in semi-arid sub-Saharan Africa have been well documented (Ahmed, 2020; Dube & Phiri, 2013). It is expected that these impacts will worsen with increasing global warming (Soubry, Sherren & Thornton, 2020). The response of individuals and communities to climate change is largely

dependent on the way in which they perceive climate change causes and impacts (Capstick, et. al, 2015 & Silvestri et. al, 2012). This study examines perceptions of climate change by smallholder farmers in Matobo District, Zimbabwe. Research conducted on farmers' perceptions about climate change, to date, has focused on comparing meteorological measures of temperature and precipitation with farmers' perceived trends on these variables (Moyo et. al, 2012; Mtambanengwe et. al, 2012). The thrust of this study is directed towards perceptions that relate mostly to the perceived causes of climate change and how their potential influence on adaptation thinking.

Some researchers have argued that the way farmers respond to climate change is influenced more by the perceptions they hold than by climatic trends (Soubry, Sherren & Thornton, 2020; Comoé & Siegrist, 2015; Morrison & Pickering, 2013). Weber (2010) has argued that it is critical to understand how communities perceive climate change causes, impacts, and wider implications. Policy makers should have an appreciation of public perceptions in generating climate change policy and adaptation plans (Capstick, et. al, 2015). Besides influencing policy success, research also shows that climate change perceptions determine which adaptation pathways communities take in responding to climate change (Debela et. al, 2015; Semenza et. al, 2008). It has been further argued that people tend to have a better climate change risk perception if they have a fuller understanding of the causes, impacts and

potential trends of climate change (Van der Linden, 2015). This study examines how climate change perceptions in Matobo District are influencing adaptive responses to climate change. The paper makes recommendations on incorporating climate change perceptions into policy making and programming.

In order to understand how communities respond to climate change, it is necessary to conduct small scale studies that shed light on the perceptions of communities at the minute scale (Wolf & Moser, 2011). The failure of some adaptation policies has been attributed to a discordance between the perceptions of local farmers and the perceptions of policy makers (Tefahun & Chawla, 2020). Indeed, understanding farmers perceptions about climate change is a pre-requisite for the formation of effective adaptation strategies that take into account the specific conditions of local communities (Below, Schmid & Sieber, 2015).

Perception in this study is defined as constituting our views, interpretations and explanation of the phenomena around us based on our experiences, beliefs, evidence and general understanding of the issue at hand. This study acknowledges that perceptions can be investigated on a variety of levels about climate change. These levels may include trends of climate change, the impacts of climate change and the causes of climate change amongst others. It has been argued that climate change risk communicators must take into consideration the issue of social perceptions on climate change if their communication strategies are to be successful (Van der Linden, 2015 & Weber, 2010). This study focused on understanding the perceptions of local farmers on the causes and impacts of climate change.

Studies conducted globally have shown that climate change perceptions in local communities are

affected by a variety of factors including levels of education, trends and intensity of climatic changes, exposure to scientific information and socio-cultural factors including religion, trust in scientists, personal experience, newspaper readership, membership of environmental groups, cultural worldviews among many other factors (Tefahun & Chawla, 2020; Van der Linden, 2015; Weber, 2010; Mertz, et. al, 2009). However, these studies also acknowledge that the impact of each of these factors varies significantly depending on the context. In spite of the clear relative importance of individual and community perceptions about local climate change perceptions, there is currently limited and inadequate research being conducted to understand how perceptions play out climate change responses (Van der Linden, 2015). This information gap exists both in the global north and south ((Soubry, Sherren & Thornton, 2020).

Evidence shows that in some countries religious beliefs have a sweeping influence with regards to climate change perceptions because religion often forms the single most important point of view for highly religious communities (Sherkat & Ellison, 2007). Some researchers have gone further to argue that religious perspectives are not compatible with new environmental perspectives of environmental preservation (Jellason, Conway & Baines, 2020; Clingerman & O'Brien, 2014). However, a counter-narrative points out that religion is in fact a useful and friendly ally in the fight against climate change as many religions have doctrines that appeal to issues of environmental preservation and stewardship (Golo & Yaro, 2013). Those that argue for religion being a useful strategy argue that religion through its rituals and prayers and teachings and ethical standards can contribute to the development of strategies that help to address the problem of climate change (Wilson, 2012). Some studies have argued that congregants who hear environmental sermons

are more likely to respond positively to environmental concerns than those that do not hear such sermons (Taylor, 2015).

The enticement to see religion as one block of synonymous thought should be resisted as some researchers have indicated that even within the same religion like Christianity, it is quite possible to note differences in denominational thinking that can have profound effects in responding to climate change (Arbuckle & Konisky, 2015). In view of these arguments, it is notable that in order to have successful climate change adaptation strategies, there is a need to find a mediation point between religious communities on one hand and the scientific communities and policy makers on the other hand (Clingerman & O'Brien, 2014).

Research Questions

The main objective of this study was to investigate the effect of the perceptions of farmers about the causes of climate change on the adaptation pathways that the farmers adopt.

The study seeks to provide empirical evidence to the following research questions;

1. What do smallholder farmers understand to be the causes of climate change in Matobo District?
2. What adaptation responses are associated with particular perceptions about climate change causes?
3. How effective are the adaptation strategies adopted because of the observed climate change perceptions?

Research Setting

Matobo was chosen as a study site because it is

a semi-arid District where the effects of climate change have been most evident (Dube & Phiri, 2013). Matobo is also widely considered as a national shrine by traditional religion practitioners in Zimbabwe. The presence of the Njelele Shrine in Matobo district sets an interesting religious dimension about the perception of climate change that is probably not as strongly present elsewhere in Zimbabwe and in the African continent. Njelele is a revered traditional shrine located in Matobo District. Since time immemorial people from the local communities and from other parts of the country habitually visited the shrine towards the rainy season to seek divine intervention concerning the rains from the Njelele deity known in the local Ndebele language as Ngwali (Nyathi, 2014). The power of the shrine is partly based on the mysterious human voice that is said to have been booming from the rocks at the shrine until recent years where it is unknown what happened to the voice (Mazinani, 2012). The supernatural power over rainfall and the environment that was believed to be held by the Njelele deity thus made Njelele to be at the centre of the climate change community discourse in the region.

Research Methodology

This study utilized a mixed methods approach, combining both the quantitative and qualitative approaches because of the need to collect both qualitative and quantitative data. Under quantitative methods, a structured survey questionnaire was administered to 400 smallholder farmer households in four different wards in Matobo Districts. The households were selected using a randomized multistage cluster sampling technique, starting at the District level to select the four wards, and then selecting one village per selected ward. Once the village was selected, one hundred randomly selected households had questionnaires administered to them. The ques-

tionnaires gathered household heads data about their perceptions on climate change and the adaptation strategies that they were adopting.

Table showing the sample composition for the survey questionnaire

Ward	Village	Number of questionnaires administered
Ward 4 (Marko)	Matankeni	100
Ward 9 (Bambanani)	St. Anna	100
Ward 12 (Sontala)	Sontala	100
Ward 15 (Gulati)	Tohwe	100
TOTAL	4	400

Source: Survey data

Focus group discussions were also conducted in each of the selected villages with local farmers. The objective of the focus group discussions was to understand how local farmers interpret the climate change phenomenon in terms of experiences, causes and impacts. Focus group discussions were constituted by between 8 and 10 people selected with the assistance of the local headman who guided the researcher on knowledgeable people about the subject being discussed. Participants included local farmers, traditional religion and church leaders and well as lead farmers.

The researcher also conducted in-depth key informant interviews with local traditional leaders, traditional religion leaders and healers, Christian leaders and opinion leaders including the ward councilors.

Findings

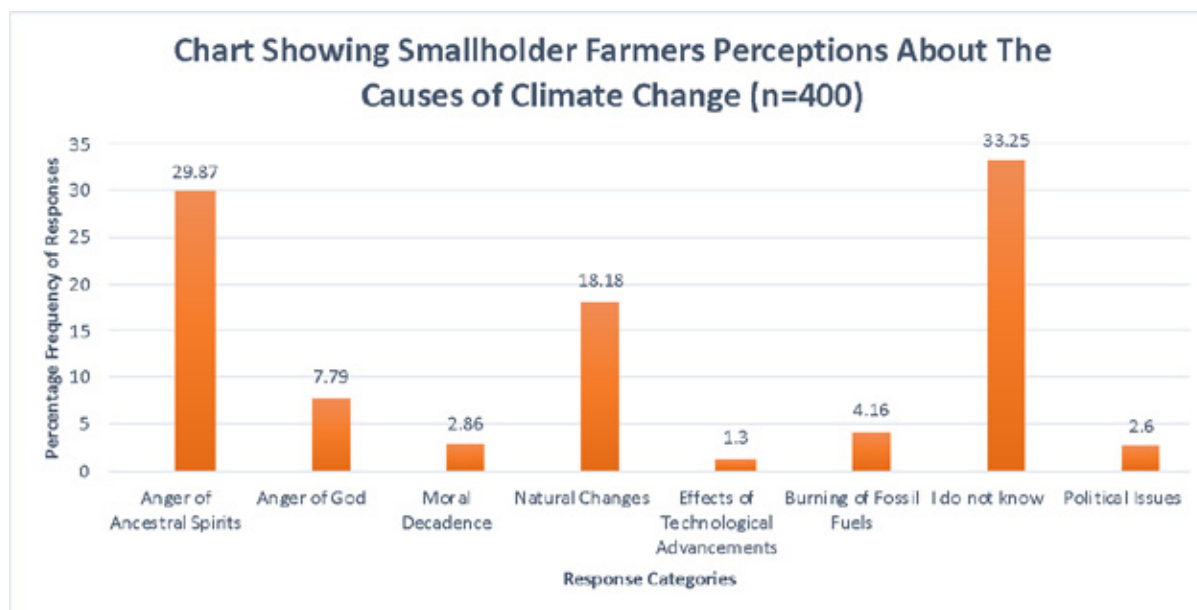
Local Community Perceptions about Climate Change Causes.

The study established that 90% of the respondents

identified notable climatic changes in their environment based on their historical experience of the place and its climate. The most important climatic changes identified were a reduction in precipitation and an increase in temperature. Seventy six percent (76%) of the respondents noted that the changes were 'very significant', while 14% stated that the changes were 'quite significant'. From focus group discussions, the study established that in spite of the farmers being acutely aware of climatic and environmental changes induced by global warming, farmers were mostly unaware that what they were observing in their environment was in fact a global problem. This lack of knowledge about climate change led to the generation of a variety of local explanations which have critical implications with regards to how farmers respond to climate change both in mitigation and in adaptation. Farmers and other stakeholders generated various local explanations about the causes of climate change. This finding is in line with

Svalastog's (2010) findings that when communities fail to explain environmental phenomena around them, they often turn to mythology. The lack of clear official scientific explanations concerning the climatic changes that were taking place in the community ecology of Matobo has led to thriving local generated perceptions about the causes of climate change. These local postulations about the causes of climate change are important to understand here as they mediate the adaptation and mitigation responses.

Figure 1



Source: Survey data

Figure 1 shows local interpretations of climate change causes. The observed increases in temperature and the reduction of precipitation were largely attributed to the anger of ancestral spirits (29.87%), the anger of God (7.79%), moral decadence in society (2.86%), natural changes (18.18%), effects of technological advancement (1.3%), burning of fossil fuels (4.16%), political reasons (2.6%). However, it is important to note that the greater number of respondents (33.25%) said that they did not know what was causing

climate change.

The majority of the respondents either did not know what causes climate change or understood the phenomenon of climate change in terms of one of the several local explanations created to explain the misunderstood phenomenon. As shown in Figure 1, approximately 40% of respondents were of the view that the reduction in precipitation was a result of the fact that ancestral spirits and the deity of Njelele (called Ngwali) were unhappy because locals were not paying respect to traditional rituals. Respondents believed that ancestral spirits had

the power to stop the rains if they were unhappy for any reason. They noted that locals had neglected the practice of visiting the local Njelele shrine which was widely believed to house the deity that gives rain. One focus group participant in Matankeni village remarked that:

“I think the climate is changing because we no longer follow traditional rituals appropriately. In the olden days, at this time when the rainy season was about to come, people would go to Njelele and perform rituals there, but now I don’t know what is happening, people now want to do church things. Perhaps that is the reason why it no longer rains”. (Matankeni focus group discussion, Participant 2)

These findings are consistent with findings elsewhere including in Ghana where it was noted that in communities that are highly religious, religion tends to take the centre stage in the interpretation of the causes of climate change (Golo, B. W. K., & Yaro, J. A. 2013).

In addition to Njelele, there were several other mountains and shrines that villagers felt were not being given their traditional due honour. They argued that this was the cause for the decline in precipitation levels. Traditional religion practitioners argued that deities of the mountain were displeased and were therefore inflicting punishment on the people by withholding the rains. In St. Anna, Zamanyoni mountain which some locals were desecrating freely in search of firewood, was given as one such example. One participant noted in the focus group discussion that;

“According to my view, the respect of culture and tradition that used to be there in the olden days has disappeared, it is no longer the same. I think that is

one of the things that have caused the disturbance of climate. You see that mountain (Zamanyoni) when we were growing up it was well respected according to tradition. We were not supposed to climb it. But now people are climbing it and fetching firewood. Young people no longer respect tradition. When we look, these are some of the things that have disturbed our climate as well. The rains used to fall a lot in this place. Perhaps if we respect tradition things could improve” (St. Anna Focus Group Discussion, Participant 4).

This narrative typifies the responses given by most respondents who were believers in the African traditional Religion. In the household questionnaire, a strong 80% of the respondents ‘agreed strongly’ or simply ‘agreed’ with the statement that ‘the observed climatic changes can be reversed only by adhering to traditional religious practices.’ This underscores the point that there is a broad consensus that climate change in Matobo is a religious issue. These findings support findings elsewhere that cultural allegiances and values largely direct the way in which climate change information is processed and climate change causes are attributed when they are received from communicators (Weber, 2010). Policy makers and programmers addressing climate change in the region and other similar religiously minded regions would have to address this particular perception first if they hope for any success. The power of religion as a tool for interpreting reality transcends most other sectors of life. Previous studies have shown that perceptions are critical in successful climate change adaptation (Bryan et al., 2009). The study established that the information void about the nature and causes of climate change from official formal sources has created fertile breeding ground for local hypothesis testing about the phenomenon. This threatens to harm local climate change adaptation if the commu-

nities do not get urgent information interventions. In line with the traditional beliefs highlighted above, certain practices emerging from the perception that climate change is a spiritual problem, are critical to mention here because they could hinder effective climate change adaptation. Most respondents pointed out that if violent storms occur in the area, they were required by their African Traditional Religion belief system to abstain from working in the fields for the next two or three days in honour of the Njelele deity who is believed to cause rainfall. Failure to adhere to these religious protocols was believed to cause further climate related calamities. Reduced rainfall in the area was partly attributed by focus group discussion participants to communities failing to observe such spiritual rules. Other observances that required the community to abstain from working in the fields include the appearance of the new moon. On the appearance of the new moon, farmers were required to abstain from work for a minimum of two days. Such traditional practices are likely to expose communities more to the negative effects of climate change. At a time when rainfall seasons are becoming shorter and more erratic, the practice of abstaining from farm work for several days could cumulatively have dire effects on the period available for crops to grow. In an interview with one indigenous knowledge systems specialist, it was noted that a directive from the Njelele shrine had been given that;

“On the day that the moon disappears, there should be three days of not working in the fields. On the fourth day, people can work. Again if the rains are violent, falling with thunder and or hail, people should abstain from working in the fields for the next three days, then start work on the fourth day.” (Indigenous knowledge systems specialist 4).

The abstinence days noted above exclude the standard traditional weekly abstinence days observed

on Wednesday or Thursday in most rural places in Zimbabwe. As a result of these observances, several critical wet days may be lost in the season and thus jeopardising the potential productivity of farmers. These traditional practices will become increasingly unsustainable as global temperatures increase and the rainy seasons become shorter in Matobo. As Debela et. al (2015) have argued, where there are misconceptions about climate change, it is quite possible that there may be no adaptation at all instituted, or maladaptation can take place which could lead to an increasing risk of climate change. Thunderstorms and more violent weather incidences are projected to become more commonplace occurrences resulting in a greater accumulation of lost farming days in the rainy season.

A follow-up study may be necessary to establish the average proportion of households that adhere to such practices and how many days on average may be lost in a farming season. The gravity of the losses is especially severe because the abstinence immediately follows a rainy day or days. It should be noted that the prevalence of these community postulations is fed by the absence of scientific information explaining the nature and cause of climate change. Future climate change policies and programming in Matobo should expressly foreground religious views and address the information gaps and misconceptions that could lead to increased vulnerability by local communities. Addressing local religious perceptions on climate change would be an essential aspect of the climate change adaptation process.

Other respondents felt that climate change was a result of God's anger because people were committing too many sins chiefly homosexuality, murder, and other evils. Advocates of this postulation advanced that the country had also experienced too much blood shed since the struggle for independence and

God was unhappy with people killing each other;

“There is too much evil in the world now. People are not doing things that please God. You hear that a woman is sleeping with a woman or a man is sleeping with a man! These things are evil. And then, people are killing each other like rats (without respect for life). Ever since the liberation struggle people have been killing each other in our country. All these things make God hold back his rain.” (Matankeni focus group discussion, Participant 4).

Furthermore, adherents of this viewpoint argued that the violence and bloodshed that had been experienced in Zimbabwe after the attainment of independence was also another cause of God being unhappy and exerting punishment upon the country. Respondents mentioned that Zimbabwe had undergone a prolonged period of violence starting from the liberation war, through to the Gukurahundi era in the 1980s. They argued that this was a contributing factor to the absence of rainfall and increasing temperatures.

Another religious line of perception was that climate change was the prophetic fulfilment of the times as foretold by the Holy Bible. This explanation was underscored by practicing Christians. They argued that the turn in climatic patterns was expected because it was written in the bible. They indicated that according to their belief system the world was coming to an end and therefore the difficulties associated with climate change were part of the fulfilment of a prophetic declaration in the bible. One respondent who represented such thinking said:

“I believe that God is the creator of all things and that whatever he says will turn out to be so. God said at the end of the world everything will change. He

said there would be famines. These famines would be caused by lack of rain. That’s what I believe... What God has said will happen” (Matankeni focus group discussion, Participant 2).

The advocates of this particular postulation largely based their views on Matthew 24 verse 7 in the bible which details the events of the last days as follows:

“And ye shall hear of wars and rumours of wars: see that ye be not troubled: for all these things must come to pass, but the end is not yet. For nation shall rise against nation, and kingdom against kingdom: and there shall be famines, and pestilences, and earthquakes, in diverse places” (King James Version Bible, Matthew 24:6-7).

Proponents of this view argued that climate change was leading to the fulfilment of the prophecy on famines. In their view climate change was inevitable and the impacts were ultimately unpreventable. They argued that this was the beginning of the inevitable end of the world and human beings had limited control over it. This particular perception has profound impacts in terms of how communities respond to climate change. Elsewhere, this perception has been found to cause individuals to take a non-responsive approach because they believe they cannot influence God’s plan. The United State Congressman Joe Barton is commonly quoted as having submitted in 2009 in a debate about climate change legislation that climate change is a God ordained phenomenon and that it cannot be regulated because of that. (Clingerman & O’Brien, 2014). This perception has therefore been associated with a lack of initiative to take action against climate change. Higher levels of religiosity in some Christian denominations have been associated with lower levels of environmental concern in some studies (Arbuckle & Konisky, 2015).

Another blend of the race and climate change postulation emerged which was also related to the liberation struggle. A significant number of respondents in the focus group discussions felt that climate change was occurring because whites had been chased out of the country. They argued that whites had a special favour with God and when they left the country they left with their wisdom and favour from God. While this view might seem to be far-fetched, there are many who held this view amongst the respondents. One advocate of this postulation argued that:

“In my view, when these people (the whites) left, I think they left with their wealth and we remained with our weakness. You see, even our hair is short like our thinking. So we remained with nothing. I think that also caused climate change. You see, these people had machines to examine the atmosphere ... we don't have them. That's my view” (St. Anna focus group discussion, Participant 3).

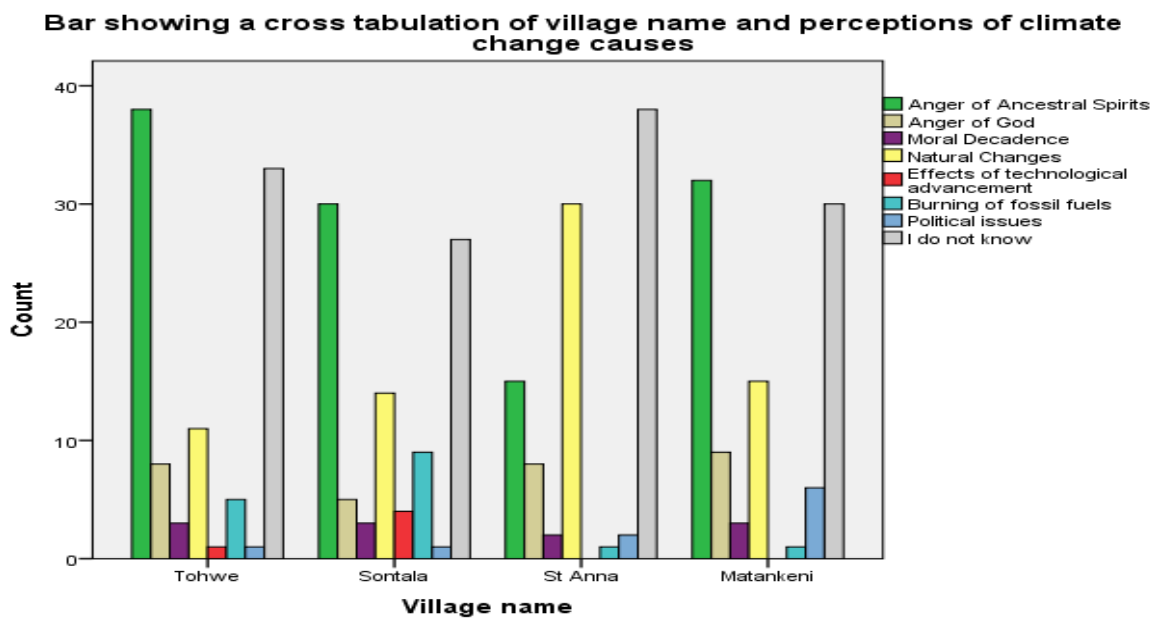
Some respondents attributed climate change to the emergence of and increased use of technology. In particular, the use of solar energy and solar panels was perceived to be contributing to climate change by some respondents. Some participants in the focus group discussions, particularly the elderly, felt that the prevalence of solar energy panels in many homes was responsible for the increase in temperature. Although the explanations given by these respondents had no scientific basis, they argued that the prevalence of many solar panels was drawing heat to the earth and therefore causing an increase in temperature. Solar panels in Matobo District were a relatively new phenomenon. These panels were

mostly brought in by local men and women working in neighbouring Botswana and South Africa to power radios and television sets. Although there was no scientific validity in this postulation, local farmers assumed that if solar panels could trap solar energy, then they were a cause for increased warming. This perception was particularly strong in the St. Anna focus group discussion and in Sontala. One participant at the St. Anna focus group discussion argued that:

“We think that climate change is caused by the fact that there is too much power in the atmosphere. Everywhere you go there are solar panels that make the heat of the sun increase. If the heat of solar clashes with heat from the sun and the heat from electricity, I think that this is what causes this extreme heat we see” (St. Anna focus group discussion, Participant 1).

A limited number of respondents felt that climate change was a natural process that could not be explained besides seeing it as a natural scientific process. These did not believe that there was a need to explain climate change. In their assessment, nature was simply evolving in its own way. The chart below shows a cross tabulation of perceived causes of climate change in the four study wards. There is a notable difference across the sites in terms of the dominant perceived climate change causes. It would appear that geographical and social profiling determines the major perceptions about climate. For example, Tohwe which is closest to the Njelele Shrine had 'Anger of Ancestral Spirits' as the strongest perceived cause of climate change. While the other wards reflected this perception, it appears that proximity to the shrine led to a greater importance being placed on its power to influence the climate.

Figure 2



Source: Field data

Local Community Climate Change Perceptions: Implications for Climate Change Adaptation

It is important to note that the community postulations discussed above are a critical mediating factor in adaptation and mitigation. This study focused on adaptation only. In particular, religious postulations of climate change were found to be the most important mediating factor. Farmers who believed that rainfall availability or lack of it was spiritually determined preferred to implement spiritual solutions. Local farmers who believed that the deity of the Njelele Shrine was responsible for causing or restricting rainfall would at the beginning of every rainy season around August organise themselves to go and pray to the deity at Njelele. This was believed to induce the rains to fall.

Other methods applied by believers of traditional religion included a ritual whereby locals would take their seeds to local well-known spiritists who supposedly treated the seeds to protect them from witchcraft and adverse weather conditions. It was believed that all these activities combined together would result in improved rainfall and crop yields. This practice was known as ukuvuba inhlangano (mixing the seeds). However, when using an instrumental approach to test these beliefs, one falls into the inevitable epistemological difficulties associated with religion and faith. The practice of ukuvuba inhlangano shows that, as has been found elsewhere in Africa, belief in a deity determines how people respond to climate change (Debela et. al 2015). In many instances, responses may be purely spiritual as noted in this case.

Similarly, Christians were also engaging in prayers

before the start of the rainy season to seek divine intervention on their crops during the agricultural season in question. These two groups (Traditionalists and Christians) were often at loggerheads about the correct practice with the traditionalists blaming the reduction of rain on the mushrooming of Christian churches while Christians blamed traditionalists for their refusal of the Christian doctrine as the cause of negative climate changes. The debate was quite intense to the extent that it was a potential cause for community conflict. The entrenched position of both the traditional and Christian perspectives on climate change demonstrates that religion is an important factor in understanding the climate change discourse in Matobo District.

It is important to note that some of the religious dictates appear to be a cause for concern as they may prevent farmers from effectively adapting under the changing climatic conditions. Several religious observances were noted called amazilo (abstinences). These were days in which people were not allowed to carry out farming and related activities. For example, as already highlighted earlier, it was a traditional religion requirement that the first rains could not be used to plant on the following day. When the first rains fell, farmers were expected to avoid planting for between two and three days. After that they could then start:

“On the first day that the rains fall, no one is allowed to plough. We wait perhaps for two days, on the third day we may then start planting. If the rains come in the form of a storm, we also do not work as we notice and respect the fact that there would have been damage caused. The same applies if lightning hits a place and causes damage. We also do not work for some days. We observe those same rituals that were observed by our grandparents in the past” (St.

Anna focus group discussion, Participant 5)

It was understood that if these religious observances were not undertaken, the result would be an escalation of the harmful weather phenomena that would have been experienced. The pertinent question to ask here is, what is the overall effect of such perceptions and cultural practices on rural livelihoods in a changing climate? Basic analysis will show that this leads to several planting days lost as people observe particular sacred days according to traditional religious dictates. Further research is necessary here to establish the average amount of time lost to such observances in a year against the background of shortening cropping seasons. These findings resonate with Debela et. al (2015) that states that when individuals believe that climate change is an act of God, they are less likely to act against it.

Conclusion

The study concludes that the communities that were investigated are acutely aware of the impact of climate change in their ecology. The study established that there were a variety of local explanations about the causes of climate change including religious reasons, natural changes, the burning of fossil fuels and political instability in the country. At least 33% of the respondents did not know or try to proffer causes of climate change. It was established that the key determinant of how the communities respond to climate change is the perception that the communities have about the origins of climate change. In the context of Matobo District communities, the dominant influence was religion which had an over-exerting over other factors that determine perception partly because of the physical presence of the Njelele Shrine which has a national significance amongst the followers of traditional religion in Zimbabwe. Climatic patterns amongst traditional religion followers were exclusively defined in terms of the influence of the deity who is believed to be at that shrine. On the other hand, for Christian faith followers, the same shrine is seen as the cause of climatic problems as many see the shrine as drawing the anger of God on communities. The study concludes that there is a strong relationship between how climate change is perceived and how responses to it are initiated. Communities with levels of religiosity tend to adopt religious responses to climate change.

Recommendations

It is recommended that climate change awareness raising programs must be instituted by the government and related stakeholders to ensure that communities are supplied with the right scientific information to drive adaptation initiatives. Programming should take into consideration specific community contexts and key drivers of perception and integrate these into training and awareness raising programmes. Where potential doctrinal linkages with religion and other climate change perception drivers can be identified, such linkages should be taken on board to strengthen the interventions. In general, climate change awareness raising and adaptation planning should be crafted to be community specific to address the unique community contexts.

Chapter 04

The Relationship Between Climate Scientists and Media in Zimbabwe.

Peter Makwanya

Lecturer English and Communication Studies, Zimbabwe Open University. Climate Change Communication Expert Consultant, Climate Change Media Reporter, Climate change Columnist with the NewsDay Paper, MA Applied Linguistics



Introduction

Climate change is the most talked about subject of the 21st Century because it permeates through all the facets of life hence it requires proper administration and sustainable management so that communities realise resilience. This community of practice (Climate change) is visible and felt in the whole world, has had strong and pronounced footprints especially in developing countries, Zimbabwe included. The reason Zimbabwe is in the framework of affected countries is that, just like most of the developing countries; it lacks the capacity to fight climate change impact, although it has the will to do so. That is why it is currently benefiting from the Green Climate Fund (GCF) for its National Adaptation Plans (NAP) as well as the recently started National Determined Contributions (NDCs). It is in the area of climate change media reporting that can shape the climate change discourses and communication landscape in Zimbabwe. The reason being that they are human-friendly, user-friendly and communication specific in order to appeal and benefit a wide range of audiences. This can only happen if the media in Zimbabwe establishes a sustainable working relationship with the scientific community of practice for the benefit of the public as important stakeholders.

Objectives of this Chapter

This chapter seeks to achieve the following objectives:

1. find out the relationship between climate scientists and the media in Zimbabwe.
2. discuss the impact of climate change discourses

in climate change adaptation practices in Zimbabwe

3. explain the perceptions of young Zimbabweans and climate change in Zimbabwe
4. describe the challenges of reporting climate change in Zimbabwe

The structure of the paper

This paper is modelled around five thematic areas which include:

1. The relationship between climate scientists and the media in Zimbabwe
2. The impact of climate change discourses in climate change adaptation in Zimbabwe.
3. The perceptions of young Zimbabweans and climate change in Zimbabwe
4. Challenges of reporting climate change in Zimbabwe
5. Opportunities of climate change reporting in Zimbabwe
6. Summary

Relationship between Climate scientists and the Media in Zimbabwe

It appears there are hidden or unclear working relations between climate scientists and the media in Zimbabwe. The relations do not seem to be collaborative and symbiotic in nature, which would contribute in establishing meaningful communicative collaborations between climate scientists and the

media in Zimbabwe. Currently, there is not much consultation and acknowledging the value of one another to strengthen, transform and move the reporting discourse forward.

There is regular publicity of climate change information/news in some selected media houses in Zimbabwe. However, most of those who contribute are opinion writers, not the journalists of those media houses. For this reason, climate change is not fully understood in Zimbabwe. In this regard, the lip service working relationship between climate scientists and the media in Zimbabwe, may contribute to the death of climate science reporting in Zimbabwe.

The perceived skepticism and lack of trust between the Government of Zimbabwe and some leading international NGOs may be the starting point of bad relations between climate scientists and the media. This has also not witnessed the transformation and strengthening of the climate change movements in Zimbabwe. Media houses with strong links with the government are also skeptical of international NGOs hence they do not go out of their way to improve the working relations. This also includes scientists working for the government departments; they do not normally go out of their way to approach these international donors and NGOs without being cleared by the government. The relationship between the climate change scientists, media houses and the government, including international donors and NGOs is not always evident unless there is funding or donations involved.

State of publicity of climate science reporting in Zimbabwe

Due to lack of trust between climate change scientists, journalists and media houses in Zimbabwe, some scientists have also chosen to bypass the mainstream media to communicate directly through

blogs, scientific journals and new-media technologies such as social media platforms like Twitter, Facebook or YouTube, just to mention a few. Climate science media reporting is not even offered at colleges, polytechnics or universities in this country. Although climate change degree programmes are being offered at various government universities throughout Zimbabwe, not even a single university has a course in climate science media reporting. The university lecturers, who report on climate change issues in the Zimbabwean print media especially, have not been trained to do so by their universities but by international media houses and NGOs. In this regard, there is not meaningful networking or collaboration between journalists, policymakers and climate scientists in Zimbabwe.

The Zimbabwean media houses, and policy makers seem not have done enough to classify climate science media stories into two broad reporting categories. The two categories would be pure hard scientific data climate stories and climate science communication policy stories. While many Zimbabwean journalists are quite familiar with reporting on climate policy issues, they are not quite conversant in articulating technical scientific concepts. Therefore, many journalists are not able to calculate and quantify damages caused by the impacts of climate change or on economic factors of climate change. These are the aspects that have infuriated scientists and strained working relationships. Although these two broad categories appear as if they are separate, they are intertwined hence media houses need to stitch together spaces of both science and policy, and reconnect them to everyday life (Boykoff, 2009). In this case, journalists seem not to be seeking clarity from scientists on certain technical concepts.

One other critical component is that both climate scientists and the media need to think about climate

change in terms of the people and place them at the heart of sustainable development. That is how the lives of people are affected by climate change and how they can be cushioned against the impacts of climate change, using the humanist approach (humanism/Ubuntu), where empathy overrides everything.

The other reason why climate change scientists appear skeptical about engaging the media and journalists is that scientists fear that pieces of scientific data can also be oversimplified, distorted or generalise their subject material to the extent that basic information conveyed is neutralised or at worst, wrongly presented. Sometimes, even though scientists play a part in transmitting information to the media and ultimately the public, in most cases, the blame for effective communication is directed on the side of the journalists. This does not augur well with the media personnel and working relations are sometimes strained.

The Impact of Climate Change Discourses in Climate Change Adaptation Practices in Zimbabwe

Climate change adaptation in Zimbabwe is aimed at human preparedness, changing human behavioural attitudes towards changes in the environment. Climate change discourses in Zimbabwe are supposed to help the vulnerable citizens to adapt and reduce vulnerability as well as improve the resilience of local people to climatic variability and change. As such, the communication of climate change knowledge and information and implementation of appropriate pathways in Zimbabwe will help local communities to adapt to climate change. The climate change discourses in Zimbabwe should enable the local farmers who have been used to maize production to shift to small and drought-resistant grains like millet, sorghum, rapoko among others, to adapt to climate

change.

The climate change discourses communicated by the media and climate scientists should empower the local communities with various strategies to adapt to climate change. The language used to express some of the given adaptation strategies like growing trees, mulching, building small scale water reservoirs, inter-cropping, building bigger grain-storage facilities or drip irrigation, among others, for climate-proof solutions. These climate change discourses should not be too technical and must resonate with the experiences of the local communities (Zimbabwe's National Climate Change Response Strategy, 2015).

Adaptive capacities to make informed and flexible decisions for action is becoming even more important to ensure resilience to climate change impacts in Zimbabwe. Climate science and meteorology are valuable sources of information, not only in predicting future weather and climatic events but also in developing understanding and skill in managing uncertainties. Communicating climate information on the ways that users can understand and apply is, therefore, a critical resource to support effective adaptation to climate change in Zimbabwe. In this regard, climate change communication discourses have a stronger reliance and appeal on the media.

The Media

Media is the primary source how most Zimbabweans learn about climate change mitigation and adaptation. While this is happening, new online social media platforms are emerging as alternative sources of climate and scientific information. In Zimbabwe, the Meteorological Department is working in conjunction with the media to disseminate information to local and rural farmers. The opinion leaders include chiefs, councilors, agriculture field staff, who network and interact with local communities and

farmers through mobile phones, WhatsApp farming groups, government extension services and a broad network of NGOs, including the Department of Civil Protection Unit. Such information empowers vulnerable communities to make climate-informed decisions on livelihoods and risk management choices, innovations, uses of services and resources. These climate information services and discourses are essential components for enabling adaptive capacities and effective adaptation procedures.

Capacity building of communities to collect and use rainfall data has become an empowering tool for strengthening decision making for food security, community resilience and adaptation (Boykoff, 2009). In Zimbabwe, communities are utilising their knowledge of Early Warning Systems (EWS) for predicting and seasonal forecasting so that indicators can be prepared and adapted for the oncoming rainfall season. The early warning systems (EWS) are both scientific and indigenous knowledge systems (IKS) based. The meteorological department is working tirelessly to empower communities with critical information for human preparedness and adaptation.

Issues involving national climate action or resilient programs are not within most media houses' realm or frame of references because many countries cannot fund their own adaptation programs, as such, there is nothing much to report about. Therefore, life goes on, hear nothing, see nothing and report nothing. Politicians who sometimes control journalists, most of them are not conversant with climate change issues and as a result, one you will never hear them uttering a single climate change word even during campaigning for votes. For instance, in the United States there is the Green Party which advocates for strong environmentalism while in Australia's recent elections in 2009, there was stronger support for

climate action than in any other year since 2006. Climate change impacts are directly unfolding in the politicians' constituencies but they can't articulate these issues neither do they have any formulae for resolving the climate change-related impacts in their background. In many countries, it is rare to see a climate change story occupying the by-line in the print media as climate change issues are often after thoughts and reported as one of those distant news items with peripheral significance. So in this regard, journalists lack the desired competence to shape public understanding of climate change issues.

Framing

Framing is a process and an inherent part of cognition whereby content is construed in the form of issues, events and information, to order, organise and regulate everyday life. In this regard, framing may be defined as how elements of discourse are assembled that privilege certain interpretations and understandings over others (Boykoff and Boykoff, 2006). As framing permeates all facets of interactions amongst science, policy, the media and the public, the Zimbabwean frames are directed towards politics of climate change which affect adaptation programmes. This is due to too much investment in rhetoric, lack of accountability on donor funding for adaptation purposes, administered by the government departments and including government interference in national adaptation programmes. In this regard, climate change framing discourses, leaning heavily on the politics of climate change are having negative impacts on adaptation programmes in Zimbabwe.

Metaphors

Communicating climate change through metaphors is quite an important aspect. The role of metaphors in influencing how people conceive and interpret the

world around them has repeatedly been emphasized (Hassol, 2008: 7). The scientific field, for instance, is often metaphorical in terms of conquering the unknown (Hellsten, 2003: 2). In this view, metaphors are discursive tools used to communicate climate science to others. In this case, the metaphors are quite pervading in the human minds so as to evoke practical concrete images of disasters, cyclones, drought and land degradations, adaptation practices and violent floods unfolding. Therefore, metaphors become communicative tools of providing common ground for discourses of climate change adaptations. They travel through specialized forms of communication and connect various discourses and different topics (Maasen and Weingart, 2000).

Technical Carbon Clusters Metaphors

The word 'carbon,' described as a 'hub' could be modelled and framed in several word clusters such as, the Moral and Religious Cluster (carbon sinner, carbon guilt, or carbon criminal, carbon footprints, carbon trust), Dietary Cluster (low-carbon diet, carbon calories, low-carbon living or energy, less-carbon intensive, carbon appetite), the Economic Cluster (carbon trading, carbon finance, carbon markets, carbon calculator, carbon offset schemes, carbon budgets), the Political Cluster (carbon battle, carbon war, carbon neutral, carbon appetite), the Developmental Cluster (carbon sink, carbon capture, carbon absorbers) and the Social Cluster (carbon drivers, carbon bubble, carbon reporting, carbon disclosure) (Makwanya, 2014). These discourses, even when they can be classified like above, in terms of orienting them towards adaptation practices, Zimbabweans and many other vulnerable and laypersons from developing countries, will have challenges in articulating them.

The Perception of Young Zimbabweans and Climate Change Reporting

Today's global youth's population ranges of 15 to 24 years, estimated to be around 2 billion or 26% of the world's population. The majority of these young men and women live in developing countries, Zimbabwe included. In this regard, Africa is considered to have more youths as compared to developed and developing continents. Therefore, Africa is the most youthful continent in the world. In this view, Africa's young people have critical roles to play in shaping climate change issues. The deterioration of the environment is one of the principal concerns of the young people worldwide as it has direct implications to their well-being, now and the future. Youths are said to have a special interest in a healthy environment as they are the ones to inherit it. The Zimbabwean position in this regard is that, in the framework of National Determined Contributions (NDCs), the youths have a fundamental role to play in reducing greenhouse gas emissions and contribute to food security. Young people are increasingly coming forward to claim leadership of climate change. All over the world, young people are taking action on climate change by demonstrating a variety of work-related activities designed to combat climate change.

The active involvement of youths in fighting climate change is very important as many of them are already leading from the front to participate in community-based climate change projects aimed at reducing the effects of climate change in agriculture, economy, forestry and water sources. In different parts of the world, youths are raising their voices through climate advocacy and participating in tree-planting, water conservation and agricultural programmes that increase food security, without destroying the environment. Youths are doing this to build a better future for children and young people. With climate

change here with us and no longer a story but a problem, it is the children and young people of today who will face its worst effects.

From the leading voice of Greta Thunberg, to African countries, including Zimbabwe's own Nkosilathi Nyathi are making climate change take centre stage, in the print media, radio, television and online platforms. Away from the media attention, the youth are demonstrating climate change education, awareness and adaptation skills through drama, poetry, environmental debates, tree planting among others. Youths in developing countries are inspired to take action after witnessing horrific disasters like floods, cyclones, hunger and famine.

Fortunately, Zimbabwe has not been left behind and its youths have been more proactive than ever before. Evidence of their works in climate change is there for everyone to see as they justify their role in climate protection and environmental conservation. For that reason, Zimbabwe has a vibrant community of young people who have responded to calls for preserving the natural environment collectively. One of the leading youths' organizations who participate in climate protection is Advocates for Earth (A4Earth), with its various chapters has been the leading light. The increasing number of youths that are on the ground participating in climate change issues demonstrate that, youth voices are becoming a very powerful force in bringing out the changes they want to see in their communities.

According to the Brundtland Report (1987), on the World Commission on Environment and Development (WCED), sustainable development is one that is able to meet the needs of the present generation without compromising future generations to meet their own needs. The concept of sustainable development is also rooted in the Zimbabwe Constitution

section 73 and the Environmental Management Act section 4 to reiterate the importance of this principle in all facets of decision making in the country.

Some of Zimbabwe's local policies with regard to sustainable development, as enshrined in the National Climate Policy Document (2015) are; Ability to outline the climate change issues across the different sectors and their guiding principles; Aligned to the guiding principles of the National Climate Change Response Strategy and Action Plans and Based on results that guide the investors and donors on Zimbabwe's priority areas in climate change adaptation and mitigation programmes. In this regard, the youths are the future generations with real and unfulfilled needs. A variety of climate-related youth organisations in Zimbabwe and beyond, are testimony that the youths because of being interested in using technology, they can integrate it easily with climate change for life-long learning. Their presence and participation has increased on the ground hence they can do even much better if they get necessary support and motivation.

Speaking to Diana Tapedzanyika, a Communications Officer with Young Volunteers of the Environment Zimbabwe (YVE), she said that:

"As YVE, we have a special emphasis on participating in climate change programmes. Currently, we are planting trees, protecting and rehabilitating wetlands. Young people in Zimbabwe need to mobilize people to tackle climate change impacts, as 62% of its population is below the age of 25. This means that the effects of climate change will be felt more by young people, so it is important in this regard, to prepare for our just future. It is also important for us to be self-reliant rather than wait for donor funds."

Asked on what sort of obstacles they encounter as young people in the fight against climate change, Diana indicated that:

“As young people who need strong networking and support, we face funding problems, exclusion in policy formulations and resistance from some government departments hence our voices are not heard.”

These youths' organisations are already using technology to communicate climate change issues and fighting climate change to claim their place at the heart of sustainable development. This has seen the youths gaining and building confidence to tackle climate change head-on. At the same time, they have realised their potential as important voices in stakeholder awareness, peer education and training. The close cooperative nature of these youth groups and many others alike, demonstrate that valuable information about climate change is being shared for the benefit of many.

Why the Youths, SDGs and Climate change?

Integrating climate change into Sustainable Development Goals (SDGs) is contributing to local community ownership of the SDGs. This is evident by youths' organisations around participating in the achievement of SDGs. These youths have the vision to see a clean and safe climate. In their various youth groups and organisations, they are creating dialogues for a stronger pollution-free environment. Indeed, the youths are planning about what they can do for a favourable state of climate from household levels through awareness and behavioural change. The planting of plenty of trees by youths in Bulawayo by Green Hut Initiative is key in coming up with clean and pollution-free cities, lining of young people with a concern for improving provisions of

fresh air and forest growth.

Speaking to Cinderella Ndlovu, the Director of Green Hut Initiative, a youth-led climate change organisation, focusing on climate change education and awareness, she had this to say:

“It is important for young people to engage in tackling climate change because they stand to inherit climate-related problems from the past generations and are expected to provide solutions to climate change challenges, through adaptation and mitigation strategies at the grassroots level. We have tree nurseries in which we grow indigenous trees, through this, we hope to aid afforestation and also raise awareness about indigenous trees and their importance.”

Asked about the obstacles which the young people are facing in doing their work, Cinderella had this to say:

“Exclusion of young people in decision-making processes and policy formulation limits the influence of young people. Lack of consultation and dialogue with relevant authorities and policymakers creates a gap between them and young people.”

Asked about what they would need as youths. She had this to say:

“Young people need support and space to participate in climate change issues, contribute and shape climate change laws and policies in Zimbabwe. They also need adequate guidance as well as being exposed to new opportunities and task them with real responsibilities to grow their abilities as leaders

in climate action.”

Role of Improved Nutrition in SDGs and Climate change

The health and nutrition of adolescents is a global priority. The age group of adolescents around the world is about twelve billion and nearly a quarter of them live in Sub Saharan Africa.

Speaking to Jasper Maposa; Programmes Manager of Rural Enterprise Trust of Zimbabwe, an organisation focusing youth and developmental issues in Zimbabwe. He had this to say:

“Youths are the most affected by climate change and nutritional issues hence they are playing a leading role in fighting against effects of climate change. We have high unemployment in Zimbabwe, at a time when climate change is becoming a menace. The impacts of climate change are largely felt in agriculture and the youth need to participate effectively using farming methods that contribute to food security.”

Asked about what obstacles they face in fighting climate change and malnutrition, Jasper had this to say:

“Young people remain outside climate change governance issues and are also left behind climate funding so they cannot participate fully in agricultural production to raise their nutritional status. The youths should have access to land and be placed at the centre of fighting climate change through agriculture.” ,

Youths and Climate Research

As the youths are actively involved in climate protection activities, they are reading around and experimenting to come up with new knowledge through climate research. When Advocates4Earth Bulawayo says they are planting a thousand trees then they will research on how best to come up with such a large number of trees. Climate research and innovation is geared to improve the methods the country has been using for planting a few trees in its 10 provinces, on the National Tree Planting day. Here are the youths not only focusing on tree planting but forest regeneration and fighting the impacts of climate change, where their visions are forests, not just a few trees.

On research, Cinderella had this to say:

“We require financing of climate research, projects and innovations from young people. This has been a stumbling block that hinders brilliant solutions from seeing the light of the day.”

Challenges in Reporting Climate Change in Zimbabwe

Climate change reporting in Zimbabwe and other developing countries is still a contentious issue hence it is described as the biggest story and a challenge of the 21st Century. The Challenges in reporting climate change in Zimbabwe, are punctuated by the lack of the African voice, lack of capacity to articulate climate change issues, lack of classifying climate science into hard-technical data and climate policy, the world-views, funding for climate research and training, just to name a few. In this regard bolstering the African voice for environmental sustainability is the way to go, in order to overcome climate science communication boundaries.

In Zimbabwe, journalists do not seem to approach

climate change problems from the grassroots, and the local voice which needs to be strengthened. Once the local voice has been strengthened by making local climate stories global or international. Climate science journalists may not be integrating fundamentals of Ubuntu/Humanism, the centrality of the heart and indigenous knowledge systems (IKS). These aspects will enable journalists to place the local communities at the heart of sustainable development. In this regard, journalists are supposed to be the voices of the Zimbabwean environment to correct sentiments which, according to BBC (2009), Africa is the least responsible, most affected and the least informed.

Zimbabwean journalists,background the grassroots by not situating them at the heart of sustainable development. Zimbabwean journalists appear not collaborating enough with journalists in the region and developed countries who are well equipped to articulate climate science reporting. Local media coverage of climate science issues does not seem to provide links between science and service providers like meteorological services, agricultural extension services, environmental management agencies among others.

Climate change Media Training in Zimbabwe

While it stems out from budgetary issues to enable journalists to report appropriately, many media houses in Zimbabwe lack specific budgets to fund climate science reporting. Climate change is seen as one of THOSE stories but not THE story or PROBLEM. Before journalists may report on climate change issues, they need to be trained, as such; the Zimbabwean government and its state media houses have not taken any broad initiatives to train their journalists on climate change journalism., NGOs like Konrad Adenauer Stiftung (KAS) took the initiative to train

journalists in Mutare, under the Zimbabwe Union of Journalists (ZUJ) in August 2018. The absence of a strong and fully functional union for climate science reporters is absent in Zimbabwe. The Zimbabwe Environmental and Science Journalists Association (ZESJA) lacks funding to operate on full capacity.

Scientists in Zimbabwe have not gone out of their way to training journalists about the basics of climate science research, not media research. Since many journalists are not aware of how best to communicate basic scientific issues, they are still using wrong approaches to communicate scientific issues. From qualitative techniques, journalists need to be conversant with aspects of quantitative ecological techniques. These are significant in promoting professional research and development to mitigate the impact of human-made (anthropogenic) causes of climate change.

Climate change Media and Public Awareness

In Zimbabwe, the media's role of contributing to public understanding and awareness of climate change for human preparedness is crucial. It is also significant that the Zimbabwean journalists understand the science behind climate change and also maintain consistency by keeping climate change on the news agenda for a long time in order to inform public opinion. Zimbabwean journalists need to bring to the fore, issues of sustainability and environmental injustices currently taking place because climate change is an ethical problem. Government sanctioned artisanal mining activities, industrial pollution, deforestation activities for forest resources and tobacco curing are compromising journalists especially from the state media. In this regard, the 'green pen' journalism is sufficiently missing in Zimbabwe.

Many individuals who report on climate change reg-

ularly in Zimbabwe, are not from mainstream media houses but individual columnists, not trained by the government but by international media houses and non-governmental organisations (NGOs). In this regard, climate change is not fully understood yet in Zimbabwe.

Climate Science Mediums and Communication Tools

Zimbabwean print media, radio and television stations do not seem to provide adequate space for journalists to report on climate science issues. For this reason, some climate experts and scientists have taken the route of communicating and reporting climate science issues online. Their articles can now be found on blogs, videos, LinkedIn, Facebook, YouTube, Twitter and Social media to bypass strict mainstream media gatekeepers and filters. In their individual and divided capacities, the climate change reporting discourse would be at a standstill.

The new media technologies and communication tools like Blogs, Twitter, Facebook, YouTube, Newsfeed, Webinars, among others, are still essential in relaying climate change information. According to Zimbabwe's National Policy Document (2015), In order to facilitate these interventions, climate research and technological development are useful for building knowledge on climate change and supporting appropriate responses. In this regard, technology transfer is the way to go in Zimbabwe and integrate it with climate change. The challenge of climate change requires Zimbabwe to access and develop technologies relevant for implementing appropriate mitigation and adaptation projects and actions. Across the global landscape, countries are increasingly drawing from low emissions development (LED) technologies particularly in the energy sector. This is important so that together they will integrate the climate science communication toolkit and journalists' communication toolkit and harmonise them.

Many media houses in Zimbabwe are incapacitated to fund media personnel to visit climate change hot spots and report climate change impacts. In short, they have no budget for climate change stories. Despite climate change being a cross-cutting and interdisciplinary issue, journalists often fail to give it the attention it deserves. In this regard, journalists are not considering linking climate change with religion, sport, arts, tourism, linguistics, among others. Research has it that many environmental journalists normally face political impediments and persecution in their attempts to report climate change-related problems, including how weather reporting is handled.

Many journalists know the concept of Sustainable Development Goals (SDGs) but they can hardly link these sustainable development goals to their country's livelihood programmes. Many laypersons out there can witness the physical changes taking place out there, but they don't believe that it is climate change happening but other social or religious phenomena. For this reason, journalists lack keen audiences on climate change issues.

Although media houses in Zimbabwe are in business to make profits as well as to support the governments of the day, if they sufficiently streamline themselves towards climate research, published reports, climate briefs and visuals then they can come up with appealing climate data.

Climate change Reporting Dimensions

In their reporting styles, journalists need to go some steps further in having that sense of vision, where they can emphasise what needs to be done next after reporting, and also who can make it happen in the long run, say five to ten years from now. Lack of climate vision and being short-sighted in their planning or reporting, would end up backgrounding nec-

essary resilient and livelihood options.

When journalists report on climate change, normally they lose it when they try to appeal to the wrong audiences instead of focusing on the poor, marginalised and vulnerable communities. These need strategic placement in the climate problem story-lines so that they feel included. Focusing on policymakers is important for influencing policy shifts but the real beneficiaries are the marginalised and vulnerable communities because they deal directly with the impacts of climate change.

Journalists in Zimbabwe are not reporting climate change to mean several things, at home to save lives, influence policy and empower people to make informed choices. It is also essential for all journalists, editors and media owners to understand at least the basics of climate change and they don't seem to realise that there is more to climate change than carbon dioxide and disasters. Journalists are not reporting about more climate success stories about how communities are adapting to climate change, developing solutions and using smart farming technologies. Many Zimbabwean journalists don't seem to know the national status of climate change, like the National Adaptation Plan (NAP) and National Determined Contributions (NDCs) which are currently under way in Zimbabwe. Stories that explain the human side of climate change, how this is a development and people issue are not featuring. Journalists need to keep track of new emerging research on climate change by subscribing to climate change journals and joining the mailing list in order to keep up to date. Climate information is voluminous, use of words only often fail to describe the interconnectedness of climate change. Journalists need to integrate pictures, maps, graphs and images in their stories. The role of journalists should be enlightening and be in link between the scientists and the public. In short they need to have knowledge of their audience. Journalists need

to make climate change stories appealing to the audience by removing fear, doom and misery in their stories. Stories covered on climate change should compete for space and airtime with stories from other angles like politics, sport, music or accidents.

Some Climate science conflicting discourses

To be a good climate change reporter, a journalist should know sciences and geography because no matter what, some terms are subject-specific and they will never change. There are some words which have different meanings which journalists should orient themselves with, 'positive' and 'negative' for instance, 'positive' connotes 'good' while 'negative' connotes 'bad things' to non-scientists and laypersons alike. In scientific terms, something positive refers to a somewhat bad trend as in HIV positive, while a negative trend is somewhat good. This is completely different from laypersons' views of positive and negative feedback. In this regard, instead of 'positive trend', journalists should orient themselves with 'upward trend.' Instead of 'positive feedback' journalists also need to familiarise themselves with 'self-reinforcing cycle' instead. Above all, words that are common to scientists always remain jargon to the wider framework of the public and laypersons.

Rather than 'anthropogenic', journalists are advised to say 'human-caused.' Anthropogenic is not familiar to many audiences and it hides the most critical human role. Also words like 'spatial' and 'temporal' are climatic jargon where journalists should learn to report 'spatial' as something related to 'space' while 'temporal' should be reported as 'time'. This requires journalists to have vocabulary depth for them to communicate appropriately and convincingly.

The listed words are modal verbs that scientific writers use to be cautious about the way they communicate. Gethaiga in Chivaura Mararike (1998) as cited by Makwanya (2014) assert that language, especially

the „ mother tongue“ is the basis of all learning and culture transmission of knowledge and that those who do not value their languages and cultures do not respect themselves and cannot, therefore expect others to respect them.

Opportunities in Climate Reporting in Zimbabwe

Despite massive interests especially from the youths, scholars, writers and policymakers, Zimbabwe has very limited opportunities to benefit those that want to establish some footprints in climate reporting, information and communication, Information and Communication Technologies (ICTs). Many Zimbabweans think that climate change reporting is a community of practice of journalists and scientists as well as researchers who are in most cases university lecturers. Despite all these anomalies, Zimbabweans are not aware that climate change reporting help to open numerous opportunities in green jobs in climate-smart agriculture, reforestation, visual arts, low carbon emissions products like basketry, fibre bags (nhava) to phase out plastics, music, preparing of organic manure and materials that conserve water for small scale farming and irrigations.

SUMMARY

The relationship between climate change and media in Zimbabwe has been widely explored and interrogated, covering aspects like the failure to come up with strong institutional frameworks for networking and collaborations. Reaching out to one another has been cited as the best ingredient for moving forward. The climate change discourses appeared to have positive and negative impacts on climate change adaptations in Zimbabwe. These included the role of the media, framing and metaphors among others. Perceptions of youths and young Zimbabweans were harnessed to bring into open the greening and adaptation activities they are currently engaging in. This is critical in adding their voices as youths because any messing up with the environment will catch up with them in future. The centrality of this write up hinged on the challenges of reporting or communicating climate change information by journalists and the media in Zimbabwe. Yes, challenges are quite numerous although there are positives here and there a lot of work needs to be done to come up with better climate media reports. The critical actors in this regard, like scientists, communicators, journalists and media houses, including politicians and policymakers, need to collaborate. Finally, green discourses the world over, came up with lucrative employment opportunities which Zimbabwe should take advantage of.

Bibliography.

- A Brazier 'Climate Change in Zimbabwe, Facts for planners and decision makers' (2015) KAS Harare.
- Ahmed, S. M. (2020). Impacts of drought, food security policy and climate change on performance of irrigation schemes in Sub-Saharan Africa: The case of Sudan. *Agricultural Water Management*, 232, 106064.
- Berhe, H. M., & Kidanu, K. F. (2020). Impact of Climate Change on Crop Yield and Food Accessibility in Sub-Saharan Africa-A Review. *Int. J. of Life Sciences*, 8(1), 1-14.
- Below, T. B., Schmid, J. C., & Sieber, S. (2015). Farmers' knowledge and perception of climatic risks and options for climate change adaptation: a case study from two Tanzanian villages. *Regional environmental change*, 15(7), 1169-1180.
- Boykoff, M.T., (2009) Media Coverage of Climate change: Current Trends, Strengths, Weaknesses. Human Development Report Office. OCCASIONAL PAPER.
- Brown, D., Chanakira, R., Chatiza, K., Dhliwayo, M., Dodman, D., Masiwa, M., Muchadenyika, D., Mugabe, P. and Zvigadza, S. 2012. "Climate Change Impacts, Vulnerability and Adaptation in Zimbabwe". IIED Climate Change Working Paper 3, October 2012: <http://pubs.iied.org/pdfs/10034IIED.pdf>, accessed August 2015.
- Capstick, S., Whitmarsh, L., Poortinga, W., Pidgeon, N., & Upham, P. (2015). International trends in public perceptions of climate change over the past quarter century. *Wiley Interdisciplinary Reviews: Climate Change*, 6(1), 35-61.
- Chari, T. (2013). Media framing of land reform in Zimbabwe. In S. Moyo & W. Chambati (Eds.), *Land and agrarian reform in Zimbabwe beyond white-settler capitalism* (pp. 291-329). Dakar: CODESRIA and AIAS.
- Chimhowu, A., & Woodhouse, P. (2008). Communal tenure and rural poverty: Land transactions in Svosve Communal Area, Zimbabwe. *Development and Change*, 39(2), 285-308.
- Chipangura, N. 2018, Towards the decriminalisation of artisanal gold mining in Eastern Zimbabwe. *The Extractive Industries and Society*
- Climate Change, green jobs and the role of trade unions in Zimbabwe: An education and training manual for trade unions in Zimbabwe' (2016) FES Harare.
- Climate Change: New Challenges for Journalism Educators (2019) UNESCO-IPDC International Programme for the Development of Communication (IPDC). 5th World Journalism Education Congress. University of Paris.
- Climate change in Africa: Impacts/Challenges/ Opportunities. Climate change Reporting is Personal Investment. Zanzibar (2018).
- Clingerman, F., & O'Brien, K. J. (2014). Playing God: Why religion belongs in the climate engineering debate. *Bulletin of the Atomic Scientists*, 70(3), 27-37
- Comoé, H., & Siegrist, M. (2015). Relevant drivers of farmers' decision behavior regarding their adaptation to climate change: a case study of two regions in Côte d'Ivoire. *Mitigation and adaptation strategies for global change*, 20(2), 179-199.
- Debela, N., Mohammed, C., Bridle, K., Corkrey, R., & McNeil, D. (2015). Perception of climate change and its impact by smallholders in pastoral/agropastoral systems of Borana, South Ethiopia. *SpringerPlus*, 4(1), 236.
- Davis, R. and R.F. Hirji (2014). 'Climate Change and Water Resources Planning, Development and Management in Zimbabwe'. Washington, DC: World Bank Group.
- Dube, N., Moyo, F., Sithole, M., Ncube, G., Nkala, P., Tshuma, N., & Mabheba, C. (2016). Institutional exclusion and the tragedy of the commons: Artisanal mining in Matabeleland South Province, Zimbabwe. *The Extractive Industries and Society*, 3(4), 1084-1094.
- Dube, T. & Phiri, K. (2013). Rural livelihoods under stress: The impact of climate change on livelihoods in South Western Zimbabwe. *American International Journal of Contemporary Research*, 3(5), 11-25.
- E Shumba, E; Roberntz, P; and Kuona, M 'Assessment of Sugar Cane out grower schemes for biofuel production in Zimbabwe and Zambia' (2011)World Wide Fund for Nature Harare
- Flottum, K. (2010) A Linguistic and Discursive view of Climate Change. Open Edition Journals. <http://journals.openedition.org/asp/1793> Accessed 25 April 2020
- G Kanyeze 'Opportunities for Green jobs' (2014) FES Harare
- G Kanyeze Kondo, T; Chitambar, P; and Martens, J(Eds)Beyond the enclave: Towards pro-poor and inclusive development strategy for Zimbabwe (2011)ANSA,LEDRIZ,ZCTU and Weaver Press Harare.
- Golo, B. W. K., & Yaro, J. A. (2013). Reclaiming stewardship in Ghana: religion and climate change. *Nature and Culture*, 8(3), 282-300.
- Hall, S. (1997) 'The Work of Representation', in Hall, S. (ed.) *Representation: Cultural representations and signifying practices*, London: Sage, pp. 16-30.
- Hall, S. (1999) 'Encoding/Decoding', pp. 51-61 in Marris, P. and S. Thornham (eds) *Media Studies. A Reader*. Edinburgh: Edinburgh University Press (originally 1973).
- Hassol, S. J., (2009) Improving how scientists communicate climate change. Susan@climatechange.org
- Hentschel, T., Hruschka, F. and Priester, M. (2002). *Global Report on Artisanal and Small-Scale Mining MMSD Report No. 70*. January 2002. England: IIED and WBCSD.
- Hilson, G. (2016). Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: A critical overview. *The Extractive Industries and Society*, 3(2), 547-563.
- Hilson, G., & McQuilken, J. (2014). Four decades of support for artisanal and small-scale mining in sub-Saharan Africa: A critical review. *The Extractive Industries and Society*, 1(1), 104-118.
- J Nurmis 'Photojournalism as a vehicle for public engagement with climate change' (2015) Center for Climate Change Communication George Mason University.
- Jellason, N. P., Conway, J. S., & Baines, R. N. (2020). Exploring smallholders' cultural

beliefs and their implication for adaptation to climate change in North-Western Nigeria. *The Social Science Journal*, 1-16.

Kitula, A.G.N. (2006). "The Environmental and Socio-Economic Impacts of Mining on Local Livelihoods in Tanzania: A Case Study of Geita District" *Journal of Cleaner Production*, Vol. 14(3-4), pp.405-414.

L Lester & S Cottle "Visualizing climate change: Television news and ecological citizenship" *International Journal of communication* 925.

Makwanya, P. (2013) *IOSR Journal of Humanities and Social Sciences (IOSR-JHSS)*. Article titled: "An analysis of the language used to communicate information on climate change." Volume 17, Issue 2(NOV. -Dec. 2013), PP 17-25. E-ISSN: 2279-0845

Makwanya, P. (2014) – *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*. Article titled: "Climate Change Mitigation and Adaptation – The Centrality of Carbon Clusters and Creativity in Climate Change Adaptation and Mitigation: A Linguistic Perspective." e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 13. Issue 6 Ver. 1 (Jun, 2014), pp 69-76.

www.newsday.co.zw/searchpetermakwanya/climatechange/articles

Manjengwa, J., C. Matema, J. Mataruka, D. Tirivanhu, M. Tamanikwa And S. Feresu (2014). 'Children and Climate Change in Zimbabwe'. Harare: UNICEF and Institute of Environmental Studies.

Mawowa, S. (2013). The political economy of artisanal and small-scale gold mining in Central Zimbabwe. *Journal of Southern African Studies*, 39, 921–36.

Mawowa, S., 2013. The political economy of artisanal and small-scale Gold mining in Central Zimbabwe. *J. South. Afr. Stud.* 39 (4), 921–936.

Mertz, O., Mbowa, C., Reenberg, A., & Diouf, A. (2009). Farmers' perceptions of climate change and agricultural adaptation strategies in rural Sahel. *Environmental management*, 43(5), 804-816.

Mkondzongi, G. (2016). 'I am a paramount chief, this land belongs to my ancestors': The reconfiguration of rural authority after Zimbabwe's land reforms. *Review of African*

Political Economy, 43(sup1), 99–114.

Moyo, M., Mvumi, B. M., Kunzekweguta, M., Mazvimavi, K., Craufurd, P., & Dorward, P. (2012). Farmer perceptions on climate change and variability in semi-arid Zimbabwe in relation to climatology evidence. *African Crop Science Journal*, 20, 317-335.

Morrison, C., & Pickering, C. M. (2013). Perceptions of climate change impacts, adaptation and limits to adaptation in the Australian Alps: the ski-tourism industry and key stakeholders. *Journal of Sustainable Tourism*, 21(2), 173-191.

Mtambanengwe, F., Mapfumo, P., Chikowo, R., & Chamboko, T. (2012). Climate change and variability: smallholder farming communities in Zimbabwe portray a varied understanding. *African Crop Science Journal*, 20, 227-241.

Mushongah, J., & Scoones, I. (2012). Livelihood change in rural Zimbabwe over 20 years. *Journal of Development Studies*, 48(9), 1241–1257.

N Chakanya 'Green Jobs in the energy sector in Zimbabwe: A situational and potential analysis' (2015) FES Harare.

Percy, F. (2013) *Jotoafrika – adapting to climate change in Africa. SPECIAL ISSUE*, Issue 12 June 2013

Report of the Media Workshop on Effective Reporting on Climate Change Adaptation: Training Programme. Organised by African Adaptation Programme-Funded by the Government of Japan through UNDP and Implemented by the Ministry of Environment and Mineral Resources. Naivasha-Kenya (2016)

Ross, M (2001) *Extractive resources and the poor. Oxfam America Report.*

Rutherford, B. (2016). *Farm labor struggles in Zimbabwe: The ground of politics.* Bloomington: Indiana University Press. Scoones, I. (2015). Zimbabwe's land reform: New political dynamics in the countryside. *Review of African Political Economy*, 42(144), 190–205.

ScienceDirect Africa 'Report of the media workshop on effective reporting on Climate Change Adaptation' 2011.

Scoones, 2015; Mushongah & Scoones, 2012; Rutherford, 2016; Chimhowu & Woodhouse, 2008, 2010.

Serfor-Armah, Y., Nyarko, B. J. B., Adotey, D. K., Adomako, D. and Akaho, E. H. K. (2005). The impact of small-scale mining activities on the levels of mercury in the environment: The case of Prestea and its environs. *Journal of radioanalytical and nuclear chemistry*, 262(3), 685-690.

Shanahan, M. (2014) *Climate change in Africa: A Guide Book for Journalists.* International Institute for Environment and Development. UNESCO.

Shen, L., & Gunson, A. J. (2006). The role of artisanal and small-scale mining in China's economy. *Journal of Cleaner Production*, 14(3-4), 427-435.

Sherkat, D. E., & Ellison, C. G. (2007). Structuring the religion-environment connection: Identifying religious influences on environmental concern and activism. *Journal for the Scientific Study of Religion*, 46(1), 71-85.

SJ O'Neil 'Image matters: Climate Change imagery in US, UK and Australian newspapers' (2013) 49 *Geoforum* 12.

Silvestri, S., Bryan, E., Ringler, C., Herrero, M., & Okoba, B. (2012). Climate change perception and adaptation of agro-pastoral communities in Kenya. *Regional Environmental Change*, 12(4), 791-802.

Soubry, B., Sherren, K., & Thornton, T. F. (2020). Are we taking farmers seriously? A review of the literature on farmer perceptions and climate change, 2007–2018. *Journal of Rural Studies*, 74, 210-222.

Spiegel, S. J. (2009a). Resource policies and small-scale gold mining in Zimbabwe. *Resources Policy*, 34(1), 39–44. Spiegel, S. J. (2009b). Labour challenges and mercury management at gold mills in Zimbabwe: Examining production processes and proposals for change. *Natural Resources Forum*, 33(3), 221–232.

Spiegel, S. J. (2012). Microfinance services, poverty and artisanal mineworkers in Africa: In search of measures for empowering vulnerable groups. *Journal of International Development*, 24(4), 485–517.

Spiegel, S. J. (2014). Legacies of a nationwide crackdown in Zimbabwe: Operation Chikorokoza Chapera in gold

mining communities. *Journal of Modern African Studies*, 52(04), 541-570.

Spiegel, S. J. (2015). Shifting formalization policies and recentralizing power: The case of Zimbabwe's artisanal gold mining sector. *Society & Natural Resources*, 28(5), 543-558.

Spiegel, S. J. (2017). EIAs, power and political ecology: Situating resource struggles and the techno-politics of small-scale mining. *Geoforum*, 87, 95-107.

Svalastag, A.L. (2010). Gene myths in public perceptions, *Public Understanding of Science*, 21(4): 478-494.

T Chagutah 'Climate Change vulnerability and adaptation preparedness in Southern Africa-Zimbabwe Country Report' (2010) Heinrich Boll Foundation.

T Dhlakama 'The policy framework for green energy production in Zimbabwe' (2015) FES

T Murombo et al (eds) *Climate Change Law in Zimbabwe: Concepts and insights* (2019)

T Muzamwese et al 'Exploring Zimbabwe's Green Economy potential: The energy sector' (2017) FES Harare.

Taylor, B. (2015). Religion to the Rescue (?) in an Age of Climate Disruption. *Journal for the Study of Religion, Nature and Culture*, 9(1), 7-18.

Tesfahun, A. A., & Chawla, A. S. (2020). Risk perceptions and adaptation strategies of smallholder farmers to climate change and variability in North Shoa Zone, Ethiopia. *Management of Environmental Quality: An International Journal*, 31 (1), 254-272. UNEP (2006) ENVIRONMENTAL REPORTING FOR AFRICAN JOURNALISTS. A handbook of Key Environmental Issues and Concepts. Division of Environmental Policy Implementation (DEPI).

Unganai, S.L. (1996). 'Historic and future climatic change in Zimbabwe'

Climate Research, 6, 137-145.

United Nations Framework Convention on Climate Change 1992.

Van der Linden, S. (2015). The social-psychological determinants of climate change risk perceptions: Towards a comprehensive model. *Journal of Environmental Psychology*, 41, 112-124.

Van Gorp, B. (2005). Where is the Frame? Victims and Intruders in the Belgian Press Coverage of the Asylum Issue. *European Journal of Communication* December. vol. 20(4): 484-507.

Van Gorp, B. (2007). The constructionist approach to framing: Bringing culture back in. *Journal of Communication*, 57(1), 60-87.

Weber, E. U. (2010). What shapes perceptions of climate change? *Wiley Interdisciplinary Reviews: Climate Change*, 1(3), 332-342.

Wilbey, J. and Ward, B. (2016) *Communicating about Climate Change with Journalists and the Media Producers*. DOI 10.93/acrefore/9780190228620013.407 Wilson, E. K. (2012). Religion and climate change: The politics of hope and fear. *Local-Global: Identity, Security, Community*, 10, 20.

Yelpaala and Ali (2005) Multiple scales of diamond mining in Akwatia, Ghana: addressing environmental and human development impact. *Resources Policy*, 30 pg. 145-155. www.worldbank.org/en/topic/extractiveindustries/brief/artisanal-and-small-scale-mining

ZELA ' Report on the scientific investigation of the impact of Marange Diamond mining operations on water quality in the Save and Odzi rivers: including assessment of the health, environmental and livelihoods impacts' (2012) Harare.

Zimbabwe's National Climate Policy Document (2015) - Government of Zimbabwe: Ministry of Environment, Water and Climate.

Zimbabwe's National Climate Change Response Strategy (2014) - Government of Zimbabwe: Ministry of Environment, Water and Climate.

Zimbabwe Resilience Building Fund (ZRBF) Impact Evaluation Baseline Report

2018. Oxford Policy Management.

Zimbabwe National Climate Change Response strategy 2018.

Zvigadza, S. Mharadze, G., Ngena., S. 2010. "Communities and Climate Change: Building Local Capacity for Adaptation in Goromonzi District, Munyawiri ward, Zimbabwe". African Centre for Technology Studies: <http://africanclimate.net/en/node/6553>, accessed August 2015.

Newspaper Articles

The Herald 16 January, 2020 : Chiefs speak on illegal mining

The Herald 19 February 2019: Artisanal mining needs regulation, support

The Herald 7 November 2018: ED condemns violence in artisanal mining

The Herald 23 January 2020: All that glitters is not gold

The Herald 3 February 2020: Mining houses urged to support artisanal miners

Newsday 3 April 2020: Miners seek reprieve during lockdown

Newsday 25 February 2016: Enhancing miner-farmer relations in 2016

Newsday 21 February 2019: New Mines Bill to regulate artisanal miners

Newsday 26 March 2020: Fort Rixon artisanal miners up for murder Newsday 2 Sources Cited

