

Alternative guidelines for mainstreaming climate and disaster resilience options into municipality integrated development planning: A case of Zambia

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PREFACE

This PhD thesis comprises four journal articles (Chapters 3-6) and the proposed public policy implementation guidelines document (Chapter 7 of the thesis). The thesis conforms to the general rules for thesis submission at the North-West University, which stipulates that at least one research article is published in a reputable accredited journal for graduation purposes.

The work presented in the eight chapters in this thesis was conducted between 2017 and 2021. This period includes the study's conceptualisation stage. The work contains some original data that has not been published or previously submitted for degree purposes.

The author was personally involved in the study conceptualisation, data collection, analysis and the writing of the whole thesis. This included the four journal articles and the proposed public policy implementation guidelines document in form of Chapter 7. The two promoters and one mentor were co-authors of the four articles. Two articles have been published, and another two were submitted for consideration. Furthermore, Chapter 7 will post-doctorally be converted into a policy agenda-setting document and shared with the Zambian Ministry of Local Government to commence another process to adopt it as public policy.

The four articles produced:

- **Banda, B.**, van Niekerk, D., Nema-konde, L. D. & Granvorka, C. 2021. Integrated development planning in Zambia: ideological lens, theoretical underpinnings, current practices, views of the planners. Published in the *Development Southern Africa Journal*, <https://doi.org/10.1080/0376835X.2020.1868289>
- **Banda, B.**, van Niekerk, D., Nema-konde, L. D. & Granvorka, C. 2020. Integrated development planning and related financing practice: A comparison case study of Zambia and South Africa. Published in SABINET's *Journal of Public Administration*, 55(1). <https://hdl.handle.net/10520/EJC-1f3c9c3692>
- **Banda, B.**, van Niekerk, D., Nema-konde, L. D. & Granvorka, C. 2021. Legal and policy frameworks to harmonise and mainstream climate change adaptation-mitigation and disaster risk reduction into municipality integrated development plans: A case of Zambia. Submitted to the *International Journal of Disaster Risk Reduction*, <https://www.journals.elsevier.com/international-journal-of-disaster-risk-reduction>

- **Banda, B.**, van Niekerk, D., Nemaikonde, L. D. & Granvorka, C. 2021. Climate change adaptation-mitigation and disaster risk reduction: global evidence in municipality integrated development plans. Submitted to the *International Journal of Disaster Risk Reduction*, <https://www.journals.elsevier.com/international-journal-of-disaster-risk-reduction>

The appendices include the following:

Appendix A: Letters of permission from all the co-authors involved in the research to use the articles in the thesis

Appendix B: Proof of English Editing

Appendix C: Research Ethics Clearance

Appendix D: Correspondence for study permission

Appendix E: Correspondence of emails to collect data in South Africa

Appendix F: Journal requirements and author guidelines

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ABSTRACT

The Zambian government has enacted and promulgated the Urban and Regional Planning Act (3 of 2015) that mandates all municipalities to use integrated development planning and plans (IDPs) as principal planning and budgeting tools for their statutory developmental planning and decision-making. In so doing, the government has not made available any policy implementation guidelines on how municipalities should formulate integrated development plans. At the same time, government expects municipalities to mainstream climate change adaptation-mitigation into their municipality integrated development plans but without any accompanying guidelines on how to do so. No studies have been undertaken in Zambia to address this research gap. There have been no accompanying policy implementation guidelines formulated for integrated development planning, that would even harmonise and mainstream both climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR) into integrated development plans.

Conceptually, climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR) are similar concepts. Both concepts and practices of CCA-M and DRR contribute to attaining the integrated Sustainable Development Goals (SDGs) but continue to be implemented in parallel at the national and sub-national levels. These two concepts and practices require harmonisation and implementation in unison irrespective of their different policy and conceptual developmental path they have developed through. These two concepts need to be harmonised and mainstreamed into local government integrated development planning in Zambia to enhance natural, built environment and societal systems resilience.

Local governments worldwide have been identified to be effective means to address both climate change and disaster risk, are suitable to address local vulnerability and enhance resilience using public programmes and resources. Local governments are closer to the natural, built environment and societal systems to address climate change and disaster risk to strengthen resilience. However, undertaking the harmonisation process and later mainstreaming these two into the local government development planning system is still a challenge globally, including in Zambia.

Using a forward reasoning approach to address the super wicked problem of climate change and disaster risk, this study aims to develop and propose evidence-based alternative Guidelines for Integrated Development Planning that harmonises and mainstreams both CCA-M and DRR into decentralised municipality integrated development plans, budgeting and decision-making process in Zambia. These alternative guidelines are to guide local government planners and other stakeholders to harmonise and mainstream both CCA-M and DRR into already existing IDPs for the eight districts or municipalities that already had IDPs developed by 2017, and to help develop

new IDPs for the other 111 districts that did not have IDPs by 2017 onwards. The eight districts that had completed drafting IDPs in 2017 were Lusaka, Livingstone, Lumwana (and now Kalumbila), Chongwe, Chavuma, Mambwe, Mongu and Limulunga municipalities.

Overall, this thesis is pragmatic in approach in line with the public policy research orientation that has to identify what works and what does not. As such, the study utilises a blend of research methods but within qualitative grounded theory methodology to ensure the final outputs are produced more rigorously. The qualitative grounded theory involves repeated data collection until a point of saturation is reached to address the research objectives.

In terms of format, this thesis is by research articles and an extended synthesis chapter. Four articles and an extended chapter are written, and these represent the study research questions one to five. Policy convergence theoretical framework ties all the four articles together horizontally while policy coherence ties each article to the four 2015 main international / global developmental agreements that inform this study. These are the Agenda 2030, Paris Agreement on Climate Change, Sendai Framework of Action for Disaster Risk Management, and the UN-Habitat New Urban Agenda for sustainable cities and communities.

Both primary and secondary data is collected from purposefully and snowball sampled developmental planners at municipality, provincial and national level in Zambia exclusively for Article 1. A similar approach was used to collect data in Zambia and South Africa for Article 2. The data is collected using key informant interviews, sample survey and content analysis. Only secondary data is collected and analysed in Article 3 and 4 that are systematic reviews. Heuristic and functional modelling are used to synthesise the findings from the four articles to feed into the development and proposing of the alternative Guidelines for Integrated Development Planning that harmonises and mainstreams both CCA-M and DRR into integrated development plans for Zambia.

Triangulation of the data collected is done by first collecting the data at the district level and then validating it at a provincial and national level and with reviewed literature. To take care of the triangulation needs, three municipalities are canvased in South Africa for Article 2, a cross-national comparative study on IDPs, before canvasing the province. These municipalities are Matlosana Local Municipality (in Klerksdorp, North-West Province) and Dr Kenneth Kaunda District Municipality (in Orkney in North-West Province as well). Mangaung Metro (City of Bloemfontein in Free State Province), The Free State Provincial Departments of Local Government; Environmental Affairs; and disaster management were also visited. These Provincial Departments are all based in Bloemfontein Metro, the provincial capital of the Free State Province. All municipalities in Zambia are canvased for this study, and the researcher also

undertook three months internship study with the Monze Town Council in Zambia to appreciate in much more detail how decision-making was done at the municipality level.

The Zambian government acknowledges the similarities between climate change adaptation-mitigation and disaster risk reduction. These similarities are documented wittingly and unwittingly in the National Policy for Climate Change of 2016, the Disaster Management Act (15 of 2010), and the Disaster Management Policy of 2015. These similarities are not articulated so much in subsequent project documents that champion either CCA-M or DRR. On the other hand, integrated development planning and plans as used in Zambia is not a home-grown concept but originates from the West and partly originates from the 1947 British Town and Country Planning approach. There is strong evidence that Zambia adopted the current form of IDP concept and to some extent, the practice, through a policy convergence approach from South Africa. Nonetheless, this concept and practice are equally not South African home-grown.

Integrated Development Planning concept and practice is underpinned by the neo-liberal political economy ideology, alternative bottom-up developmental theory, neo-liberal spatial planning theory, legislation framework and professional planning ethics and values. It is also, a sustainable developmental concept to address social, economic and environmental developmental problems the countries face the world over. It is the right vehicle for enhancing resilience to address climate change and disaster resilience using local government public policy framework and resources. It is a basis for developing countries to receive international developmental financial assistance as members of the United Nations.

Legal, policy and enabler frameworks to harmonise and mainstream both CCA-M and DRR into decentralised municipality IDPs are still weak in Zambia as there is little action by the government to try to streamline these frameworks in Zambia post 2015. The year 2015 yardstick used is when the four major international development frameworks that govern the subject matter in this study were ratified / endorsed by all the United Nations member states.

Theoretical framework-wise for mainstreaming, there is no single model that can be cited and used globally to analyse case studies of municipalities that can be considered as best practice(s) for harmonising and mainstreaming both CCA-M and DRR into decentralised municipality IDPs. This study has assembled a new analytical model for analysing municipalities at country level to determine which ones could be described to have best practices for harmonising and mainstreaming both CCA-M and DRR into IDPs. The study does not give a name to this assembled analytical framework, but recommends that this blended framework / model is included and used in analysing both climate change and disaster risk, to identify harmonised options for

mainstreaming both CCA-M and DRR into IDPs. This blended model is also part of the developed and proposed alternative guidelines for mainstreaming both CCA-M and DRR into IDPs.

There is less consistency on how the terminology of disaster risk reduction and disaster risk management is used by the Disaster Management and Mitigation Unit in Zambia. Then CCA-M seems to be better funded in Zambia for long-term developmental activities and the bulk of the funding is from external bilateral and multilateral donors. Municipalities in Zambia are not yet fully decentralised by devolution. Lack of full decentralisation and three-way planning system in Zambia at district / municipality level is a big challenge to successfully implementing the IDP concept.

Ultimately, this study has developed and proposed evidence-based policy implementation guidelines for harmonising and mainstreaming both CCA-M and DRR into integrated development planning by synthesising the findings from the four journal articles written. These guidelines are not yet public policy. The process to convert individually formulated policy implementation guidelines into public policy implementation guidelines must be proposed to the central government by a line Ministry of Local Government in this context. As such, the study recommends escalating these proposed guidelines to the Ministry of Local Government post-this doctorate degree, to further escalate these proposed policy guidelines to Cabinet to be adopted into public policy implementation guidelines.

Other specific recommendations are to encourage practitioners and academicians to continue debating and pursuing processes to find optimum ways to place CCA-M into DRR and vice versa. This is dependent on which one theme is better funded than the other between CCA-M and DRR, and that is more favoured by the respective government to lead the other from a practical perspective. For instance, CCA-M and DRR still seem to be implemented in parallel at the municipality level in Zambia but CCA-M is more favoured for longer-term developmental financing by the bilateral and multilateral donors, the major supporters of this developmental theme.

Based on literature review in Article 4, even though South Africa is not among the countries with high Climate Risk Index (CRI) that was used as an input to determine which countries have best practices on how to harmonise and mainstream CCA-M and DRR into IDPs globally, the country has successfully documented how it has mainstreamed CCA-M only into IDP through mode-2, trans-disciplinary co-production of knowledge in third space. The challenge is that this model does not document how DRR concept and practice could be incorporated into this process as well. This could be a good follow up study to analyse and document how this particular model can harmonise and mainstream both CCA-M and DRR into IDPs at the municipality level, and how guidelines could be developed to guide this process. The South African model can be

implemented alongside the UN-Habitat concept of City Resilience Action Planning (CityRAP) and the United Nations Capital Development Fund, Local Climate Adaptive Facility with its associated Assessing Climate Change Adaptation Framework (UNCDF LoCAL ACCAF model) to compare the effectiveness of all these three promising models to enhance climate and disaster resilience at municipality level through municipality IDPs.

Ultimately, this thesis contributes to the debate of harmonising and mainstreaming both CCA-M and DRR into local government or local authorities. This is through the developed and proposed alternative guidelines that harmonise and mainstream both CCA-M and DRR into IDPs. For the first time, this study clarifies the concept of Integrated Development Planning and Plans in Zambia from an ideological lens, theoretical underpinnings, historical perspective, current framework of practices and from the views of the planners. The study further clarifies how integrated development planning and plans ought to be managed and financed in Zambia based on a cross-national comparative study undertaken between Zambia and South Africa. This clarification is crucial as it lays the foundation for any future conceptual work on IDP in Zambia. The study also clarifies how climate change adaptation-mitigation and disaster risk reduction ought to be harmonised conceptually and imbedded into primary or overall Guidelines for Integrated Development Planning. Later the study describes how the harmonised concept, practice and options of both CCA-M and DRR ought to be mainstreamed into decentralised municipality integrated development plans in Zambia to enhance resilience. Developmental planners are therefore encouraged to read the individual published articles in this thesis in full to appreciate these findings for their own professional development and practice.

Key terms: Integrated Development Planning; Zambia; Public policy implementing guidelines; Mainstreaming; Climate resilience; Disaster resilience.

LIST ABBREVIATIONS

ACCAF	Assessing Climate Change Adaptation Framework
ACCCRN	Asian Cities Climate Change Resilience Network
ADAPT	Assessment and Design for Adaptation to Climate Change
ADPC	Asian Disaster Preparedness Centre
CCA	Climate Change Adaptation
CCM	Climate Change Mitigation
CEDRA	Climate Change and Environmental Degradation Risk and Adaptation Assessment
CEDRIG	Climate, Environment and Disaster Risk Reduction Integration Guidance
CityRAP	City Resilience Action Planning
CPI	Climate Policy Integration
CRED	Centre for Research on the Epidemiology of Disasters
CRI	Climate Risk index
CRiSTAL	Community Based Risk Screening for Adaptation and Livelihoods
CSA	Climate Smart Agricultural
CVCA	Climate Vulnerability and Capacity Analysis
DDCC	District Development Coordinating Committee
DDP	District Development Planning
DEA	Data enveloping analysis
DFID	United Kingdom Government – Department for International Development
DiMSUR	Disaster Risk Management, Sustainability and Urban Resilience
DMMU	Disaster Management and Mitigation Unit

DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EbA	Ecosystem based Adaptation
EPI	Environmental Policy Integration
EWS	Early Warning System
FAO	Food and Agricultural Organisation
FEWS	Famine Early Warning Systems
GCRA	Gender-sensitive climate risk assessment
GDP	Gross domestic product
GIEWS	Global Information and Early Warning System
GIZ	Germany Government International Cooperation Agency
HLPF	(United Nations) High-level Political Forum on Sustainable Development
IDP	Integrated Development Planning
IEM	Integrated environmental management
IISD	International Institute for Sustainable Development
IJDRR	International Journal of Disaster Risk Reduction
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
KI	Knowledge institutions
LoCAL	Local Climate Adaptive Living
LSBE	Life Skills-Based Education
MLG	Ministry of Local Government
MLNR	Ministry of Lands and Natural Resources

MNDP	Ministry of National Development Planning
NAPA	National Adaptation Plan of Actions
NDA	National Designated Authorities
NDMTC	National Disaster Management Technical Committee (of Zambia)
NPCC	National Policy on Climate Change
NUA	New Urban Agenda
OECD	Organisation for Economic Co-operation and Development
PAIM	Participatory Adaptation Implementation Manual
PAM	Programme Against Malnutrition
PARA	Protect, accommodate, retreat or avoid
PID	Project information document
PPCR	Pilot Project for Climate Resilience
PPP	Purchasing power parity
RDM	Robust decision-making
REDD	Reducing Emissions from Deforestation and Forest Degradation
RQ	Research question
SADC	Southern African Development Community
SCRiKA	Strengthening Climate resilience in Kafue sub basin of Zambia
SDF	Spatial Development Framework
SDG	Sustainable Development Goals
SEED	Support for Economic Expansion and Diversification
SPCR	Strategic Programme for Climate Resilience
SWOT	Strength, weakness, opportunities and threats

TRALARD	Transforming Landscapes for Resilience and Development
UN	United Nations
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNFCCC	United Nations Framework Conference on Climate Change
UNISDR	United Nations International Strategy for Disaster Reduction
VDC	Voluntary Determined Contribution
VNR	Voluntary National Reviews
WB	World Bank
WFP	World Food Programme
WHO	World Health Organisation
WMO	World Meteorological Organisation
ZAMSIF	Zambia Social Investment Fund

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CHAPTER 1: STUDY ORIENTATION AND PROBLEM STATEMENT

1.1 Introduction

This thesis analyses the similarities between climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR) options and how they can be harmonised and mainstreamed into sustainable development practice at community level but through local government or municipality integrated development planning system. Such an analysis and eventually planning process helps enhance natural, built environment and societal systems resilience using public programmes and resources. Ultimately the study develops and proposes alternative guidelines for mainstreaming both harmonised CCA-M and DRR options into municipality integrated development plans. These proposed guidelines are to help planners and other stakeholders formulate well informed integrated development plans that will also enhance natural, built environment and societal systems resilience using public resources in addition to addressing other developmental needs. Resilience in the context of this thesis is capacity in the form of the choices and processes of ensuring that natural, built environment and society systems can deal with hazards, vulnerabilities and hazard drivers (Kelman et al. 2016:131).

Disaster risk and disaster outcomes are both potential and actual products of hazards' impacting on exposed and vulnerable natural systems and communities. Disaster risk and outcomes can therefore be addressed cost effectively by implementing two strategies at the same time that are inversely proportional: reducing systems' exposure to hazards, vulnerability and; increasing peoples, systems or communities capacity to mitigate risk before it translates into devastating outcomes (Wisner et al. 2004:50). In the absence of such capacity, communities, ecological and built environment systems would require external support to survive or mitigate the negative impacts of disasters. Such support would come from local well-wishers and the government before external donors can intervene. However, the same public external resources have been utilised proactively, efficiently and effectively in a timely manner through non-emergency developmental programmes and before the disaster risks' translates into disaster outcomes in some countries such as the Philippines (Magalang et al. 2012). This approach of utilising resources to mitigate risk before disaster outcome introduces the concept of disaster risk reduction (DRR) and climate change adaptation-mitigation (CCA-M) intervention-options.

Policy wise, disaster risk reduction are therefore measures aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and to the achievement of sustainable development (UNGA 2016). Climate change adaptation on the other hand is the process of adjustment to actual or expected climate hazards, associated

vulnerability, exposure, sensitivity and thus to its effects. Climate change mitigation is a human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs) (IPCC 2014). Both CCA-M and DRR options are local level resilience intervention approaches and are part of sustainable development strategy.

Integrated Development Planning is also part of sustainable development strategy and is an inclusive, long-term strategic, participatory, municipality and spatial planning process (Venter 2018:110). Integrated Development Plans (IDPs) are outcomes of the integrated development planning process. Once the integrated development plans are finalised and approved by the Minister responsible, they become public policy. Thus, they become official developmental blueprints at the local government level. This concept of IDP is discussed in more detail in subsequent chapters especially Chapter 3 that is exclusively on Integrated Development Planning.

This Chapter 1 provides the background, orientation and thus the justification for undertaking this whole research from 2017 to 2021. The chapter further outlines the research problem, research questions, central theoretical framework, objectives, and methodology.

1.2 Background and orientation

Since 1970, an increasing number of disaster risks globally are now weather, climate change and water hazards' related. For instance, 56% of deaths, 75% of economic losses and 79% from all the recorded disasters globally from 1970 to 2019 were water, weather, and climate change hazard related (WMO 2020). This is a fundamental developmental problem globally, permeating to individual nations and communities. Ironically, disaster risk and disaster impacts due to climate change and other natural hazards are projected to continue increasing as greenhouse gases, global warming and exposure of the natural, built environment and societal systems to extreme events of climate change, coupled with bio, physical and social vulnerability of these same natural and societal systems increases (Burkett et al. 2014). For instance, developing countries like Zambia with low preparedness capacity (ND-GAIN Index 2019) are projected to be worst affected by the impacts of climate change and associated disaster risk (Davis-Reddy & Vincent 2017: 21). Such respective countries and their governments need to enhance their adaptive natural, built environment and societal systems resilience capacities to overcome these current and projected developmental challenges (IPCC 2014; UNISDR 2015; WMO 2020).

Based on probabilistic risk analytical and assessment (PRA) framework, the revised concept of vulnerability and resilience (USEPA 2014; USEPA 2017; Le Dé 2017: 275), the two United Nations international agencies that govern climate change and disaster risk reduction, that is the

United Nations Framework Conference on Climate Change (UNFCCC) and the United Nations Office for Disaster Risk Reduction (UNDRR) have formally acknowledged the conceptual / practice similarities of CCA-M and associated DRR (IPCC 2012; IPCC 2014; UNGA 2016). This recognition includes potential solutions of CCA-M and DRR options to address the associated risks, especially at the local community implementation level, and implicitly the need to harmonise these two to enhance resilience (Venton & La Trobe 2008:4; Birkmann & von Teichmann 2010:1; IPCC 2012; Natoli 2019). Thus the two concepts and practices of CCA-M and DRR have similar developmental goals, strategies and risk reduction activities especially at local community implementation level. The similarities of these two concepts have equally been acknowledged by other United Nations Agencies, multilateral organisation, international NGOs, bilateral donors and governments through the endorsement of the global Agenda 2030 / the Sustainable Development Goals (SDG) and the global New Urban Agenda (UN 2015; UN 2016).

Technically, the two concepts and options of CCA-M and DRR have anticipatory and reactive management components as they both try to address the same problem of climate and disaster risk at all levels of social economic, environmental and spatial development, even though they have been developed by two separate schools of thought and different policy integration systems globally. The two concepts and practices try to address three key elements in the probabilistic analysis and assessments of risk, that is hazards, vulnerability, and resilience thus systems exposure to risk, sensitivity to risk, and capacity to address risk (Anderson 2012:1).

However two schools of thoughts have emerged globally to frame the debate between the similarities of these two concepts and practices and how they should be placed into each other (Kelman 2017; Kelman et al. 2017). The first school of thought argues for the integration or harmonisation of climate change adaptation-mitigation into disaster risk reduction and vice versa before or as they are mainstreamed into developmental practice. The second school of thought is implied to leave the two concepts as they are but mainstream the two into developmental practice at all levels of development administration including local government. This study focuses on the first school of thought to harmonise and later mainstream the two harmonised concepts into decentralised municipality or local government integrated development planning to enhance resilience using public resources. The view of this study is that implementing such an approach would enhance public resources utilisation efficiency at the same time enhance natural resources and societal resilience against climate and disaster risk super wicked problem.

Public policy and developmental administration-wise, climate change and associated disaster risk are super wicked problems. Super wicked problems have worsening developmental policy features, thus creating a new class of global environmental problems with four distinctive features. Firstly, these are problems whose time is running out. Secondly they have a scenario, those

institutions and shareholders that caused the problem also seek to provide a solution. Thirdly they have central authorities that need to address these problems but that are weak or non-existent, and fourthly, they are problems whose irrational discounting occurs but pushes responses into the future (Lazarus 2009:1159; Levin et al. 2012).

Climate change and other hazards related disasters tend to affect vulnerable communities more that are exposed to hazards, have low resilience and low coping capacity. To address this problem, municipalities in developed countries have been recognised and considered to be the best equipped arms of governments to harmonise and mainstream these two concepts and practices of CCA-M and DRR at grassroots level to enhance resilience (IPCC 2014:107; Pasquin et al. 2015). If well supported by respective central governments in terms of financial, human resources, political will including proper legislation and mentorship, municipalities in developing countries could also provide such effective support to communities to enhance resilience against changing climate, variability and associated disaster risk. However there is still a challenge conceptually and in practice on how to harmonise and mainstream these two concepts and practices of CCA-M and DRR into decentralised municipality developmental practice and decision-making. This is so, especially in developing countries that are considered undemocratic, very much prone to the negative impacts of climate change and associated disaster risks (Djalante et al. 2013:167; Pasquin et al. 2013; IPCC 2014:107). Hence, the need for this research that focuses on harmonisation and mainstreaming of the two concepts and options into local government developmental programmes as a more ideal, practical and public administration solution.

Linked to the statement in the paragraph above, Integrated Development Planning initiative is one such local economic development mechanism and tool through which CCA-M and DRR can be mainstreamed at local government level to address disaster risk, as discussed in all the eight chapters in this thesis. Integrated Development Planning is also a mechanism through which spatial planning for resilience building can be achieved using public resources (Kadzatsa 2011:24). For instance, South Africa and the Philippines have tried with a relatively high degree of success to empower their local communities and enhance resilience through local government and spatial IDP mechanism (Magalang et al. 2012; van Niekerk 2014). However, both countries still have their own challenges to improve their public facilitation of resilience building work. Such work to use Integrated Development Planning as a mechanism to enhance resilience can still be considered work-in-progress. Such partial success in South Africa and the Philippines towards the use of IDPs (Retief & Sandham 2001; Magalang et al. 2012; van Niekerk 2014) in resilience promotion can be adopted as models for developing policy implementation guidelines by other developing countries like Zambia. But such models need to be reviewed in more detail to further

document their strength, weakness, opportunities and threats before they can be replicated and adapted to other countries, just as an example.

Through multilateral and bilateral donor partners in Zambia, the government has recognised that the risk of changing climate and variability on natural, built environment and societal systems is a challenge at the national and local levels. Hence the Germany Government as a bilateral donor has supported the development of the climate screening guidelines (GIZ & Global 21 Consulting 2014) to help guide government departments on appraising investment projects for climate change resilience mainstreaming at the national and sector level. Another multilateral donor-supported project, the World Bank and African Development Bank Pilot Project for Climate Resilience (PPCR) has correspondingly championed and encouraged the Zambian government to mainstream climate change adaptation and mitigation into local government development planning (WB 2011). Institutionally, the Zambian government would now like all municipalities to use IDPs as the principal tool to foster the decentralised local authorities or municipality developmental planning, budgeting and administration process (GRZ 2015:26). The Zambian government would also like municipalities to mainstream climate change adaptation-mitigation into integrated development planning through this mechanism. There is less mention of DRR mainstreaming through local government integrated development planning even when DRR is similar to CCA-M.

Equally, there has not been much impetus to harmonise the two concepts and practices of CCA-M and DRR either, even when DRR and CCA-M have been recognised as similar concepts with similar developmental objectives in Zambia as well. There is no comprehensive study that has been undertaken in Zambia prior to 2017 to evaluate municipality capacity challenges to harmonise and mainstream both CCA-M and DRR into decentralised municipality IDPs apart from the 2014 Germany Government International Cooperation Agency (GIZ) Climate proofing manual (GIZ & Global 21 Consulting 2014).

The project appraisal document for the World Bank / African Development Bank supported PPCR (WB 2011) makes many mentions of the need to mainstream climate change adaptation-mitigation into development planning. This appraisal further cites the Zambian Sixth National Development Plan (SNDP) (GRZ 2011) as a basis for including CCA-M mainstreaming targets in the PPCR project. However, it does not mention what the real capacity challenges there is or there has been in Zambia to harmonise and mainstream both CCA-M and DRR into decentralised local government IDPs. Thus, these four documents by GIZ, PPCR, SNDP, and URP Act (3 of 2015) mainly focuses only on CCA-M, individual line ministries (sectors), and mostly at the national level. The PPCR even discusses and proposes the need to mainstream climate resilience into IDPs in 2011 before IDP legislation was promulgated into law in 2015, and even before the

IDP formulating guidelines could be conceived. Neither does the Urban and Regional Planning Act (3 of 2015) go into any detail about the need to harmonise nor to mainstream CCA-M and DRR into IDPs. Such information was supposed to come from policy implementation guidelines that were non-existent at the time of conceptualising this study in 2017.

1.3 Research problem statement

There were no accompanying guidelines for DRR screening to guide government departments on how to appraise investment projects for DRR at national sector level nor at municipality level, nor were there any tertiary guidelines for harmonising and mainstreaming both CCA-M and DRR options into decentralised municipality IDPs in Zambia. Additionally, there were no primary guidelines on how to formulate municipality IDPs in general. Yet, the Zambian Government recommended that each municipality use integrated development planning and plans (IDP) as their principal tool to foster their local economic and statutory developmental planning, budgeting, and decision-making (GRZ 2014; GRZ 2015:26).

There was scanty information when conceptualising this study about how many municipalities already had approved or draft IDPs. Based on preliminary information obtained from the Department of Physical Planning, Ministry of Local Government (MLG) national office, only eight out of 111 municipalities had IDPs in 2017. This represented 8% of Zambian municipalities who had either a draft or an approved IDP document. Therefore, an estimated 92% of the municipalities did not have integrated development plans. There was no literature that explained why there were only a few IDPs developed in Zambia, what the challenges the municipalities faced in general, concerning formulating of IDPs, nor were there any recommendations from any research institutions, stakeholders nor the MLG on the way forward to address this additional research gap. Additionally, there was no literature to suggest whether the estimated 8% of the approved and draft IDPs in Zambia had harmonised and / or mainstreamed CCA-M and DRR options even though the Revised, Sixth National Development Plan for 2013-2016 encouraged mainstreaming of at least CCA-M and DRR as separate concepts into general developmental planning (GRZ 2013).

Reverting to the PPCR project partly discussed in section 1.2, it was also unclear what basis the PPCR project designers based their argument on to include the concept of municipality or District IDPs in their project proposal document. Neither was it clear as to why the PPCR design document only inclined itself to addressing climate change adaptation-mitigation and not disaster risk reduction incorporation? For instance, the impacts of climate change, variability and associated disaster risk manifested clearly at community level and in the natural environment especially in those geographic areas targeted by the PPCR (Funder et al. 2017). This was in the

Zambezi and Kafue river basins catchment areas that were both drought and flood-prone with an approximate population of 4.9 million people out of a total Zambian population of 13 million at time of conceptualising the project (WB 2011:4). In summary these, two concepts were already mentioned in the Zambian Six National Development Plan and were already established as similar concepts and practices at the international level to warrant harmonisation in developmental practice (IPCC 2012).

Then, apart from the claim of lack of fiduciary capacity at the Ministry of Local Government (GIZ & Global 21 Consulting 2014:10), again it was not very clear as to why the World Bank and the Zambian Government decided to implement the PPCR through the Ministry of Finance and National Development Planning at national and provincial levels and yet through municipalities at local level that did not have fiduciary capacity? There was no project objective either in the PPCR to build municipality fiduciary capacity. However, this was not part of the scope of this thesis.

It was also unclear as to why the World Bank and the Zambian Government did not implement the PPCR through the Ministry of Lands (Environment) and Natural Resources who are the perceived custodian of climate change adaptation-mitigation programme activities in Zambia, or through the Disaster Management and Mitigation Unit under the Office of the Republican Vice President, the custodian of DRR in Zambia. For instance, the Zambian government and World Bank supported an Emergency Drought Recovery Programme in Zambia in years 2003-2005, a similar project to the PPCR, but was implemented through the Disaster Management and Mitigation Unit by then (World Bank 2006). What had changed in 2017 conceptually?

Despite the scanty information on IDP and on mainstreaming of CCA-M and DRR into IDPs in Zambia, GIZ & Global 21 Consulting (2014:10) hinted that human and institutional as well as the financial capacity to implement IDPs by municipalities was low in Zambia. Becker and van Niekerk (2015) alluded to the low human resources capacity at regional level as one of the biggest challenges for implementing CCA-M and DRR in Southern African developing countries, including Zambia.

As such, Zambia needed both the capacity to formulate primary Guidelines for Integrated Development Planning in general, and embedded tertiary guidelines to further help planners, developmental practitioners and municipalities harmonise and mainstream both CCA-M and DRR into their integrated development plans. The focus of this study was on developing the embedded tertiary guidelines for harmonising and mainstreaming both CCA-M and DRR into IDPs. This overall study expectation to support IDPs, was in line with the newly adopted integrated multi-sectoral and clustered developmental approach in the 7th National Development Plan for Zambia (GRZ 2017). Thus developing these policy implementation Guidelines for Integrated Development

Planning that would even mainstream both CCA-M and DRR into IDPs was envisaged to help enhance municipality planners' and other developmental planners' planning capacity. Hence the justification for this study to help address some of these research gaps highlighted above in statutory development planning.

Philosophically, this research envisaged contributing to the general global debate on how to harmonise CCA-M and DRR. Later to contribute to the streamlining and mainstreaming of the resulting harmonised concept of CCA-M and DRR into decentralised local government development planning to enhance resilience, using public resources and programmes, and thus to contribute to achieving sustainable development goals number 11, 13 specifically and other SDGs in general (Venton & La Trobe 2008; Becker et al. 2013; Birkmann & Pardoe 2014; NemaKonde 2016; Kelman et al. 2017a:3; Leitner et al. 2020).

1.4 Research objectives

This research aimed to review, analyse, develop and propose alternative guidelines for an integrated development planning process that mainstreamed both climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR) options into decentralised municipality integrated development plans (IDP). In other words, the research aim was to develop and propose alternative guidelines for mainstreaming both or harmonised CCA-M and DRR options into IDPs.

Scholarly the aim of the research was partly in line with the applied forward reasoning policy formulation approach that incorporated both natural and social sciences to address a super wicked problem such as climate change, whose current problematic (scientific and social) areas were known. Still, their futurist solution was not (Levin et al. 2007:1).

Applied forward reasoning tries to identify possible policy interventions and reasons of how the problem and intervention might unfold over time. This anticipatory approach counters the limits of backwards-looking explanatory theory or path dependency phenomenon (Levin et al. 2012). Path dependency phenomenon emphasises achievements, products or practices of the past to address futurist problems. Path dependency phenomenon can also be a limitation and used unwittingly to justify heavy disincentives for change because so much is already invested in existing ways of doing things (Pierson 2004:33).

Based on this aim, the study envisaged to address five research objectives thus:

- i). Frame the concept and practice of IDP in Zambia to obtain a broader, detailed explanation and document this concept and practice from an ideological perspective, theoretical underpinning, historical perspective, current practices and views of the developmental planners.

- ii). Undertake a cross-national comparative policy analysis study in Zambia and South Africa to obtain an additional in-depth exploration and document the similarities of the IDP concept and practice as used in Zambia compared to South Africa.
- iii). Analyse existing legal and policy frameworks, institutional capacity, explore and document if any actions by the Zambian government tried to harmonise the existing legislation, policy frameworks and enabler regulations to facilitate mainstreaming of CCA-M and DRR into local government development planning.
- iv). To explore and document the current global models and examples of how to effectively harmonise and mainstream both CCA-M and DRR into decentralised municipality IDPs.
- v). Synthesise findings and recommendations from objectives 1 to 4 and propose alternative policy implementation guidelines for mainstreaming both CCA-M and DRR options into IDPs for Zambia.

1.5 Research questions

The overarching research question for this study (RQ) was: why were there still no integrated development planning formulating guidelines in Zambia that would even harmonise and help mainstream CCA-M and DRR into the integrated development plans two years after promulgating the Urban and Regional Planning Act (3 of 2015). In trying to address this research problem, five research questions were asked that subsequently guided this study based on the available literature and many information gaps that prevailed on the ground. These questions focused on understanding the challenges the Zambian government faced to introduce IDP formulating guidelines and how this study could help fill in this gap.

The research questions asked were first to understand ideology, theoretical underpinnings, historical, current practices and views of the planners concerning the IDP concept and why it was introduced in Zambia. Additional questions focused on interrogating the additional legal frameworks, models that informed IDP making globally and that could be adapted locally to harmonise the CCA-M and DRR. This was for policy implementation guidelines' formulation that would later help planners and other stakeholders mainstream these two harmonised concepts and practices of CCA-M and DRR into IDPs.

RQ 1.1: How did the few municipalities that already had approved IDPs in Zambia manage to formulate their IDPs in the absence of subordinate legislation? RQ 1.2: What ideology and developmental theory motivated the Zambian government to introduce IDP concept in the first

place? RQ 1.3: What hindered the Zambian government from marking subordinate legislation for making IDPs in a timely manner?

RQ 2: What additional lessons could Zambia learn from South Africa to enhance its quest to develop alternative Guidelines for Integrated Development Planning that would mainstream both CCA-M and DRR into integrated development plans?

RQ 3.1: What other legal frameworks (apart from the Urban and Regional Planning Act 3 of 2015), public policy guidelines and enablers supported IDP development, harmonisation and mainstreaming of CCA-M and DRR into IDPs in Zambia? RQ 3.2: To what extent had the government gone to harmonising current legislation, policy frameworks and enablers to support the harmonisation and mainstreaming of CCA-M and DRR into integrated development plans in Zambia?

RQ 4: What global models and municipality examples existed to help Zambia and the researcher emulate, to develop and propose alternative Guidelines for Integrated Development Planning that would mainstream both CCA-M and DRR into integrated development plans?

RQ 5: Based on research findings from other sub-studies to address research question 1 to 4, what elements should the proposed alternative guidelines for harmonising and mainstreaming both CCA-M and DRR into IDPs for Zambia contain?

1.6 Central theoretical statement

Being an applied climate change and disaster risk science, public policy study, with five major study variables thus: integrated development planning; CCA-M and DRR harmonisation and mainstreaming; public policy implementation guidelines; decentralised municipalities by devolution; enhanced natural, built environment and societal systems resilience; this thesis was guided mainly by the public policy implementation guideline making, policy convergence and policy coherence central theoretical frameworks. In other words the overarching theoretical framework for this whole study was best practice public policy research theory.

Best practice investigated what worked in one area to be adopted or transferred or learned into another area (Dodds 2013:13). In the context of this study, best practice was considered *a selective observation of a set of exemplars or perfect examples across different contexts, in order to derive more generalizable principles and theories of management. These exemplars were the 'best of the best' and not the 'best of the worst'* (Overman et al. 1994:69). Exemplars were selected from multiple context so that they could be generalizable to derive principles and theories (Myers et al. 2004:6). However care was exercised when deciding which types of cases should

be included in best practices sampling frame, to avoid considering worst case studies as best practice.

Albeit, best practice is not a theory in its own right but a strategy or methodology for achieving excellent outcomes cost effectively. The identified or defined common threads in the exemplars is what constitutes theories. Practitioners and analysts therefore ought to define what they would like to see in those exemplars, and it is that which is defined that forms theoretical aspects of specific best practice case study, a position adopted in this study.

Details of the theoretical frameworks for these five variables in this whole study are discussed in Chapter 2 of the thesis and in the respective Articles 1 to 4, thus Chapters 3 to 6. Suffice to say, as a super wicked problem climate change requires governments' leadership intervention to provide comprehensive policy directions or subordinate legislation to address and protect local investments from negative impacts that would result from extreme events of such phenomenon (UNISDR 2017). Comprehensive policy guidelines or subsidiary legislation are critical to clarifying rudimentary legislation. Such policy guidelines also help protect public servants, implementers of government programmes from being misunderstood by powerful interest groups and politicians (Anderson 2006:200; UN-Habitat 2015; Næss 2009:517). Such policies should be salient, credible, legitimate and be mindful of simplifying thematic boundaries or technical language between science and policy needs to help present the same information to multiple audiences in a simplified yet scientific way (Cash et al. 2003). Such thematic simplification further helps to link knowledge to action, which is the purpose of policy guidance.

Being credible means how authoritative, believable, and trusted the information provided is. Being salient means how relevant information is to decision-making bodies or publics. By legitimacy means how "fair" an information producing process is and whether it considers appropriate values, concerns, and perspectives of different actors. Even though governments try to ensure that all these four elements highlighted above are achieved in the promulgated public policy, the policymakers tend to overemphasis credibility and overlook the other three attributes of salience, legitimacy and thematic boundaries. However, all these four elements are critical to successful implementation of policy (Cash et al. 2003). In other words, it is important to ensure that the policy frameworks designed are not just credible, salient and legitimate but simplify thematic boundaries. These parameters are fundamental in public policies that relate to climate change and disaster risk science as well.

1.7 Philosophical research worldview

The pragmatic worldview influenced the way this study was designed at the conceptualisation stage to address developmental policy gaps for a super wicked problem of worsening climate change, variability and associated disaster risk in Zambia. Pragmatic research worldview is problem-centred and real world practice-oriented, but the researchers are not committed to one type of method to understand such a problem. The researchers can use a number of methods, techniques or procedures or pluralist approach to collect data and to understand the problem in more depth. The researchers can draw liberally on qualitative and quantitative approaches in the context of what works and what does not work (Creswell 2014:10).

Thus, a pragmatic worldview can be equated to a mixed methods approach. However, this research was not deliberately designed as either explanatory sequential or exploratory sequential mixed methods. Rather, it was designed based on an open approach and allowing what works and does not to lead the research process. Explanatory sequential mixed methods are one approach in which the researcher first conducts quantitative research, analyses the results and then builds on the results to explain them in more detail with qualitative research. The explanatory sequential mixed method, on the other hand, is the opposite of the explanatory sequential mixed methods design (Creswell 2014:15).

Given the super wicked nature of climate change, variability and associated disaster risk, other research worldviews such as complexity science and its associated complex adaptive systems have been discussed by scholars (Holden 2005; Ramalingam 2008; Levin et al. 2012; Cavallo et al. 2014; McLennan et al. 2014; Cavallo 2015; March et al. 2015; Tyler et al. 2020). These alternative world views focus on technical integration / harmonisation / mainstreaming aspects of both CCA-M and DRR. Thus, complexity science and associated complex adaptive systems overview is an alternative upcoming technical worldview to explain the developing of public policy solution to such a super wicked problem of changing climate, variability and associated disaster risk in interdisciplinary or trans-disciplinary, multi-sectoral, and multi-layered ways.

Complexity science is a pseudo-science and utilises basic principles such as generative rules or functions to explain the relationship between variables in the natural world like climate, natural resources, but which allows for variations and emergent behaviours that are not fully predictable (Phelan 2001). In other words, complexity science emphasises interconnectivity of individual units or agents or other natural systems adaptive to generative rules. This is to explain the relationship between these variables, but that allows for variations and emergent behaviours that are not entirely predictable. This description for complexity science is similar to that provided for super

wicked problems and the need for a mixed research approach. Henceforth complexity science approach also does suffice to inform climate change and disaster risk science research.

Complexity science and thus some aspects of climate change and disaster risk science are not traditional science as far as reductionist methodologists are concerned about deducing an outcome from expected relationship of given variables and generalizing findings. Simultaneously, complexity science and its associated complex adaptive systems are not a single theory either but rather an emerging field that is engaging scholars and scientists in a new paradigm of interdisciplinary or trans-disciplinary studies. Therefore, it is important that policy analysts appreciate this emerging research approach as an alternative to the reductionist approach to view the global solution to super wicked problems (Engebreston & Hickey 2011). Nonetheless, trans-disciplinary aspects of complexity science are also applied in this study to propose the alternative guidelines for harmonising and mainstreaming both CCA-M and DRR into municipality integrated development planning process in Zambia.

Using probabilistic risk analysis and assessment (Hallegatte 2014:52) climate change impacts and associated disaster risk are still predicted to continue increasing unless all the stakeholders take action to reverse this trend. However, it remains challenging to predict the actual magnitude and resulting impacts, damages and losses with pin point accuracy. As such, policy frameworks for mitigating and adapting to climate change and disaster risk reduction should be very innovative and should factor in a lot of uncertainty as a positive attribute and develop various scenarios for decision-making (Birkmann et al. 2013; Adger et al. 2018). The formulators of such policies ought to have a forward reasoning mind-set. They could utilise the forward reasoning theoretical approach (Levin et al. 2007:1) to policy guideline making and use technical computation methods to predict climate change and disaster risk impacts for resilience building. The applied forward reasoning approach identifies possible policy interventions and reasons for how the problem and intervention could unfold over time.

1.8 Research design and methodology

Research design is the conceptual structure within which research is conducted. It constitutes the blueprint for the collection, measurement and analysis of data (Kothari 2004:31).

1.8.1 Research design

Within the overall context of the pragmatic world view, this study adopted a blend of methods in overall context of the qualitative grounded theory methodology to ensure the final outputs were produced more rigorously. The qualitative grounded theory involved repeated data collection until a point of saturation was reached to address the research objectives (Leedy et al. 2005:140).

Grounded theory methodology is also helpful when current research theories for particular phenomena are either inadequate or non-existent (Creswell 2012:423).

Moreover, in disaster risk sciences, Howes et al. (2013:52) have recommended a Bayesian iterative approach to developing evidence for CCA-M and DRR mainstreaming policy development. Bayesian inference is a statistical inference method in which Bayes' theorem is used to update the probability for a hypothesis as more evidence or information becomes available. USEPA (2014:37) describes Bayesian analysis and inference as a method of statistical inference in which the knowledge of prior events is used to predict future events. Grounded theory in the case of this research is a qualitative equivalent to this Bayesian process. Grounded theory also invokes iterative strategies of going back and forth between data analysis until a level of saturation or required standard of explanation is attained (Charmaz 2014:1).

1.8.2 Research process

The central theoretical framework and research philosophical underpinnings identified for this study informed the whole research process. The first was the need for pragmatism (thus a blend of research methods) but more inclined to qualitative grounded theory research method. The second basis that informed the research process was the alternative academic requirements of thesis by article format. The third was the researcher's argument of ensuring credibility, saliency, legitimacy and thematic policy boundaries are addressed. The fourth was the need to apply a forward reasoning approach coupled with a complexity science approach to addressing climate change, natural and social science public policy implementation guidelines development. Thus, the study process involved four major stages, as outlined in (Figure 1.1).

Pragmatism research approach						
Chapt 2 of Thesis	Article 1	Article 2	Article 3	Article 4	Chapt 7 of Thesis	Concluding and finalising thesis
Comprehensive literature review	Framing IDP in Zambia	Cross-Nation Comparative IDP Study in Zambia and South Africa	Legal and policy framework analysis for CCA-M, DRR and IDP in Zambia	Global Evidence: CCA-M, DRR Mainstreaming in Municipality IDPs	Proposed alternative guidelines for mainstreaming both CCA-M and DRR into IDPs	
		Internship as Planner at Monze Town Council Zambia only				
	RQ 1	RQ 2	RQ 3	RQ 4	RQ 5	RQ 1 - 5
Comprehensive literature review to understand central theoretical frameworks	Cross sectional sub-study	Cross national comparative policy sub-study	Policy coherence and convergence systematic review sub-study	Planning & mainstreaming modeling systematic review sub-study	Synthesis / thematic consolidation	Final discussion and thesis consolidation into one single unit
		Participant observation method in Zambia only (municipality internship)				
Stage 1	Stage 2				Stage 3	Stage 4

Figure 1-1: Overall research process - stages one to four

Stage 1

Involved comprehensive literature review to establish central theoretical framework and culminated into Chapter 2 of the thesis.

Stage 2

Involved undertaking sub-studies to address research questions 1 to 4 (RQ 1 to RQ 4). Stage two process culminated into the write up of four journal manuscripts over a period of four years. These

manuscripts were submitted to peer review publishers, of which Article 1 and 2 were published. Article 3 and 4 were submitted to International Journal for Disaster Risk Reduction and were still undergoing peer review process at the time of finalising this thesis.

Article 1 explored and framed the problem of Integrated Development Planning and Plans in Zambia from the lens of political-economic ideology, thematic theoretical underpinnings, historical perspectives, current framework of practices and planners' viewpoints. The article sought to answer RQ1. Article 2 was a cross-national comparative policy analysis, policy convergence study for the concept and practice of Integrated Development Planning and Plans in Zambia and South Africa. This article sought to address RQ2 when it became apparent from preliminary literature review and actual findings of Article 1, that there was limited literature on the subject matter in Zambia to saturate the subject of IDPs as it was a relatively new concept in Zambia. Secondly, it became apparently clear with time that the IDP concept and practice as used in Zambia was in some way adapted from South Africa. Article 3 sought to answer RQ 3, and explored the legal frameworks that informed CCA-M and DRR mainstreaming into IDPs in Zambia, their challenges and strengths. Article 4 sought to answer RQ 4 to establish the prevailing global models and municipality examples for harmonising and mainstreaming both CCA-M and DRR and into IDPs. This article also established potential best practice case studies globally of municipalities that could be used as examples for adaptation to other countries globally to successfully mainstream both CCA-M and DRR into municipality IDPs.

Stage 3

Involved the synthesis of all findings and recommendations from all the four articles to feed into the actual developing and proposing of the alternative guidelines for mainstreaming both CCA-M / DRR into IDP as depicted in (Figure 1.2). These guidelines would be presented as a policy agenda-setting document to the Ministry of Local Government post-doctorate studies to initiate adopting the individual citizen's generated policy into public policy. It is the line ministries that are mandated by the central government to propose policies to Cabinet to adopt as public policies in Zambia (GRZ 2010). The detailed process of converting policy into public policy is explained in Chapter 2.

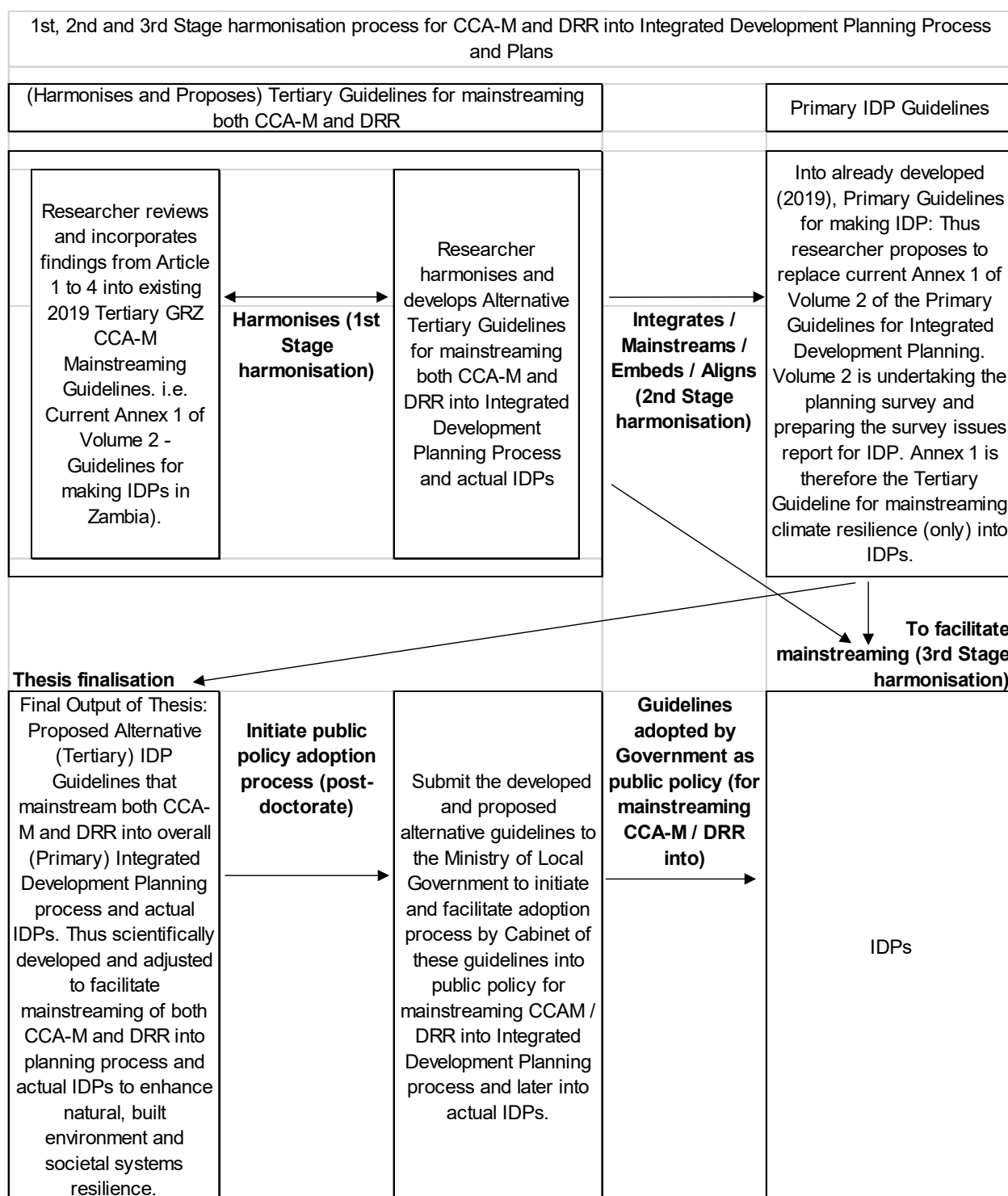


Figure 1-2: Theory of change – harmonisation and mainstreaming processes of CCA-M and DRR into IDPs

Stage 4

Stage four for the study was the final discussion and conclusion of the research. It further highlights the recommendations, limitation of the study and contribution to the body of knowledge.

1.8.3 Data collection methods

Data collection techniques allow the researcher to systematically collect information about objects under study (Kombo & Tromp 2006: 82). In this study, data collection methods were varied based on need and the pragmatism worldview adopted. The data collection stages turned out to be balanced between semi-structured qualitative interviews and systematic reviews. Semi-structured interviews and sample survey were the methods utilised for Article 1 and 2. Systematic document review was the prominent method used for Articles 3 and 4.

Prior authorisation was obtained from the Permanent Secretary Ministry of Local Government and Municipality Managers to collect primary data in Zambia for Article 1 and 2. This authorisation was sought through written official correspondence. See attached annexures. It seemed to be custom in Zambia, as the researcher observed that no written authorisation feedback was provided directly to the researcher after initiating the written request. Instead, written feedback was only provided internally within the institution granting the authorisation for the portfolio officer to engage with an outsider, thus with the researcher. Hence the researcher had to personally follow up with the respective institution to establish whether such permission had been granted. The researcher learned that one would never obtain any written feedback to the original request placed with the respective institution if they never personally followed up. The researcher was only given verbal consent by clerical staff (the first contact persons) once the concerned portfolio or research focal point person had been granted the green light to disclose any information to an outsider by the head of the institution. The researcher, in this instance, was considered an outsider to the institution granting the permission to undertake any research in their domain.

Detailed data collection for Article 1 involved: (a). An extended literature review to understand genesis, theoretical underpinnings, philosophical and ideological background to the concept of IDP, (b). Quantitative method through sample survey to establish how many municipalities had IDPs in Zambia, and (c). Qualitative semi-structured interviews to collect information from municipality planners. Qualitative data was also collected from developmental planners at both the provincial and national level, then at tertiary institutions of learning at the national level, on their views regarding IDP historic perspective, current practices, and the challenges the country faced formulating IDPs, and at formulating guidelines for IDPs.

A similar data collection procedure (as in Article 1), was used to collect data for Article 2. This procedure included data collection in South Africa. Thus, the whole data collection process for Article 2 involved (a). An extended literature review on IDP concept and practices in South Africa and Zambia to address RQ 2, (b). Collecting secondary quantitative data on how many municipalities had IDPs in South Africa, (c). Collecting primary qualitative data from portfolio officers at the municipality level and provincial level in South Africa on their views concerning IDP concept and current practices in South Africa.

South Africa had adequate literature on IDP, and hence it was easy to establish the ideological reasons why IDPs were introduced in the country, facts that the respondents turned out to be very much aware of. The officers that provided the qualitative data on IDPs in South Africa were from the integrated development planning, environmental, and disaster risk reduction / management departments at both municipality and provincial government levels. The data in South Africa was collected upon presentation of the introductory letter from the university. No prior authorisation permission was requested from Provincial Departmental Directors or Municipality Managers in South Africa. The researcher observed that South Africa and Zambia operated differently as far as public information disclosure was concerned. There was less bureaucracy involved in South Africa compared to Zambia.

Article 3 and 4 were systematic reviews based on secondary data sets collected through in-person and online library search and from the World Wide Web. Chapter 7 was a synthesis of resulting information from the other Articles 1 to 4, but was supplemented with additional secondary data on similarities between CCA-M and DRR in Zambia from Chapter 2. Thus, additional data sets used in the synthesis of this Chapter 7 were obtained through library searches, including the World Wide Web. Some other data was grey literature obtained from the municipalities and respective line ministries at the national level in Zambia. These are the Ministry of Local Government (MLG); Ministry of Lands (Environment) and Natural Resources (MLNR); Disaster Management and Mitigation Unit (DMMU); Ministry of National Development Planning (MNDP).

1.8.4 Sampling

Sampling in general is the process of selecting some part of an aggregate, a basis on which inference is made about the aggregate (Kothari 2004:152). Given the nature of this study, with a number of sub-studies culminating in Articles 1 to 4, the sampling process, therefore, varied to suit the sub-study, saturate the data needs, and later to saturate the research objectives. As such, sampling in Article 1 and 2 was not pre-determined. The sampling process was flexible to allow the researcher to saturate the research objectives.

However, purposive, snowball sampling and sample survey sampling method was the most predominant approach for Article 1 and mainly involved spatial planners at national, provincial and municipality levels, since IDP was more inclined to spatial planning in Zambia. A similar approach was used to sample respondents in South Africa for Article 2, even though IDPs in South Africa were more of municipality strategic planning, budgeting and cooperative governance tools and not necessarily housed in the spatial town and country planning department. Hence no planners in the town and country planning department were sampled in South Africa.

Purposeful sampling is a qualitative sampling procedure in which researchers intentionally select individuals and sites to learn or understand the central phenomenon (Creswell 2014:626). Snowball sampling is a process where one key informant identifies the next with institutional memory that conversional sampling might not capture (Vogt, 1999 as cited by Atkinson et al. 2001; Creswell 2012:628).

Document sampling for systematic reviews was the sampling method used for Article 3 and 4. Some 82 documents including other reference materials on methodology and theoretical framework, related to policy and legal frameworks for integrated development planning CCA-M and DRR mainstreaming into IDPs were sampled for Article 3. Another 108 documents including other reference materials on methodology and theoretical framework for Article 4 about global, country and municipality examples of models for harmonising and mainstreaming CCA-M and DRR into IDPs were sampled.

Overall a total of 101 respondents were sampled, that is 81 respondents for Article 1, and another 20 respondents for Article 2. Eighty two documents were reviewed under systematic reviews for Article 3; and another 108 documents for Article 4 as outlined below in (Table 1.1).

Table 1-1: Data collection method and sample size

Summary of Sampling : IDP Verification Survey, Key informant interviews, and Systematic Reviewed Documents										
Research Study Outputs	Verification Survey (Respondents that represented all municipalities in Zambia)	Semi Structured Interviews with Key Informants					Systematic document reviews, purposively sampled and using exclusion / inclusion criteria			
		Respondents: purposive and snow ball sampled								
		National			Provincial	Municipality				
		Government Sectors	Donor Agencies	Tertiary Institutions	Government	Government	Acts of Parliament	Policy Frameworks	Other Enablers	Other Documents
Article 1	61	5	2	3	10					
Article 2a (Zambia)		2				8				
Article 2b (South Africa)					3	7				
Article 3							12	15	19	36
Article 4										108
Totals	61	7	2	3	13	15	12	15	19	144

1.8.5 Data analysis and validation

Data analysis is key for examining what has been collected for making deductions and inferences (Kombo & Tromp 2006:117).

In general, data in this study was analysed manually for all the Articles 1 to 4, to address the sub-studies' research themes for each research question and in line with the research objectives. This manual analysis of data was complemented with a detailed analysis of key words or pre-defined codes / text-words using PDF software for Article 3. In all the four sub-studies undertaken, and Chapter 7 written, the analyses were further guided by the overall theoretical research frameworks identified in Chapter 2.

Article 2 was a cross-national comparative study between Zambia and South Africa. As such, the analysed themes from Zambia in this article were further compared to analysed themes from municipalities in South Africa about IDPs. The analysed information was presented in narrative form and not tabular. Triangulation of this data in Article 2 from both the Zambian and South African sides was undertaken by confirming the municipality-based information with the provincial-based information. This was information provided by the provincial representatives sampled and canvassed in this study. Additional validation was done through benchmarks established from reviewed literature.

Additional thematic validations for Article 1 and 2 were through the peer review process before publishing these articles in accredited journals. The triangulation process for Articles 3 and 4 would also occur through the peer review process before publications.

1.8.6 Ethical consideration

This study was approved and cleared by the North-West University Senate Committee for Research Ethics. The research ethics clearance number was *NWU-01563-20-A9*.

The research risk category for this study was minimal. In other words, this whole research involved natural resources management, built environment and societal resilience and did not involve obtaining samples from human subjects. Thus, it posed minimum physical and emotional stress to the respondents. The only significant anticipated stress that this research could have had on respondents was that it could have instilled reprisal fear into municipality planners. There was a potential risk that the planners could be rebuked by their seniors for speaking to an outsider because a researcher could have been considered to come from outside their organisation, or perceived to have been sponsored by any opposition political party. However, all these potential, unfounded fears were addressed by the researcher, by obtaining additional and relevant clearances from the respective planner's superiors at national and municipality level before engaging the respondents. The researcher had to equally sign statements of commitment with the university research ethics committee to ensure confidentiality of the information collection, confidentiality was strictly maintained throughout this research. The researcher also undertook a university prescribed online course and certification in professional research ethics with the international Training and Resources in Research Ethics Evaluation (TRREE) Institute on handling research with human subjects that superseded non-human subjects' research. Except for official presentations made during the official Zambian Institute of Planners workshop, in Article 1, no individual names have been disclosed or compromised through the publications made through this research.

1.9 Delimitation

As already alluded to in the research objectives' section 1.4, this study was about making harmonised public policy implementation guidelines for mainstreaming both CCA-M and DRR into IDPs in Zambian context. Other countries would have to objectively review the process used in the Zambian context to be applied to their respective countries. This study was not so much about debating the right terminology between policy integration, mainstreaming, alignments or embedding, nor about the superiority of the two concepts and practice of CCA-M and DRR from

the other. These terms and how they relate to the other are however, addressed and clarified in this study.

1.10 Division of chapters

By addressing the research questions raised in this chapter and through journal Articles 1 to 4 culminating into Chapter 7, this thesis sought to contribute knowledge to one of the major prevailing global debate to harmonise and mainstream CCA-M and DRR into developmental practice. As such, through the outlined research chapters this thesis sought to first clarify the concept and practice of IDP from political-economic ideology, developmental theory, practitioner and policy perspective. Integrated Development Plans was the major tool through which CCA-M and DRR could be mainstreamed at the municipality level to enhance natural, built environment and societal resilience using public resources and programmes.

As such the thesis comprised eight chapters (as similarly outlined in Figure 1-1) to address and saturate all the research objectives and questions raised in the build-up of this research. That is

Chapter 1: Study orientation and problem statement.

Chapter 2: Theoretical frameworks.

Chapter 3: Article 1 - Integrated development planning in Zambia: ideological lens, theoretical underpinnings, current practices, views of the planners.

Chapter 4: Article 2 - Integrated development planning and related financing practice: A comparison case study of Zambia and South Africa.

Chapter 5: Article 3 - Legal and policy frameworks to harmonise and mainstream climate change adaptation - mitigation and disaster risk reduction into municipality integrated development plans: A case of Zambia.

Chapter 6: Article 4 - Climate change adaptation-mitigation and disaster risk reduction: global evidence in municipalities' integrated development plans.

Chapter 7: Proposed alternative guidelines for mainstreaming harmonised climate change adaptation-mitigation and disaster risk reduction options into integrated development plans in Zambia

Chapter 8: Conclusions and recommendations.

1.11 Conclusion

This chapter has provided the background, orientation, and justification for undertaking this whole research from 2017 to 2021 in Zambia with an extended cross-national comparative public policy study in South Africa. The chapter has further outlined the research problem, research questions, central theoretical framework, objectives, pragmatic research design adopted and methodology of the whole research.

As outlined, the research is on similarities between climate change adaptation-mitigation and disaster risk reduction. Why these should be harmonised and how the harmonised concept must be mainstreamed into municipality integrated development planning and plans to enhance natural, built environment and societal systems resilience using public resources and programmes has been explored. In this chapter, concepts of integrated development planning and plans have been fully explained as well. Climate change adaptation-mitigation, disaster risk reduction has been explained from a super wicked policy problem point of view and why it is important to address them in sustainable development practice.

However in context of central theoretical framework and to re-clarify the linkages between the research variables, the following are revisited in Chapter 2 in more detail. That is the relationship between CCA-M with DRR with IDP and SDGs; what policy and public policy are; mainstreaming process of CCA-M and DRR into IDPs; how these concepts, practices and developmental options can be analysed; and how the policy implementation guidelines can be synthesised.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1 Introduction

This chapter builds upon section 1.2 and 1.6 of Chapter 1 by revisiting the similarities between climate change adaptation-mitigation, disaster risk reduction and mainstreaming into integrated development planning. Concepts of policy and public policy not exhaustively defined in Chapter 1 are also revisited in Chapter 2. This chapter further discusses the theoretical frameworks that guided this research and the specific sub-studies in more detail.

The theoretical frameworks were instrumental in guiding the answering of the research questions and fulfilling the purpose of the study, to develop alternative policy implementation guidelines for mainstreaming both climate change adaptation-mitigation and disaster risk reduction into integrated development planning and plans.

Presented in three parts, the first part of Chapter 2 revisits the relationship of CCA-M and DRR with IDPs and sustainable development to clarify their linkages. Part two of the chapter discusses what policies and public policies are and their associated theoretical frameworks in context of integrated development planning and plans. The third part discusses the theoretical frameworks for harmonising and mainstreaming CCA-M and DRR into integrated development process. The chapter is organised in this way for it to flow and for the readers to easily follow.

Since the study was more inclined to Zambia a review of literature was undertaken on CCA-M and DRR similarities to clarify the thematic boundaries argued for as part of the main principles for good policy framework. Challenges for harmonising and mainstreaming both CCA-M and DRR in form of barriers are also highlighted.

2.2 Relationship between CCA-M, DRR and IDP revisited

The latest definition of vulnerability and resilience in climate change science, and in disaster risk sciences coupled with the use of probabilistic risk analysis and assessment (PRA) tools have provided a clear link between CCA-M and DRR similarities. These linkages are clearly demonstrated in the Intergovernmental Panel on Climate Change (IPCC) Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) and subsequent follow up literature (IPCC 2012; IPCC 2014).

By relooking at the variables of vulnerability and resilience there has been a shift by practitioners and scholars from viewing vulnerability as exclusively physical to include social aspects of vulnerability, a position now adopted by both the climate change and disaster risk science fraternity (Le Dé 2017:275). In both climate change and disaster risk sciences, concept and

practice of resilience now includes addressing elements of hazards, exposure, sensitivity and vulnerability that are used in the definition or analysis of risk using the probabilistic risk analysis and assessment tools. Even though there are many definitions of resilience (Thywissen 2006:448) the new key focus in both climate change science and disaster risk science is the addressing of hazards, systems exposure, sensitivity and vulnerabilities. Thus USEPA (2017) defines resilience as system's ability to reduce exposure and sensitivity to, and recover and learn / adapt from gradual climatic changes or extreme climate events (hazards). This ability comes from a systems risk reduction and response capacity, and includes retaining or improving physical, social, institutional, environmental, and governance structures within an ecological and societal system. This definition of resilience is adopted by this thesis in Chapter 1 section 1.1.

Probabilistic risk analysis and assessment (PRA) tools are a group of techniques that incorporate uncertainty and variability into risk analysis and assessments. Variability refers to the inherent natural variation, diversity and heterogeneity across time, space or individuals within a population or life stage, while uncertainty refers to imperfect knowledge or a lack of precise knowledge of the physical world, either for specific values of interest or in the description of the system (USEPA 2014). Variability and uncertainty have the potential to result in overestimates or underestimates of the predicted risk. What is crucial in climate change science and disaster risk science is that PRA tools are acknowledged by both to provide estimates of the range and likelihood of a hazard, exposure or risk, factoring in vulnerability. These tools avoid establishing a single point estimate of risk. Probabilistic risk analysis and assessment tools are therefore used to characterize risks, including uncertainties and variability, in protecting more sensitive or vulnerable populations and life stages (USEPA 2014).

Through these revised definitions of vulnerability and resilience in climate change and disaster risk science further provides a clear link of CCA-M and DRR with sustainable development as early as year 2004 (UNISDR 2004). Sustainable development is also a basis for the current SDGs and integrated development planning. Just like the SDGs, IDP is integrated and indivisible and balances the three dimensions of sustainable development: the economic, social and environmental at all levels of developmental administration (UNGA 2015; Venter 2018:110). It can be seen through this narrative that these variables of CCA-M, DRR, IDPs and SDGs are interrelated developmental themes that can be used to enhance resilience at local level through municipalities.

2.3 Policy and public policy

Clarifying policy and public policy is critical in this study as these terms are part of the major variables being researched on. Therefore, in the broadest sense, policy refers to a set of

principles, agreed standards that reflect future goals and aspirations of a given institution, and provide guidelines for carrying out those goals (Cloete et al. 2011:11). In this thesis and subsequently in Articles 1 to 4, policy has been defined along this overall broader definition that is quite encompassing.

On the other hand, public policies are those policies that affect the masses or public or that are reinforced by governments. As such, for any proposed policy by an individual citizen, to be considered public policy, it has to be generated or at least processed within the framework of governmental procedures, government influence and organisation (Cloete et al. 2011:6). As for Sapru (2004:5), public policies are those policies that are adopted and implemented by governmental bodies and officials. This definition also includes element of government involvement. Hence government involvement is crucial in the final promulgation of public policy making process.

With this background, the alternative guidelines developed and proposed in this thesis, by an individual citizen / academia / researcher, also considered an individual policy advocate / policy analyst / policy planner (Sapru 2004:94; Birkland 2011:131) are processed within the framework of public policy-making in Zambia. Therefore, these proposed alternative guidelines for mainstreaming both CCA-M and DRR into IDPs, are public policy in their context as they focus on addressing public problem and are to be implemented by the public governance system. The process of converting these proposed policy implementation guidelines in Chapter 7, into officially recognised public policy in Zambia by the Zambian government would be done post this doctorate thesis. However, the researcher still refers to these individual citizens' proposed policy guidelines as public policy because this is what they are meant to be.

2.4 Public policies, implementation guidelines and regulations in Zambia

In Zambian context, public policy implementation guidelines, sometimes just referred to as guidelines or alternative guidelines for mainstreaming CCA-M and DRR into IDP are actually accompanying rules or regulations or enablers, subordinate or secondary legislation (GRZ, 1970). Secondary or subordinate legislation are all other forms of legislation that are not Acts of Parliament. Acts of Parliament, on the other hand, are primary legislation, laws or statutes made by parliament in the case of Zambia.

A statute is a written law passed by parliament that creates rules or regulation or that authorises the formulation of policies, and their respective implementation guidelines, on how the executive should implement the law (GRZ 1970). In other words, statutes (rules and rules of rulemaking) are laws in Zambia.

Secondary legislation and public policy implementation guidelines are part of the prerogative authority delegated to the ministries on how to implement the law but not to change the primary laws. Thus, secondary legislation or public policy implementation guidelines are formulated by the executive branch, the line ministries and the Cabinet in the form of delegated authority from parliament in Zambia (GRZ 1970; GRZ 2010). Secondary legislation, public policy, public policy implementation guidelines, and regulations are one and the same thing in the context of this thesis. Hence the title for this thesis could have been *Secondary legislation for harmonising and mainstreaming both CCA-M and DRR into IDPs*.

When promulgated, public policy frameworks and sector implementation guidelines explain how the rudimentary legislation is supposed to be implemented by line ministries (GRZ 1970; GRZ 2010). This includes how municipalities are supposed to implement rudimentary legislation at ecosystem, built environment and societal systems levels.

Municipalities as local authorities are part of the central government in Zambia through the Ministry of Local Government. As such, they are public institutions. They have both elected representatives and non-elected administrative staff. The non-elected staff are employed by the central government through the Local Government Service Commission of Zambia and seconded to the municipalities. Therefore, being part of the central government, municipality IDP implementation is consequently guided by central government legislation.

Integrated Development Plans are a strategic management tool to guide statutory developmental programmes' implementation at the municipality level post year 2015. They are equally public policy frameworks in themselves once approved by the Minister and become strategic planning, implementation and decision-making tools in themselves. However, IDPs also require guidelines (rules) that even mainstream CCA-M and DRR to be effectively formulated and implemented, the focus of this study.

2.5 Role of individual citizens to formulating public policy

Individual citizens have the liberty to research on, and propose policy and policy implementation guidelines to the government to consider into public policy in democracies globally, Zambia inclusive (Birkland 2011:131; GRZ 2010). In this thesis, the individual citizen evoked the right to propose policy that was further based on the researcher's expert realisation that there was a public problem that required urgent addressing in line with the applied forward reasoning theory already explained in Chapter 1, Section 1.4.

Individual citizens and other commissioned researchers who develop and propose public policy guidelines for CCA-M and DRR are further expected to focus to clarify the rudimentary legislation for climate change risk and associated disaster risk management. Other principles that constitute

good policy implementation guidelines are credibility, salience, legitimacy and addressing thematic boundaries should also be adhered to (Cash et al. 2003). Therefore, these principles of credibility, salience, legitimacy and addressing of the thematic boundaries were adhered to as additional guiding principles when developing and proposing the alternative guidelines for mainstreaming both CCA-M and DRR into IDPs in this thesis.

2.6 Prevailing legislation, a generic approach to designing implementation guidelines that harmonises and mainstreams both CCA-M and DRR into municipality IDPs

Reverting back to CCA-M and DRR. In addition to being rooted and inclined to public management, public policy and public planning challenges (van der Waldt 2009:32), CCA-M and DRR options are heavily rooted in natural, applied and other social sciences as clarified by the SREX (IPCC 2012). This makes these two concepts and practices to be cross-cutting, multi-sectoral, trans- and multi-disciplinary, developmental options (van Niekerk 2006). As already stated, rudimentary legislation or laws equally guides these two concepts and practices of CCA-M and DRR to be mainstreamed into municipality development planning and decision-making (Ziervogel et al. 2019:13). As such theoretical frameworks to explain the policy implementation guideline making, to help further harmonise and mainstream these two concepts into municipality IDPs have to be inclined to the prevailing country's legislation. The researcher used this broader theoretical relationship of public policy implementation guidelines versus rudimentary legislation to partly frame IDPs' problem in Article 1. The researcher also addressed the importance of legislation and policy interface in all the other Articles 2 to 4 and in Chapter 7 in line with this reviewed principle.

2.7 Framing, policy convergence and coherence theoretical frameworks

In the context of legislation and public policy theoretical framework just explained above and in line with forward reasoning approach introduced in Chapter 1, the researcher further utilised the framing, policy convergence, policy coherence, cross-nation comparative, heuristic evidence-based approach to analysing, developing and proposing the guidelines for mainstreaming both CCA-M and DRR into IDP (Druckman 2004: 671; Chong & Druckman 2007; Duijker et al. 1954:9; Sapru 2004; Cloete et al. 2011; Preston 2012; Dodds 2013:249; Pasquini et al. 2013; Preston et al. 2015; Scott et al. 2019). The detailed explanations of the theoretical frameworks used is undertaken in the respective Articles 1 to 4 and specifically how they were used in the sub-studies. This was to feed into the development of the proposed alternative guidelines for harmonising and mainstreaming both CCA-M and DRR into IDPs.

Therefore policy convergence, sometimes also referred to as integration, mainstreaming (Nilsson et al 2012) and coherence theoretical framework were the main thread that ran across and joined

all the four articles in this thesis to each other horizontally and with international development frameworks vertically. This whole research especially the sub-studies in the Articles 1 to 4 and Chapter 7 were conversely informed by other additional theoretical frameworks such as the framing theory in Article 1, the cross-national comparative policy analysis theory in Article 2, heuristic and functional modelling frameworks in Article 4, and Chapter 7 as already hinted to in section above.

2.7.1 Framing theory

In a condensed form, framing theory refers to the process by which people develop a particular conceptualisation of an issue or orient their thinking about an issue or problem (Chong & Druckman 2007). In framing, an issue can be cast in either positive or negative light (Druckman 2004: 671). Thus framing is important for people to form public opinion about an issue. From another perspective, framing is similar to perception forming which is also important in risk management (Wisner et al. 2004.) How people at risk and the stakeholders that manage external developmental support perceive risk, influences how they respond and mitigate that risk through mobilisation of own resources, policies and developmental practice (Wisner et al. 2004:321). Suggesting that people's opinion about climate change and disaster risk would influence their adaptation and reduction efforts.

Framing theory can also be used to organise a seemingly chaos of facts and ideas. For instance Wisner et al. (2012) used this approach to organise a seemingly chaos of facts and ideas about what disaster risk, impacts, reduction and sustainable development are. This was at the commencement of their editing work for the large book volume, *The Routledge Handbook of Hazards and Disaster Risk* (Wisner et al. 2012). Implicitly they recommend this type of framing approach as starting point to document, organise facts and scanty information on a super wicked subject matter like DRR and CCA-M.

However, the weakness of the framing research process is the element of introducing negative or positive bias on a subject matter by the researchers to try to skewed the outcome results into their or against their held either western scientific view or value judgements. As such great care should be taken to avoid bias in general when administering framing research (Brewer 2005).

In view of the many information gaps when designing this whole research about IDP, framing theory was used and guided the sub-study in Article 1, and the first part of Article 4. For Article 1, this was done to identify both positives and negatives on IDP from primarily the municipality planners, custodians of the IDP concept at municipality level. Care was taken to be mindful of the potential biases the researcher could introduce to skew the outcomes of the sub-study. Undertaking of the framing study was to properly contextualise this issue of IDP for subsequent

Articles 2 to 4 and Chapter 7. By applying this framing theoretical approach, Article 1 identified more theoretical underpinnings for IDP that helped clarify the IDP concept for subsequent Articles 2 to 4 and ultimately into Chapter 7. Again, by using the framing approach additional five theoretical underpinnings thus: the alternative developmental theory; the political-economic ideology; a blend of spatial planning theories; legislation; professional ethics and values that influenced the development of spatial plans were identified and documented (Watson 2009:169; Okeke 2016:42).

Specifically for Article 4 and through systematic literature review methodology, the framing approach helped to identify and reorganise specific potential frameworks for identifying best practice case studies that harmonised and mainstreamed CCA-M and DRR into municipality development plans.

2.7.2 Policy convergence theory

Policy convergence is the increase in policy similarities and uniformity across governments, countries, institutions, themes or sectors overtime (Strunz et al. 2015:2). Knill (2005:766) has described policy convergence as a process in which policies in two or more countries become more alike over time. Marsh and Sharman (2009:271), and Evans (2009:244) describes convergence as policy lesson-drawing that further include transfer, diffusion through competition, coercion or mimicry. Through this processes and descriptions, policy convergence has to be facilitated by an agent such as a politician; bureaucrat; policy entrepreneur including think-tanks; knowledge institutions (KIs), academicians and other experts; pressure groups; global financial institutions; international organisations; and supranational institutions (Evans 2009:244). This researcher fell in the academician and individual citizen category as already stated in section 2.5 in this same Chapter 2.

In policy convergence studies and for an analyst to know that policy convergence has taken place, at least four criteria have to be observed. These are: to identify the agent(s) of transfer and the policy belief systems that they advocate for; to distinguish the resources that they bring to the process of policy-oriented learning; to specify the role they play in the transfer; and to determine the nature of the transfer that the agent(s) seek to make (Evans 2009:244). In addition to this criteria, Dolowitz and Marsh (1998 & 2000) have advocated for a policy convergence heuristic theoretical framework as an approach to analyse convergence. This type of policy convergence theory is in the form of heuristic questions of: Who transferred policy? What have stakeholders engaged in policy transfer done? What is transferred? Have there been different degrees of transfer? From where are the lessons drawn? What factors have constrained policy transfer? How has been the process of policy transfer related to policy 'success' or 'failure'? From these questions, it is evident that the latter is similar to analysing policy convergence from a strength,

weakness, opportunities and threats (SWOT) analysis. Henceforth this approach was used in Article 2 while some SWOT information was also implemented in Articles 3 and 4, and in Chapter 7.

Additionally, policy convergence has three transfer types: voluntary transfer or lesson-drawing; negotiated transfer; and direct coercive transfer (Evans 2009:245). Policy-oriented learning at the same time is also in four types: direct copying from another government or country where a governmental organization adopts a policy, programme or institution without modification; emulation where a governmental organisation accepts that a policy, programme or institution overseas provides the best standard for designing a policy, programme or institution at home; hybridization where a governmental organisation, and combined elements of programmes are found in several settings to develop a policy that is culturally sensitive to the needs of the recipient; and inspiration where an idea inspires fresh thinking about a policy problem and helps to facilitate policy change. Therefore, policy convergence is studied through five main approaches thus the process-centred, ideational, practice-based, comparative, and multi-level approaches.

As can be seen from the discussion, policy convergence concept and associated theories are broad and could be confused with policy coherence concept. This study has treated policy convergence and policy coherence as different to help differentiate the horizontal policy harmonisation of CCA-M and DRR and the vertical contextualisation of the Articles 1 to 4 with the four international frameworks for CCA-M, DRR, Sustainable Cities, and the SDGs.

The other challenge with policy convergence theory and practice is that it has to be explorative for the researchers. Convergence theory and practice may not be very clear from the onset as what specific aspects of policy may need to be converged, and from where and based on what yardstick (Bennett 1991)? As such the researchers may need to have an open mind and possibly implore the forward reasoning and the framing theoretical principles already discussed in the preceding section. This is the position adopted by this research.

Specifically, with all the associated facets, the policy convergence theoretical framework was more applied to the sub-study leading to Article 2 and 3. In addition and within the context of policy convergence Article 2 used the cross-national comparative policy analysis, one of the five policy studies approaches identified by (Evans 2009: 246) due to its associated advantages as outlined in the next section.

2.7.3 Cross-national comparative policy analysis theory

As part of the overall policy convergence approach, cross-national comparative public policy analysis investigates what works in one area to be adopted, emulated, transferred or learned into another area (Goodin et al. 2006:5; Dodds 2013:13). It helps the researchers to document policy-

making and its consequences in foreign nations and to illuminate policy process in the researchers own country or comparative country. It provides free lessons' on how to make policies differently and awaken the contingency of how things are done in one country compared to the other (Dodds 2013:5). The challenges associated with policy convergence discussed in the preceding section also apply to cross-national comparative policy analysis since it is still part of the overall policy convergence theoretical framework in overall best practice theoretical framework already highlighted in Chapter 1 section 1.6.

Through this theoretical framework under discussion, the research applied this model and undertook the sub-study that culminated into Article 2, Chapter 4, as already stated in the section preceding this one (Duijker et al., 1954:9; Dodds 2013:249). This sub-study was further motivated by the scanty literature in Zambia on integrated development planning and plans validated through Article 1. The scanty literature did not completely exhaust the reasons why the Zambian government adopted IDP concept and practice. Furthermore, Article 1 had a strong indication that the concept of IDP was public policy borrowed from South Africa, thus the rationalisation to extend this whole study to South Africa.

An additional context to this debate is that cross-national, comparative public policy analysis or framework is one of the policy research methods in policy sciences but in a much broader context of public administration (Goodin et al. 2006:5; Dodds 2013:13). Public administration, new public administration or public governance are activities practised by the state and other public organisations, either as discrete units or through collaborative efforts to maintain order. These activities further involve formulating public policies, rulemaking and delivery of services to the public as part of policy implementation (Kjær 2014:19). Public administration or public governance also refers to how power is exercised to manage a country's resources for the improvement of societal welfare (Mudacumura 2014:4).

These additional descriptions of policy convergence in public administration context was important to further contextualise the cross-national comparative study and theory used in Article 2. Linked to this additional context of public administration theoretical framework, Article 2 was published in the *Journal of Public Administration* 55 (1), 44-61. This section clearly demonstrates the linkages between the subject being researched on with public administration and its cross-, multi- and trans-disciplinary nature.

2.7.4 Policy coherence theory

Nilsson et al. (2012:396), Dubé et al. (2014) and England et al. (2018) have used the term policy coherence and convergence interchangeably. This study does not, even though there is a thin line between the two concepts. Policy coherence is considered the degree of consistency,

conformity and alignment of local policy frameworks with international protocols, legal and developmental frameworks but can be defined differently depending on context (Picciotto 2005). Stanford-smith et al. (2019) have described policy coherence as being similar to policy integration or harmonisation of policies across sectors within the nation in line with international protocols, frameworks, national development plans and green economies.

Policy coherence is also a developmental theme and implementation strategy for achieving all the 17 SDGs in line with SDG Target 17.14, even though achieving this target is also considered a challenge in itself (OECD 2018). In line with the global international Agenda 2030, that is the 17 SDGs, reporting on policy coherence and integration across sectors is now part of the SDG Voluntary National Reviews (VNRs) reporting mechanism for all United Nations member states on their implementation of the Agenda 2030 for Sustainable Development, at the High-level Political Forum on Sustainable Development (HLPF). This reporting forum is held annually at the ministerial level and every four years at the head of state level (UNDESA 2020). As a result, all UN member states are expected to show-case their progress towards achieving the SDGs, linking policy coherence and integration across sectors, including the linkages between CCA-M and DRR and IDP or sustainable cities in the context of this thesis.

The OECD (2016) describe policy coherence and emphasise its importance in international developmental practice: *“That policy coherence is critical to capitalise on synergies among SDGs and targets, between different sectoral policies, and between diverse actions at the local, regional, national and international levels. It is a central policy tool to inform decision-making for managing sectoral inter-linkages that is potential trade-off and inconsistencies among economic, social and environmental policy objectives, to consider trans-boundary and inter-generational impacts, and take into action enabling or disabling factors, as well as the role of different actors”*.

Therefore being a critical Agenda 2030 developmental implementation strategy and a means to measure the successful implementation of the SDGs at the national level, the policy coherence principle was applied to this research as the vertical thread for each independent Articles 1 to 4. The application was in relation with the four international frameworks that related to the subject matter: thus the Sendai Framework of Action on DRR (2015); the Paris Agreement on Climate Change (2015); the New Urban Agenda on Sustainable Cities (2016) and the 2015 Agenda 2030/the SDGs (UN 2015; UNISDR 2015; UN-Habitat 2017).

These four international frameworks influenced how policies and development were to be implemented at the national level for all UN member states. The international frameworks also influenced how the research questions in this thesis were to be examined from a policy coherence perspective, the study being part of the SDGs agenda. For instance, the study had to demonstrate the policy coherence linkages in the form of degree of consistency, conformity and alignment of

local policy frameworks, legal and developmental frameworks with international protocols, in all the four articles and Chapter 7 (Picciotto 2005). More specifically, as an example, UNDRR (2020) introduced other elements of coherence in their report that were critical in harmonising CCA-M and DRR. The elements being: strategic, conceptual, institutional, operational and financial coherence.

Strategic coherence: looked at whether CCA-M and DRR were explicitly addressed jointly or if there was an aim to strengthen the relationship and linkages between the two fields. Conceptual coherence: explored how countries linked CCA-M and DRR conceptually, in particular through the concept of risk. This was more applied to Article 4 in this thesis. Institutional coherence: analysed whether coordination between CCA-M and DRR was envisioned and if and how institutional arrangements supported coherence. Operational coherence: looked at measures, actions and activities that brought together CCA-M and DRR practices and to what extent strategic and developmental planning was considered cross-sectoral. Financial coherence: explored whether and how funding strategies and investments brought together CCA-M and DRR (UNDRR 2020:7).

These elements further suggested that harmonising CCA-M and DRR was policy integration as well as policy convergence, policy coherence, and mainstreaming agenda (UNDRR 2020). All these additional elements were equally addressed in Articles 1 to 4 and also in Chapter 7 of this study.

Again, in line with these elements of policy coherence, the principles for effective policy coherence at the national level were mostly good governance further outlined below:

- a) There had to be well enlightened, progressive central government with accommodative developmental administrative processes backed by progressive legislation and consistent policy if effective policy coherence was to take place. In the case of this thesis, if effective harmonisation and mainstreaming of both CCA-M and DRR into IDPs was to take place in Zambia, these good governance principles had to be in place.
- b) There had to be the central government that believed in the adherence to the 17 SGDs including the rule of law, and that promoted developmental transparency, promoted inclusiveness and participatory governance from lower levels to the national level.
- c) That implemented the two principles highlighted in a and b with concrete and tangible developmental action and internal collaboration, clarification of roles and responsibilities through policy documents for all stakeholder (UNDRR 2020:8). Such governments were expected also to strengthen financial consideration to support CCA-M and DRR implementation that had been considered to be weak. This principle was in line with the description of what super wicked problems were.

- d) Government that discouraged duplication of policy frameworks and programmes to enhance resilience.
- e) Government that encouraged home-grown initiatives to adopt and adapt international frameworks to local scenarios.

2.8 Specific theories for harmonising CCA-M and DRR into single policy framework

A review of the literature indicated that there was no single global model that articulated the three stages of harmonisation outlined in Figure 1.2, section 1.8.2, Chapter 1 of this thesis. That is a single model that was: able to help explain how the harmonisation process of CCA-M and DRR into one single concept or policy framework could be done, then; help to integrate the resulting and harmonised concept of CCA-M and DRR into already formulated primary IDP making guidelines; to further guide planners and other stakeholders to mainstream both the harmonised CCA-M and DRR options into IDPs (Vincent et al. 2018; Mysiak et al. 2018; Natoli 2019).

However, a blend of models that exclusively attempted to promote the mainstreaming of CCA-M on its own into municipality IDP, or DRR on its own into municipality IDPs could be cited. Detailed citation of these models is in Article 4, which is an exclusive systematic review article. What is similar with these models mentioned in Article 4, that could be adapted into one merger, are their focus on local government level mainstreaming of either CCA-M or DRR into development planning to enhance resilience.

These models cited in more detail in Article 4, were therefore adjusted by this research to come up with one blend, merger or model. This merger was later utilised by this same sub-study in Article 4, to analyse and identify best practice case studies of municipalities that had successfully harmonised and mainstreamed both CCA-M and DRR into IDPs. The municipalities analysed and identified were in countries with high Climate Risk Index (CRI) (Germanwatch 2020), that further tried to utilise public resources, programmes and municipality development planning to address their prevailing climate and disaster risks. The global CRI identified the current extent to which countries had been affected by extreme weather events and these varied annually.

This merger model in discussion in the preceding section was also brought together by the researcher by further utilisation of additional three theoretical frameworks: that is best practice research theory to identify best practice case studies; function model for comparing disaster risk management systems (fmDRM); and the United Nations Development Programme (UNDP) climate and disaster risk governance framework. Best practice theory investigated what worked in one area to be adopted or transferred or learned into another area (Overman et al. 1994:69; Myers et al. 2004:6; Dodds 2013:13). Function Model for Comparing Disaster Risk Management

(fmDRM) systems was very similar to best practice research theory, including data enveloping analysis (DEA) that measured relative technical efficiency (Bretschneider et al. 2004:307; Rivera 2016). Thus, both best practice method and fmDRM avoided deducing risk knowledge based on experience that could have been biased (Rivera 2016:125).

The UNDP climate and disaster risk governance framework was an overarching public administration management framework through which the other two best practice models and fmDRM could be packaged. Thus, the UNDP governance framework acknowledged the similarities between CCA-M and DRR and the need to harmonise these and mainstream them into IDPs but did not provide the very detailed procedure of how one could go about harmonising the two and mainstreaming them into IDPs (UNDP 2017).

By utilising the adjusted or merged model for harmonising CCA-M and DRR from a perspective of risk analysis and assessment, and by incorporating the best practice assessment model and the functional model for DRM, including the UNDP climate and disaster risk governance framework, this research went through three processes of harmonising CCA-M and DRR in Chapter 7 as illustrated in (Figure 1.2). This was to help develop and propose the alternative guidelines for mainstreaming both CCA-M and DRR into IDP. The guidelines were developed by incorporating all outcomes from Chapter 1 to 6. The synthesis process in Chapter 7 involved in part: addressing the need to place CCA-M and DRR into each other (first stage harmonisation) as illustrated in (Figure 1.2), and then addressing the second phase of harmonisation. The second stage of harmonisation was to merge the outcome of the first stage, horizontal harmonisation, into the primary (2019) guidelines for making IDPs that were just released by the government (GRZ 2019). The final (third) stage of harmonisation was to develop the actual phases for mainstreaming both CCA-M/DRR into integrated development planning process. There is currently a huge debate in climate change sciences, and disaster risk sciences concerning the placement of CCA-M into DRR and vice versa (Kelman 2017; Kelman et al. 2017). But as already stated in the delimitation of this study in section 1.9, the focus of this research was not about the superiority of the two concepts and practices of CCA-M and DRR options from the other. It was about harmonisation and mainstreaming these two concepts and practices into developmental practice.

Viewed from another perspective, these three stages of harmonising CCA-M and DRR into each other, into already promulgated primary guidelines for IDPs, and into finally phases for mainstreaming into IDPs utilised the Horizontal Policy Integration theory within the context of Policy Integration Cycle (Mickwitz & Kivimaa 2007). As such within this Horizontal Policy Integration framework and Policy Integration Cycle, these conceptual harmonisation process

described in this study involved the two concurrent, horizontal policy harmonisation stages as depicted in (Figure 1.2).

The Horizontal Policy Integration making process described above, for CCA-M and DRR is similar to Environmental Policy Integration (EPI) model based on Underdal 1980's integration principle of policy comprehensiveness, aggregation and consistency (Underdal 1980:159). By comprehensiveness, Underdal (cited by Laffert & Hovden 2003:8) referred to time, space, actors and issues. By aggregation this referred to the evaluation of policy from an overall perspective of a particular actor or issue area. By consistency, Underdal implied that different components of an integrated policy were supposed to be in accord with each other. In other words, by consistency policy integration signified that policy was to be integrated across government departments and different levels of governance (Laffert & Hovden 2003:8).

Horizontal Policy Integration is also similar to Colliers (1997:36) definition of EPI that focused on: achieving sustainable development and preventing environmental damage; removing contradictions between policies and within policies; and the need to realising the mutual benefits and goals of making policies supportive. In other words, Horizontal Policy Integration theory utilised in this thesis in Chapter 7 to develop the alternative policy implementation guidelines, aimed at enhancing resilience through the mainstreaming of environmentally inclined protection and utilisation activities in all decentralised municipality sectors.

However, Rietig (2012), supported by Adelle and Russel (2013), has criticised EPI and highlighted the differences between EPI and Climate Policy Integration (CPI). Conceptually and in practice, Environmental Policy Integration is considered more ambitious to integrate or mainstream environmental protection interventions in all public policies to safeguard the environment as a key defining feature of sustainable development. As such the formulation of EPIs is considered to be of limited success globally and to reduce global climate change. Hence better ways of integrating CCA-M are being advocated for. These better ways are to focus on CPI that is about promoting a narrower set of sectors to work together in particular ways to meet specific goals of CCA-M. Apparently, the focus of this research to mainstream CCA-M and DRR into more coherent integrated development planning and plans is not very similar to what proponents of CPI are advocating for to promote a narrower set of sectors to work together to meet specific goals.

Rather integrated development plans are broader in focus, leading to the development of the spatial development frameworks. Consequently, EPI and CPI are differentiated in this thesis in the context of the need to enhance integrated development planning that is broader but integrated in scope. This study is more similar to EPI.

Nonetheless, the overall policy integration concept has also come under close scrutiny in developmental administration in general. The effectiveness of the overall policy integration approach, including CCA-M policies are being questioned. For instance, Candel (2019) has argued that policy integration is not opportune given the costs involved. Another new argument that is starting to emerge is to whether practitioners should revert back to parallel ways of implementing developmental administration in general (Candel 2017; Olazabal et al. 2019). However, irrespective of this argument (Candel 2019), Horizontal Policy Integration and EPI vis-à-vis CCA-M, and DRR public policy approaches are still pursued in this thesis on the basis that they still offer potential benefits to enhance broader, natural, built environment and societal systems resilience through use of public resources and decentralised municipality governance system. In other words, this research supports the debate on decentralised municipality Integrated Development Planning and Plans as the most cost effective way to enhance climate and disaster resilience using public resources and programmes. Put in another perspective and looking at the other side of the same coin, is to manage climate change, variability and associated disaster risks, and their impacts on vulnerable and exposed natural resources, built environment and societal systems to enhance resilience.

To summarise this section, the fragmented models reviewed / cited in detail and later blended into a single / usable or analytical framework in the first part of Article 4, to analyse municipalities with best practice case studies, were used in the last part of Article 4 to actually identify best practice case studies globally. This blended model was synthesised further and used in Chapter 7 as part of the guidelines for harmonising and mainstreaming CCA-M and DRR into IDPs. This whole analytical and identification process in Article 4 and Chapter 7 was done in overall context of Horizontal Policy Integration and Environmental Policy Integration frameworks but being mindful of the critiques and the SWOT of these models and frameworks.

2.9 Theoretical framework to help synthesise and develop the alternative guidelines for mainstreaming both CCA-M and DRR into IDPs

This research used the heuristic and the functional modelling process to synthesise all the other sub-research outcomes from Chapters 1 to 6 into the proposed guidelines for mainstreaming CCA-M and DRR into IDPs in Chapter 7.

The heuristic approach had two connotations in the context of this thesis, and both were applied in Chapter 7. The first connotation was that the heuristic method was grounded on the researcher's experience. The second connotation was that heuristic policy-making theory and methodology was an evidence-based policy-making approach (Cloete et al. 2011). Functional modelling was an art of systematic design approaches implemented by designers in order to

support and guide their conceptual designs (Eisenbart et al. 2013). Functional modelling further involved what worked and what did not work process. Thus, functional modelling was similar to an iterative process or reflexive or repeated design process until something worked (Srivastava & Hopwood 2009).

The policy implementation guidelines made and proposed in this thesis were iterative by applying the heuristic and the functional modelling process. They were just developed but not yet validated through a process of repeated implementation. Equally, these guidelines developed and proposed had not yet gone through the final process of being transformed into public policy. For policy to be considered public in Zambia has to be proposed to Cabinet by the line Ministry (GRZ 2010:2).

2.10 Addressing thematic boundaries, demonstrating the similarities between CCA-M and DRR concepts and practices in Zambia

Expanding on the argument of thematic boundaries in Section 1.6, it was important to demonstrate the similarities between CCA-M and DRR for the benefit of non-climate and disaster risk science specialists.

2.10.1 CCA-M and DRR terminology in Zambia

A comprehensive literature review suggested that the best source of official acknowledgement of the similarities between CCA-M and DRR in Zambia could be found in the National Policy for Climate Change (GRZ 2016) and in the National Disaster Management Policy of 2015 (GRZ 2015). Based on these documents, a few selected key terms were compared and presented side by side in tabular form (Table 2.1). This was to demonstrate these similarities, the basis for harmonising these two concepts and practices in Chapter 7.

Table 2-1: Comparison of terms used in CCA-M and DRR policy frameworks in Zambia

Source: Ministry of National Development Planning. Ministry of Lands and Natural Resources.	Source: Disaster Management and Mitigation Unit.
National Policy on Climate Change of April 2016 (GRZ 2016)	National Disaster Management Policy of July 2015 (GRZ 2015).
Risk: is not defined in the National Policy on Climate Change (NPCC) in Zambia. But it is a very important term as it is the overall basis on which the international community has consolidated the understanding of the similarities between climate change risk and disaster risk. This consolidation at international level is further based on probabilistic analysis and assessment of risk computation method that has harmonised the two phenomena.	Risk: Refers to the probability of harmful consequences such as deaths or injuries, or expected losses of property or livelihoods, disruption of economic activity or environmental damage, resulting from interaction between natural or human-induced hazards and vulnerable conditions.

Hazard: Again, even though not defined in the glossary of terms, a hazard is explained in the Introduction of the NPCC: It mentions that evidence shows that Zambia has over the past years experienced a number of climate-related hazards, including droughts and dry spells, seasonal and flash floods, and extreme temperatures. Some of these, especially droughts and floods, have increased in frequency and intensity over the last two decades (1990-2010) and have adversely impacted on food and water security, energy and livelihoods of communities. Temperatures also indicate a rising trend with potential for increased heat stress, land degradation and desertification. Such impacts are likely to compound the daunting economic and social challenges the country already faces. Therefore, actions to minimise the potential future impacts of climate change are critical.	Hazard: Refers to a potentially damaging physical event such as an earthquake, a hurricane, flood, drought, fire, epidemic, phenomenon or human activity, which may cause injury or the loss of life, damage to property, social and economic disruption or environmental degradation and includes latent conditions that may represent future threats and can have different origins, natural and human-induced. This statement suggests that extreme events that cause climate change and variations are part of hazards that contribute to the risk of disasters.
Vulnerability: Is the degree of susceptibility to the negative effects of climate change. It is a function of the type, magnitude and frequency of climate events to which a system is exposed to (exposure) as well as the sensitivity of the system and its capacity for adaptation (adaptive capacity).	Vulnerability: Is a set of conditions and processes resulting from physical, social, economic and environmental factors which increase the (degree of) susceptibility of a community to the impact of hazards.
Resilience: Is the ability of a system and its component parts to anticipate, absorb, accommodate or recover from the events of the hazardous event in a timely and efficient manner.	Resilience: Is the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effect of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.
Mainstreaming: Refers to the integration of climate change considerations into the development planning process, sector and local level plans.	Even though not defined in the glossary of terms on pages (vi to x), mainstreaming is implied on page 10 - 11. Guiding principle numbers. iii) States that disaster prevention, preparedness and mitigation are integrated into the mainstream national development efforts at community, district, provincial and national levels. iv) The development and strengthening of capacities for disaster risk reduction and climate change adaptation are top priorities for the Government of the Republic of Zambia. v) Effective national Early Warning System is the key in the success of disaster prevention, preparedness and mitigation as well as response. vi) Effective environmental management promotes sustainable development. vii) Promotion of sustainable development among vulnerable communities improves their resilience, thus making them contribute more to the national development. viii) A national culture of prevention and preparedness is an essential component of multi-sectoral approaches to increasing disaster and climate change resilience and adaptation in the country.

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| xi) Disaster effects are selective, affecting mostly women, children, the physically-challenged and the elderly. Hence specific consideration to these groups in disaster management shall be prominent at all levels.
x) Mainstreaming of gender issues and planning in assessments of different vulnerabilities and needs of men and women to ensure that disaster response is equitable in the affected areas.
xi) The identification of hazards and the localities which they affect are key to effective disaster management. |
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Analysing the disaster management legislation, policy and other enabler documents in Zambia gives an impression that these are more inclined to promoting reactive emergency response, but DRR is an objective for Disaster Risk Management (DRM). Further suggesting that if CCA-M is a subsection of DRR, then CCA-M are activities to meet DRM objectives (Nemakonde 2020) in Zambia. When unpacked further, Disaster Management Practice in Zambia based on DM policy documents refers: *“to a continuous and integrated multi-sectoral and multi-disciplinary process of planning and implementation of measures aimed at (a). Preventing or reducing the risk of disasters, (b). Mitigating the severity or consequences of disasters, (c). Emergency preparedness, (d). A rapid and effective response to disasters and (e). Post-disaster recovery and rehabilitation”* (GRZ 2015). This is similar to CCA-M practices especially in the first part of the DRM Policy.

Another similar term compared is “Adaptation”. Whereas the NPCC (GRZ 2016) and the current tertiary guidelines for mainstream climate resilience into IDPs (GRZ 2019) defines adaptation in three ways, these are still similar to DRR. Thus *Adaptation*: is a process of adjustment to actual or expected climate and its effects; are the initiatives put in place that reduce the vulnerability of natural environment and people to actual and expected climate hazards; are actions aimed at managing the known and unknown impacts of climate change.

An additional term compared in context of adaptation is *Adaptive capacity*. This is the ability of systems, institutions, and individuals to adjust to potential damage, to take advantage of opportunities, or to respond to consequences; to the ability of a system or a community to adjust to climate change effects, to moderate potential damages, to take advantage of opportunities, or to cope with the consequences. Moreover, the National Policy for Climate Change has combined adaptation and disaster risk reduction into harmonised developmental measures.

There are many other measures in the NPCC that are clearly an interface of CCA-M and DRR. When critically analysed, the NPCC gives the impression that it is a specialised policy document for DRM to enhance resilience because all the measures articulated in the NPCC apply to DRM

and not the other way round. For instance, below are the recommended harmonised measures between adaptation and disaster risk reduction in the National Policy for Climate Change (GRZ 2016:12):

- a) To strengthen the mechanism for identifying risks and hazards in order to facilitate planning and early warning;
- b) Strengthen surveillance and control of climate change-related pests and diseases;
- c) Strengthen the resilience of infrastructure, ecosystems and promote innovation, knowledge and education;
- d) Promote Community based risk management activities and use of social safety nets for the most vulnerable;
- e) Promote the use of financial instruments such as weather-indexed insurance, carbon instruments and catastrophic bonds to enhance resilience and cover climate-related risks;
- f) Promote the adoption of appropriate Climate Smart Agricultural (CSA) technologies for different agro-ecological zones;
- g) Promote landscape-based livelihood diversification;
- h) Promote monitoring and management of wildlife habitats;
- i) Establish and/or strengthen mechanisms for monitoring networks and information systems for improved utilisation of climatic data and information;
- j) Promote climate change-related public health plans and interventions;
- k) Promote the communities' ability to develop physical and social infrastructure that are resilient to the adverse effects of climate change;
- l) Promote the protection of water catchment areas, including the development of environmentally-friendly infrastructure for bulk water transfer (waterways), storage, management and utilisation of water resources;
- m) Strengthen effective mainstreaming of climate change, response and sustainable recovery from climate-related disasters; and
- n) Promote the integration of climate change (and disaster risk reduction) considerations by Local Authorities.

Other terms reviewed and used in the disaster management legislation but that related to CCA-M were:

Disaster Prevention: Are measures or actions taken to avoid, eliminate or prevent harmful natural or human adverse phenomena or hazards from causing or resulting in a disaster. This includes the process of informing the general population, increasing levels of consciousness about risks and how people can act to prevent their exposure to the risk of hazards.

Disaster Risk Management: Is the systematic process of using administrative directives, organisations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impact of hazards and the possibility of disaster.

Disaster Risk Reduction: Is the implementation of the conceptual framework of elements considered with the possibilities to minimise vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards within the broad context of sustainable development.

Drought: Is a period of abnormally dry weather that persists long enough to produce a severe hydrologic imbalance (for example, crop damage, water supply shortage, etc.). The severity of the drought depends upon the degree of moisture deficiency, the duration and the size of the affected area.

Early Warning: Is the provision of timely and effective information through relevant institutions that follows individuals exposed to any hazard to take action to avoid or reduce their risk and prepare for effective response.

Environmental Degradation: This is the reduction of the capacity of the environment to meet socio-economic objectives and needs. Examples are land degradation, deforestation, desertification, loss of biodiversity, water and air pollution, climate change, sea level rise, ozone layer depletion, illegal mining and quarrying, indiscriminate throwing of garbage, and drilling boreholes close to sewer systems.

Floods: Refers to a high water flow, which overtops either the natural or artificial banks of a river. Floods induce disasters, when human settlements have an overflow of water beyond the normal confines and humans are unable to cope with the calamity, or when it destroys crops, or social and economic infrastructures.

Life Skills-Based Education (LSBE): Refers to life skills education that addresses a specific content or subject intending to create abilities for adaptive and positive behaviour in a person(s).

Reconstruction and Recovery: Refers to rebuilding essential infrastructure, productive capacities, institutions and services destroyed or rendered non-operational by a disaster. Recovery is to help bring about sustainable development by facilitating the necessary adjustments to the changes caused by the disaster and improving on the status quo, where possible. From a development theory perspective emergency response, reconstruction, recovery cannot be separated from CCA-M and DRR. What is critical is design these emergencies and post-emergency response interventions in such a way as they do not create the same vulnerability conditions that the

systems were in before and calamity; thus, futurist risk reduction mind-set should be part of developmental work at all times.

Rehabilitation: Refers to measures to help restore the livelihoods, assets and production levels of emergency affected communities.

Sustainable development: Is social, economic, and environmental oriented development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is based on socio-cultural development, political stability and decorum, economic growth and ecosystem protection, which all relate to disaster resilience increase.

2.10.2 Conceptual similarities through comparison of the composition of Council of Ministers in Zambia

The NPCC (GRZ 2016:18) has further demonstrated the similarities between these two concepts and practices of CCA-M and DRR at national level. Even though the focus of these proposed tertiary guidelines in this thesis is decentralised local government development planning level, municipalities do not operate in voids. They work closely with national or central governments (Measham et al. 2011).

2.10.2.1 Climate change similarities articulated by the Council of Ministers in Zambia

The NPCC (GRZ 2016) has clearly stated that the *“composition of the Council of Minister’s for Climate Change (Cabinet Sub Committee for Climate Change Management) will be identical to the Council of Ministers responsible for disaster management as provided for in the Disaster Management Act (13 of 2010) but with the inclusion of the Minister responsible for National Development Planning. The chairperson for both the Council of Ministers for Climate Change and for Disaster Management shall be the Republican Vice President. Any other Minister may be co-opted to the Council of Ministers for Climate Change when need arises. The Permanent Secretary from the Ministry responsible for National Development Planning shall be the Secretariat to the Council of Ministers for Climate Change in Zambia”*.

The NPCC further states that the Council of Ministers for Climate Change shall be the supreme decision-making body for overseeing Climate Change interventions in the country. Functions of the Council of Ministers for Climate Change shall include:

- a) Providing policy guidance to facilitate the mainstreaming and integration of climate change activities in National Development Plans, Sector Policies and Plans including private sector and non-state actors;

- b) Providing policy guidance on various Monitoring and Evaluation reports that will emanate from Climate Change implementing entities;
- c) Providing policy guidance to facilitate resource mobilisation for Climate Change interventions;
- d) Providing policy guidance to ensure that climate change programmes are complementary and result in sustained positive impacts on the economy and people's livelihoods; and
- e) Providing policy guidance to the Steering Committee of Permanent Secretaries on Climate Change.

2.10.2.2 Disaster management similarities articulated by the Council of Ministers in Zambia

As already stated, the Council of Ministers for Disaster Management is equally chaired by the Republican Vice President but this Council is deputised by the Minister of Defence. This is the departure point. Its National Steering Committee of Permanent Secretaries (equivalent to Director Generals in South Africa) has several technical sub-committees (chaired by the other sector specialist Permanent Secretaries) for various thematic areas, including a specialised technical sub-committee for Environment, DRR and Climate Change (Chaired by Disaster Management and Mitigation Unit) (GRZ 2015:6). On the other hand, the Steering Committee of Permanent Secretaries for Climate Change, discussed in the section above does not have several technical sub-committees but just one technical working group. This clearly suggests that CCA-M is a subsection of DRM in Zambia (even though CCA-M is better funded than DRR. The funding is mostly provided by the international bilateral and multilateral donor agencies for CCA-M. See findings in Article 3).

Again, even though functions of the Council of Ministers for Disaster Management have not been updated in the National Disaster Management Policy of 2010 (GRZ 2010), these functions are modified a bit to include climate change adaptation and mitigation in the 2015 Disasters Operations Manual (GRZ 2015). As such, these functions still compare well with those of the Council of Ministers on Climate Change. Implicitly DRR is embedded into the functions of the Council of Ministers for Disaster Management as outlined below:

- a) Formulate and or update the National Disaster Management Policy;
- b) Endorse national disaster preparedness plans and regulations;
- c) Direct through National Disaster Management Technical Committee (NDMTC) mobilisation of resources for the implementation programmes and activities;
- d) Submit quarterly reports to the Republican President;

- e) Oversee the implementation of disaster risk reduction and climate change adaptation projects and programmes.

2.10.3 Other similarities in terms of ministerial and department functionalities

Other similarities can be deduced by looking at the functions of the Disaster Management and Mitigation Unit (DMMU), Ministry of National Development Planning (MNDP), Ministry of Lands and Natural Resources (MLNR). It should be noted that Disaster Management and Mitigation Unit is equivalent to a line Ministry even though it is not called the Ministry of Disaster Management and Mitigation.

2.10.3.1 Disaster Management and Mitigation Unit functions

Specific functions for DMMU are:

- a) To oversee the implementation of disaster risk reduction and climate change adaptation projects and programmes;
- b) To coordinate and facilitate risk and vulnerability assessments and mapping of the country with all stakeholders;
- c) Coordinate resource mobilisation for preparedness, prevention, risk and vulnerability reduction programmes among Government, Donors, NGOs and other implementing partners;
- d) Promote and facilitate the development of new technologies in risk and vulnerability reduction programmes, including Early Warning systems to enhance resilience;
- e) Coordinate resource mobilisation for public education and public awareness programmes aimed at increasing resilience;
- f) Carry out public education and risk awareness campaigns;
- g) Generate quarterly national reports highlighting the disaster risk reduction activities being undertaken in the country.

These specific responsibilities highlighted for DMMU relate to CCA-M at the national level. Thus the department focuses on disaster risk reduction even though much of disaster risk reduction as terminology is not used in the Act, Policy Manual and Operations Manual. Disaster Risk Reduction is part of the whole disaster management continuum and cannot be separated from this continuum. Disaster Risk Reduction is also part of sustainable development just like CCA-M is, and cannot be separated from these processes.

At municipality level, however, both DMMU, MNDP / MLNR do not have very strong staff representation as both of these functions are exclusively national level functions based on Article 147 (2) of the current 2016 Constitution of Zambia as amended (GRZ 2016:115). Disaster

Management and Mitigation Unit, Ministry of National Development Planning and Ministry of Lands and Natural Resources that are nationally based functions, work through proxy physical planning department, and other departments of fire management, engineering, water and sanitation, public health and safety within the municipality. As such, there is no much functional linkages between national level DMMU, MNDP and MLNR with the new IDP approach at municipality level apart from the decentralisation idea enshrined in the 2016 Constitution. In other ways, the link is very weak between these line ministries and local government, let alone IDP.

The link from the line ministries for CCA-M and DRR is more inclined to District Development Planning, reinforcing the parallel ways of implementing development planning functionalities even as late as 2020 (GRZ 2020). The other major direct link between these national ministries and the municipalities as far as CCA-M and DRR functionalities and the IDP is the current guidelines for mainstreaming climate resilience only into national and local development, and the climate proofing / screening guidelines (Petrie & Rusere 2019; GIZ & Global 21 Consulting 2014). Looking at the issue of decentralisation from another perspective, it could be that decentralisation by devolution might not be the right direction for Zambia as these decentralisation reforms have failed to take off since 2002 for the latest phase. The first attempt at decentralisation by devolution in Zambia was in 1980 based on Local Government Act 15 of 1980 (GRZ, 1980).

2.10.3.2 Ministry of National Development Planning, and Ministry of Lands and Natural Resources functions

Implementation and coordination of climate change adaptation-mitigation is led by two Ministries of National Development Planning and the Ministry of Lands and Natural Resources. The Ministry of National Development Planning has overall responsibility to coordinate CCA-M policy formulation, resource mobilisation and reporting to donors on behalf of the central government. Therefore, Ministry of National Development Planning now has the upper hand when it comes to CCA-M in Zambia.

The Ministry of Lands and Natural Resources has the overall responsibility to supervise technical implementation of CCA-M at national level. The roles of the Ministry of Local Government and municipalities are implied in the NPCC (GRZ 2016).

2.10.3.3 Specific functions for the Ministry of National Development Planning vis-à-vis Climate Change adaptation-mitigation and disaster risk reduction

Based on the literature reviewed and expert knowledge, the Zambian government formed the Inter-ministerial Interim National Climate Change Secretariat in 2013 under the Ministry of Finance and National Development by then. This secretariat was mandated to coordinate all donor-funded climate change programmes in Zambia. The secretariat was temporal, and a

permanent council was ushered in the form of fully-fledged government department in 2017, with the establishment of the new Department of Climate Change and Natural Resources Management at the Ministry of Lands and Natural Resources. Meanwhile, the Ministry of Finance and National Development was also split at the instance of external bilateral and multilateral donors into Ministry of Finance, and Ministry of National Development Planning. The Ministry of National Development Planning returned the overall responsibility of coordination of all climate change policies and programmes on behalf of the central government. Ministry of Lands and Natural Resources returned the responsibility of providing detailed technical input into climate change-related policy and programmes in Zambia. The Disaster Management and Mitigation Unit had a technical input in developing the National Policy for Climate Change in Zambia and making recommendations into the Department of Climate Change and Natural Resources Management's establishment to take up some functions from the Inter-ministerial Interim National Climate Change Secretariat post-2016.

The specific functions for the Ministry of National Development Planning vis-à-vis climate change adaptation-mitigation and disaster risk reduction are as follows:

- a) Facilitating the mainstreaming and integration of climate change activities in all the sectors, including the private sector and non-state actors;
- b) Monitoring and evaluating the overall implementation of climate change programmes and projects across the sectors in line with its mandate;
- c) Supporting resource mobilisation initiatives for climate change programmes in the country;
- d) Ensuring that climate change programmes are complementary and result in sustained positive impacts on the economy and people's livelihoods;
- e) Developing and coordinating the implementation of the climate change mainstreaming strategy; and
- f) Reporting to the Council of Ministers on progress made on the overall implementation of climate change programmes in the country.

2.10.3.4 Specific functions for the Ministry of Lands and Natural Resources vis-à-vis Climate Change adaptation-mitigation and disaster risk reduction

Arising from the background explanation given in the immediate section above, the Zambian government established the Department of Climate Change and Natural Resources in the Ministry of Lands and Natural Resources to facilitate effective implementation of the National Policy on Climate Change (GRZ 2016:22).

The specific functions of the Ministry of Lands and Natural Resources vis-à-vis climate change adaptation-mitigation and disaster risk reduction are as follows:

- a) Developing and/or reviewing in consultation with other stakeholders, appropriate policies, and legislation to facilitate the implementation of the National Policy on Climate Change;
- b) Developing, in collaboration with other stakeholders, the policy implementation plan;
- c) Monitoring and evaluating the implementation of the Policy in line with its mandate;
- d) Coordinating the implementation of international agreements on climate change;
- e) Reporting to the Steering Committee of Permanent Secretaries on progress made on the implementation of the Climate Change Policy through the Ministry of National Development Planning;
- f) Facilitating the implementation of all climate change programmes/projects in all sectors in collaboration with relevant stakeholders;
- g) Facilitating capacity building in institutions and agencies implementation Climate Change projects;
- h) Facilitating the strengthening of climate change information systems;
- i) Ensuring and/or providing technical backstopping on climate change programmes;
- j) Ensuring monitoring and evaluation of the implementation of climate change projects in all sectors;
- k) Reporting to government and other stakeholders on climate change Implementation;
- l) Facilitating research in climate change;
- m) Facilitating education and public awareness on climate change; and
- n) Reporting to the Technical Committee on the implementation of Climate Change programmes/projects.

2.10.4 Further similarities based on climate change, disaster risk and vulnerability assessment process in Zambia

Further clarification of CCA-M and DRR similarities at local level in Zambia can be found in the discourse on politics of climate change adaptation and disaster risk reduction in (Funder et al. 2017 and Vincent & Cull 2015).

2.11 Barriers to harmonisation and mainstreaming of CCA-M and DRR into municipality IDPs globally and in Zambia

Even though CCA-M and DRR are similar concepts and practices, they also have mismatches and challenges to implementation in the form of barriers. Barriers are technical and operational or policy obstacles that can be overcome with concerted effort, creative management, change of thinking, prioritisation, and related shifts in resources, land uses, institutions (Moser & Ekstrom 2010:2).

These barriers were reviewed to see how they affected the harmonisation and mainstreaming process of CCA-M and DRR into IDPs and were factored in the development of the alternative guidelines for mainstreaming both CCA-M and DRR into IDPs. The details of these barriers are discussed in the four sub-sections below.

2.11.1 Parallel implementation of CCA-M and DRR at the international level due to separate international policy frameworks

Climate change science and disaster risk science and thus resulting CCA-M and DRR developmental interventions have developed in parallel at the international level (Birkmann & von Teichmann 2010; Becker et al. 2013:1; Nema-konde et al. 2020) and are still governed by separate international developmental agreements (Kelman 2017). This developmental background tends to influence how these two concepts are implemented in parallel at the national and local level. This historic developmental approach also tends to influence the legal, policy, funding streams, implementation monitoring and evaluation streams for these two concepts at the national and later local government level.

The researcher was mindful of these underlying influences and tried to identify them in the Zambian context. These were addressed in the development and proposing of the alternative guidelines for mainstreaming both CCA-M and DRR at municipality IDP level. These challenges were very much analysed in Article 3, Chapter 5 before the findings were incorporated into the final outcome of the thesis in Chapter 7.

2.11.2 Concept of climate change adaptation-mitigation and disaster risk reduction mainstreaming, policy integration, embedding, alignment not well defined globally

Mainstreaming, integration, embedding, alignment, words are used interchangeably at the international level but may mean slightly something else and may emphasise different elements in development practice (Pilli-Sihvola & Väättäinen-Chimpuku 2016; Dazé et al. 2018). As such this thesis sought and clarified these concepts in the mainstreaming guidelines through Article 4.

2.11.3 Perception of climate change risk and disaster risk

In addition to the barriers emanating from international developmental frameworks, disaster management practice in Zambia tended to be mostly perceived as an equivalent to emergency relief aid distribution approach among the many donors, international practitioners, and majority of the local citizens. Though anecdotal, this view is based on heuristic working experience by the researcher, having worked for one of the United Nations Agency for three years in vulnerability analysis and mapping (Flamm et al. 1996) and for United Nations High Commissioner for Refugees supported refugee development programmes for another three years within Zambia.

The researcher also worked in the disaster management cycle of early warning, prevention, preparedness, mitigation, response, recovery, rehabilitation within in Zambia and with other international and local humanitarian and natural resources management NGOs for close to nine years, thus cumulative total of 15 years.

As such, the researcher, as a disaster risk management and climate change expert in Zambia, understood the local climate change science, disaster risk science and political-economic landscape to articulate this perceived developmental view about disaster management in Zambia vis-à-vis climate change adaptation-mitigation and emergency relief aid. Moreover, the perceived negative view by the masses, about disaster management as being equivalent to emergency relief aid distribution was a sensitive matter in Zambia. Very few stakeholders, including donor agencies categorically discusses this negative perception of disaster management in Zambia as being also equal to political mobilisation and political mileage achieving tool for any ruling political party in power at a given time. Based on heuristic knowledge, this given explanation could partly explain why there was little bilateral and multilateral donor funds invested in mainstream long-term DRR options through DMMU government structure, apart from some early warning development activities.

The other source of the negative views about disaster management in Zambia emanated from the organisation genesis of the Disaster Management and Mitigation Unit. It evolved in 1994 from the Contingency Planning Unit (CPU) that was under Cabinet Office (Funder et al. 2013). The Contingency Planning Unit was responsible for emergency relief response in the one-party governance dispensation from 1973 to 1990. The CPU was disbanded in 1990 after the reintroduction of multi-party democratic elections, and there was no formal institution to manage emergency relief for about two years in Zambia until 1992. In 1992 four government line Ministries of Agriculture, Health, Works and Supply, and Community Development under the coordination of five United Nations donor agencies of United Nations Children's Emergency Fund (Unicef), World Food Programme (WFP), Food and Agricultural Organisation (FAO), World Health Organisation (WHO), and United Nations Development Programme (UNDP) formed the Programme Against Malnutrition (PAM), a quasi-inter-ministerial government institution to address the 1992 severe drought impact on food insecurity in Zambia. Through this arrangement, the DMMU was later formed as a formal permanent institution to address overall disaster management challenges in 1994 but had no formal policy for nine years until 2005.

Culminating from this negative perception of disaster management in Zambia, the mixed negative donor perception of DMMU is that it is not a vehicle for long-term developmental interventions. Thus DMMU is not favourably considered as a potential custodian for long-term international donor funded CCA-M or even DRR projects. An exception is that DMMU has been considered for

long-term early warning systems development in Zambia in collaboration with the Meteorological department (GRZ 2017). Early warning system is long-term Disaster (Risk) Management and Climate Change Adaptation-Mitigation developmental intervention, but support only to develop early warning systems through DMMU is not enough as a CCA-M and DRR harmonisation process. The negative perception of disaster management was addressed through the proposed guidelines for mainstreaming both CCA-M and DRR in Chapter 7 of this thesis.

2.11.4 Competing planning frameworks at sub-provincial level in Zambia

Another challenge in Zambia to harmonise and mainstream CCA-M and DRR into developmental practice based on the literature reviewed, are the competing developmental planning frameworks at the sub-provincial level. Three planning frameworks are technically in competition. The first is the relatively new decentralised municipality IDP system informed by the Urban and Regional Planning Act (3 of 2015). The second planning system is the individual line ministry or portfolio sector planning system informed by the respective portfolio sector or line ministries legal mandates. This individual line ministry planning system feeds into the third parallel non-devolved District Development Planning system through the District Development Coordinating Committee. See the end of Article 1, thus Chapter 3 of this thesis for the detailed outline and discussion on these competing planning systems in Zambia. Henceforth the third planning system is the District Development Planning system, initially informed by Cabinet Circular 1 of 1995, then by the Planning and Budgeting Policy of 2014 (GRZ 2014) and now by the National Development Planning Act (1 of 2020) (GRZ 2020). Developing the alternative guidelines for IDP that would promote mainstreaming of both CCA-M and DRR would help clarify the importance of IDP and the need for full municipality decentralisation by devolution for sustainable development.

2.12 Guidelines for guidelines or secondary legislation making in Zambia

Guidelines for guidelines making are simply rules for rulemaking promulgated by the central government in the case of Zambia. In other words these are rules for policy-making or secondary legislation making. The latest of these rules were promulgated in 2010 by Cabinet and are referred to as: *Guide to Preparing National Policy Documents and Cabinet Memoranda, Third Edition of October 2010* (GRZ 2010). These rules for rulemaking, guide how line ministries should make public policies and policy implementation guidelines in Zambia.

This research used these guidelines for policy-making to guide the making of the proposed guidelines for harmonising and mainstreaming both CCA-M and DRR into integrated development planning. Specifically, these Guidelines for Guideline-making (or rules of rulemaking) indicated that they were intended to assist the users (line ministries and individual citizens in this case) to prepare well researched (evidence-based), well-argued, written and articulated Cabinet

documents (or proposals) to enable Cabinet to make informed decisions. These specific recommendations were applied by this research through the sub-studies culminating into Articles 1 to 4 that later fed into the proposed guidelines in Chapter 7.

The format on how the final proposed guidelines to be presented by the line ministries to Cabinet was equally outlined in the Cabinet Guidelines for Guideline-making. The recommended format was partly adhered to since the proposed guidelines in this thesis were still to be reformatted later (post-doctorate) and presented to line Ministry of Local Government as official agenda-setting document. Hence the developed guidelines in this thesis being referred to as the proposed guidelines in Chapter 7.

2.13 Conclusion

Through this chapter, the researcher re-clarified some concepts that were not clarified in Chapter 1. For instance, CCA-M and DRR relationship was clarified in more detail to demonstrate the need for harmonisation and mainstreaming process. Then what policy and public policy was in general context and specifically in relation to alternative guidelines that were to be proposed in this thesis was also clarified. This clarification was important since the study was about super wicked problem of CCA-M and DRR, and their three stages of harmonisation (including mainstreaming) in developmental practice at local government level. The detailed explanation of the harmonisation and mainstreaming process and public policy implementation guideline making was not very feasible in Chapter 1.

Chapter 2 also highlighted the specific theoretical underpinnings that guided this whole research in line with CCA-M and DRR harmonisation and mainstreaming into IDPs. Even though there were many variables involved in this research, the additional theoretical frameworks that underpinned it could be summarised as framing theoretical framework that informed Article 1 and first part of Article 4. Policy convergence, coherence that informed Articles 2, and 3, and then heuristic and functional modelling frameworks that informed last part of Article 4 and the whole of Chapter 7.

Policy convergence was a common thread that linked all the four articles together horizontally. Policy coherence was the common thread that linked the individual articles vertically with the respective international, regional and national development planning frameworks on CCA-M, DRR, Sustainable Urban Development, and the SDGs. The heuristic and functional modelling frameworks were the basis for synthesising the findings from the four articles into Chapter 7 to come up with the proposed alternative guidelines for mainstreaming both CCA-M and DRR into IDPs.

The public policy implementation guideline making approach reviewed in this chapter was quite dynamic, not static and evolved with time. Even as the sub-studies in this thesis were being undertaken to address the underlying root causes of the overall research problem of CCA-M and DRR and developmental practice, the public policy issues surrounding the research were evolving slowly in the real world. As such, research that were to address such policy implementation guidelines development were to be more pragmatic and framed in the context of what worked and did not and had to be context-specific. However with the globalisation push, and the policy convergence and coherence push through the United Nations Sustainable Development Goals, countries were under pressure to ensure that at least their policies were aligned with globally agreed-upon exemplars. Additionally there was pressure for developing countries to conform their public policy frameworks to standards in and from the developed countries.

Though very much focused on Zambia, this study was part of the global, sustainable developmental strategy and theme. To decentralise by devolution, promote IDPs and later to harmonise and mainstream the harmonised CCA-M and DRR options into the decentralised local government integrated development planning and decision-making process to enhance future resilience. Hence given the futurist nature of CCA-M and DRR and in the absence of a predictive theory of how the implementation guidelines for mainstreaming could change the future; the researcher into finding such a solution had to be imaginative but rational to think ahead of how any proposed guidelines could help enhance resilience through developmental planning. As such, the researcher had to use some forward reasoning theoretical approach and utilise a blend of other theoretical constructs to undertake the sub-studies that culminated into Articles 1 to 4 and their subsequent outcomes' synthesis into Chapter 7. This resulted in the developing and proposing alternative guidelines for harmonising and mainstreaming CCA-M and DRR options into IDPs for Zambia.

CHAPTER 3: FRAMING INTEGRATED DEVELOPMENT PLANNING IN ZAMBIA

Article 1 - Integrated development planning in Zambia: ideological lens, theoretical underpinnings, current practices, views of the planners

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Integrated development planning in Zambia: Ideological lens, theoretical underpinnings, current practices, views of the planners

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ABSTRACT

Three years after promulgating the Urban and Regional Planning Act (3 of 2015), municipalities in Zambia are still struggling to formulate Integrated Development Plans (IDPs). Based on documents review and interviews with 81 key informants, purposefully and snowballing selected, this paper documents the theoretical underpinnings, historic perspectives, current practices and motivation for introducing IDP concept in Zambia. A mixed method research design with grounded theory approach was applied to the study. The study found that the current Integrated Development Planning concept as used in Zambia is not home-grown but emanates from the west. It is highly influenced by the neo liberal developmental theory, traces of the 1947 British colonial, spatial development planning theoretical orientations, and the proximity to the new South African municipality IDP model. Lack of detailed guidelines on IDP is also impeding the formulating of IDPs by many municipalities in Zambia.

KEYWORDS

Zambia; municipality; integrated development planning theory; spatial development planning; policy implementation guidelines

1. Introduction

The Zambian government has enacted the Urban and Regional Planning (URP) Act (3 of 2015) that directs all municipalities to use Integrated Development Planning Process and Plans (IDP)¹ as principal tools for their developmental and spatial planning activities and decisions (GRZ, 2015:46). This makes the process and plans formulated by municipalities public policy in this URP context. Whereas public policy guides implementation of government programmes, legislation frames their establishment. Consequently, IDPs as public policy and outcomes are legally framed. IDPs are important strategic, sector harmonisation, spatial land-use planning and budgeting instruments for local governments.

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¹The IDP acronym is used when referring to both the process and the actual plans.

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Three years after promulgating the URP Act, the Zambian government has not yet developed a major programme to foster adequate human and institutional capacity, nor regulations to guide the formulation and implementation of IDPs. This makes it challenging for municipalities when conceiving their IDPs (Royal Haskoning DHV, 2016; GRZ, 2017:35). Adequate public sector capacity accompanied by a set of rules is critical to clarify rudimentary legislation promulgated and subsequent implementation (Anderson, 2006:200; UN-Habitat, 2015a). Regulated guidance protects local planners and implementers from being misunderstood by powerful interest groups and politicians (Næss, 2001:517). Apparently, Zambia still suffers from obsolete urban legislation, weak regulatory framework and low urban planning institutional capacity requiring urgent attention (UN-Habitat, 2015b:28).

This study frames challenges of developing and implementing IDPs in the absence of guidelines in Zambia and solicit reasons for the delays in formulating IDPs by municipalities. In doing so, the paper further analyses the IDP concept and practice in terms of ideological orientation, theoretical underpinnings, historic perspective, current municipality planning practices and views of the planners. Analysing the typology and motivation for adopting the IDP concept could give insights as to the kind of challenges that municipalities are facing to formulate their IDPs.

2. Research methodology

This study utilises a mixed methods research design. The overall research approach is grounded theory that involves repeated data collection until the phenomenon under study is clarified and conclusive. Data collection for this paper involved 6 stages to saturate the research objectives.

In addition to undertaking the extensive review of literature (first stage) on IDP in Zambia and globally to understand the ideological and theoretical underpinnings that inform this concept and practice, the second stage, involved quantitative evaluation of the number of municipalities that had already developed IDPs and the reasons others had challenges in developing their IDPs. For this stage, data was collected from 61 key informants who attended the Zambia Institute of Planners (ZIP)'s annual conference in August 2017 at Lakeview Lodge, Siavonga, Zambia.

The third stage of data collection involved the use of telephonic interviews with the 10 Provincial Physical Planners. The fourth stage involved obtaining IDP copies from the municipalities for the already drafted or completed and approved IDPs for content analysis. A total of eight completed and approved IDP were reviewed.

The fifth stage involved the engagement national level institution, the Department of Physical Planning (DPP) in the Ministry of Local Government supporting IDP development in Zambia. Five respondents participated in the face-to-face interviews.

The sixth stage involved a follow up through snow ball sampling of other experts including Urban and Regional Planning Advisor, GIZ Decentralisation for Development Project (1), Adaptation Planning Specialist, World Bank Supported Pilot Programme for Climate Change Resilience (PPCR) (1) and the University of Zambia (UNZA), Department of Geography, Environment, Natural Resources Management and Spatial Planning (3). These officers had institutional memory and additional insights on IDP history and current practices at national level. Snowball sampling is a process where one key

informant identifies the next with institutional memory that conversional sampling might not capture (Vogt, 1999 as cited by Atkinson & Flint, 2001).

In summary, a total of 81 respondents participated in the study and 8 IDP documents were reviewed. Descriptive analysis of quantitative data was done manually. Through thematic analysis, the study also manually analysed both secondary and primary qualitative data to saturate the study objectives. Qualitative secondary data analysed was in form of document reviews that included Acts of parliament and other information obtained from relevant government line ministries.

3. Findings and discussions

As analysed from secondary and primary data sources on IDP in Zambia, this section provides the findings and discussions.

3.1. Theoretical linkage between planning theory, planning profession, planning guidelines and integrated development plans

Planning theory in general has a central role in renewing planning practice (Selle, 2006). Friedmann (2003, 2008) identifies three planning orientations: philosophy of planning; adaptation; and translation for plans. These theoretical orientations inform planning practice as a profession; making of planning guidelines; and actual making of the plans. These theoretical orientations, as summarised in Figure 1 below are highlighted to clarify the theoretical linkages between planning profession, process involved in the developing of the planning guidelines and the plans for the benefit of non-planning specialists.

3.2. Ideology and specific theories that inform the integrated development planning as a process and practice

Globally, specific theories informing IDP as a process and practice exist but have not been documented in one single publication. This study documents five theoretical orientations describing planning as a process and practice: the alternative developmental theory; the political economy ideology; a blend of spatial planning theories; legislation;

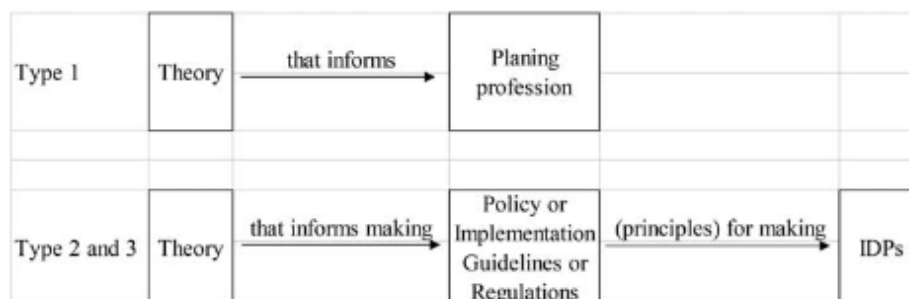


Figure 1. Representation of the three types of planning theories.

professional ethics and values that influence the development of spatial plans (Watson, 2009:169; Okeke, 2016:42).

3.2.1. *Alternative development planning theory and integrated development planning*

Integrated Development Planning process is functionally part of the general participatory municipal development approach, comprised in Agenda 21 (Cash & Swatuk, 2011:53; Venter, 2018:110). This approach is specially compounded by the Agenda 2030 through the 17 Sustainable Development Goals (SDGs) that seeks to address poverty eradication, inequalities and environmental degradation compounded by the Agenda's economic, social and environmental dimensions. Hence based on the SDGs, implementation of the Integrated Development Planning process and the plans is to be done through an integrated systems' approach of governance that shifts planning focus from ministerial 'silo' to ministerial 'clustered themes' of economic, social and environment (Crawford, 2015:14). Agenda 2030 is compulsory for all United Nations member states since 2015, as they are committed to implementing strategies for poverty eradication owing to participatory municipal development planning (UN, 2015:2), a pre-condition for UN member states to access international development financing. This pre-condition could have contributed to the enactment of the URP Act (3 of 2015) in Zambia.

Theoretically, participatory municipal development planning is 'shaped within the emergent sustainable development discourse of decentralised, integrated governance, systems planning and urban management' (Watson, 2009:179; Sikander, 2015:175). Reference to the concept's name varies and is adapted as: comprehensive development planning and plans (Philippines); community planning and community plans (Scotland); joined-up government as both a process and output with a multitude of service delivery partnership institutions at local level (England); and as loosely formed voluntarist association process (United States of America). It is also referred to as: social partnerships (Ireland); spatial development planning (New Zealand); and as Integrated Development Planning and Plans (IDP) in Romania, South Africa and Zambia (Stoker, 2005:157; Harrison, 2006:190; MFE, 2010; Florano, 2014; Campbell, 2015; GRZ, 2015; Venter, 2018:110).

Spatial development planning on the other hand can be considered a secondary concept associated with general participatory municipal development planning in most of the cited countries, apart from New Zealand (MFE, 2010). This narrative suggests that IDP as a participatory municipal process and tool can be viewed from two perspectives; either broader general municipal strategic development planning or narrower spatial development planning. However, spatial development planning is technically still part of the general municipal development-planning process. This clarification is important for policy makers that might not appreciate the interface between general municipal development planning and spatial development planning.

Overall three types of IDP models exist within context of spatial development planning and the general, participatory municipal development planning process. The three are: the Long-term City Development Framework; Large Scale (Foreign Direct or Indirect Investment) Spatial Developmental Project Approach; and the common Municipality Integrated Development Planning model but that still incorporates spatial development frameworks (Odendaal, 2007:68).

Participatory municipal development planning and thus IDPs are also part of the post-modernity developmental theory that rejects the modernist, westernised, trickle-down, spatial polarisation or concentrated regional developmental theory of the 1950–80s. As such, IDPs are part of the broader bottom-up, spatial polarisation reversal, and post 1980s alternative developmental narrative (Potter et al., 2008).

The rejected modernity developmental theory postulated that concentrated spatial development growth-poles in urban areas would eventually trickle-down to the peripheral rural poor. A further view is that spatial dispersion of wealth would trickle-down and out of the urban-core through natural social-economic diffusion process (Potter et al., 2008). Proponents of the alternative bottom-up developmental theory would like to see a more and real community participation and economic redistribution of wealth from the urban-core to those negatively affected by the perceived past inequalities. Furthermore, they believe that integrated municipal and spatial development planning tends to be the mechanism to reverse inequality through community participation and inclusion in the local planning process. Despite what may seem encouraging pertaining to postmodernity theory, some authors (Harrison, 2006:190; Potter et al., 2008) assume that IDP is a free market-oriented ideology. Okeke (2016) has proposed to consider the neo-mercantilism regional development planning theory as an additional alternative. It incorporates both spatial planning and traditional trading routes or patterns prevailing in local trading areas.

3.2.2. Political economic ideology and integrated development planning

Third-way, neo-liberal or new-public management is the major political economic ideology that shapes IDP formulation in addition to general development theory (Harrison, 2006; Breakfast, 2014: 69). Third-way as global north political economy concept argues for 'a better way' of managing public administration affairs, along business administration and marketing lines or neo-liberal system, to ensure efficiency in public resources management (Bogdanor, 2005:1). Governments of England, Germany and United States championed this concept of third-way, political economy and governance system in the early 1990s before other countries adopted it (Giddens, 1998). Even though third-way is equally an old concept of middle-way. Third-way is a middle-way compromise of socialist philosophies of governments and industrial capitalism redistribution, re-transformed (Abrams, 1999). So, when these three developed western countries adopted the third-way of governance system in the early 1990s, they indirectly influenced other governments, especially those that belonged to the defunct eastern block to embrace this third-way of governance, after the fall of the Berlin Wall (Payne, 2005:72; Okeke, 2016:74). This influence spread through the ongoing globalisation agenda (O'Brien & Williams, 2016:91). Third-way ideology and hence IDP concept are now part of the broader globalisation agenda of neo-liberalism and new public administration (Vabø, 2009).

In that sense, IDPs globally can be formulated based on neo-liberal political economy and neo-liberal spatial planning theory inclusively. Neo-liberal spatial planning theory recommends:

a deregulation of the planning decision-making process, a transition from statutory to non-statutory planning system, a political process-oriented activity by which a balance is sought

between all interests involved, public and private, to resolve conflicting demands on space and free market economic principle. (Okeke, 2016:111)

Both neo-liberal political economy and neo-liberal spatial planning theories derive from neo-liberalism that in turn derives from classical political economy (Olesen, 2012). Neo-liberalism assumes that economic growth can be achieved better under minimal state intervention and market individualism (Turner, 2011:119).

3.2.3. Spatial planning theory and integrated development planning

In addition to neo-liberal spatial planning, this paper identifies 13 other spatial² planning theories that inform both IDP process and influence formulation of the plans in one way or the other (see Faludi, 1973; Combrink, 2010; Okeke, 2016; Watson, 2016 for further details on the 13 theories). All these spatial planning theories identified span a period of 70 years post second world-war and prior to IDP popularisation. Despite being part of overall municipal development management practice, spatial planning theories should be appreciated from a technical perspective such as land-use zoning and green infrastructure in overall context of sustainable cities.³ These theories can help clarify the liable misconception between political scientist and physical planners at municipality level.

Conversely, most of these planning theories originate from the old town and country, master planning approach. This is a top-down and a less consultative technical approach that emphasise regulations such as land-use zoning at expense of stakeholder participation. Master planning results in technical land-use plans that are future blueprints of land-use systems reinforcing developmental controls in a given area that favours the elite (Okeke, 2016:113).

3.2.4. Legislation and integrated development planning

Integrated Development Planning as concept, public policy and practice is highly legislated globally (Venter, 2018:110). Legislation defines and underpins IDP formulation in Zambia as well (GRZ, 2015) and is the basis on which cross-cutting developmental issues such as climate change and disaster resilience must be incorporated into IDPs. Integrated Development Plans therefore attract public financial support being municipality and statutory developmental planning outcomes. Ultimately legislation is the basis for formulating IDPs and benefits all municipality developmental themes. Thus, a basis for sustainable development.

3.2.5. Integrated development planning ethics and values as theoretical underpinning

Planning ethics and values are social and moral constructs influencing planner's perceptions and practice (Hendler, 1995; Watson, 2009:168). These constructs have a strong influence on the planning profession and rationalities when formulating IDPs, especially for resource allocation and addressing inequality in the absence of regulations referring to IDPs (Watson, 2003; Okeke, 2016:42). However, even though planning ethics and

²Spatial planning theories can also be referred to as land-use and statutory development control, or as urban and regional, or city and territorial, or as town and country planning theories.

³SDG 11 of the global Agenda 2030.

values cut across the other four theoretical underpinnings identified above, they should be considered as a distinct theoretical underpinning to guide IDP formulation. This is to avoid overlooking them once they are integrated into other theoretical underpinnings.

Planning as profession and practice is also deeply embedded into power and political constructs. Planners need to understand the politics and power-dynamic challenges in their jurisdiction, and how they can overcome these challenges (Beyazit, 2013). Thus, appreciating ethics and values systems as theoretical underpinning becomes core IDP practice.

Overall all these arguments presented above inform the introduction of IDP, a neo-liberal form of free market, participatory, transparent and inclusive municipal development planning approach. However, overall concept of IDP could still be grey and have multiple meanings depending on what respective governments want to achieve with regards to their ideology. Spatial planning theories seem to have a strong influence on the development of IDP-formulating guidelines since IDP has a strong spatial component compared to other local social economic development planning approaches. Such a perspective would tend to incline the IDP concept to be more of spatial planning tool or a master plan tool that favours the elite. It can also be perceived to be a socialist tool when one views it from a wealth equalisation, spatial or local economic development planning tool.

3.3. Historical perspective of integrated development planning in Zambia

In Zambia, the Town and Country Planning (TCP) process preceded the new Urban and Regional Planning concept. This background allows planners to formulate IDPs from the old town and country planning or modified master planning approach as long as they do not emphasise the master plan as a product, but the participatory planning process (Okeke, 2016:8). Moreover, the TCP or URP practice including master planning have been heavily influenced by other academic disciplines such as economics, politics and sociology (Cooke, 1983:67; Yiftachel, 1989:24). In this respect, spatial planning and IDP should not be treated separately from these traditional disciplines, treating IDP as a broad multi-sectorial, developmental and inclusive process.

The timeline for the introduction of IDP concept and practice in Zambia is contested to be, either before or by the promulgated current URP Act (3 of 2015). Some respondents are of the view that *the introduction of the IDP concept and practice was done by V3 Consulting Engineers of South Africa in the year 2000*. Others are of the view that *IDP was introduced officially through the enactment and promulgation of the URP Act in 2015 based on the 2008 URP Bill*. Some respondents however were emphatic that *the 2008 URP Bill was developed by a consultant from Sweden and that the Bill had a different meaning of IDP compared to what is in the final Act*. The real meaning of IDP as articulated in the 2008 URP Bill was however never explained by the respondents neither did the researchers have access to the original 2008 proposed URP Bill to review. One theme consistent in these views is that international consultants had an influence on the introduction of the current IDP concept and practice, and in the formulation URP Act of 2015 in Zambia. Additional views on current URP Act of 2015 as basis for introducing IDP concept in Zambia are discussed in Sections 3.4 and 3.5 of this paper. The statements below capture some of the views by the respondents:

... V3 used the IDP approach in their consultancy work presumably based on their past experience working on similar assignments in South Africa ... V3 Consulting Engineers that introduced the IDP concept in Zambia were expected to develop a 'master plan' for Lusaka City Council but ended up developing an IDP ... this particular IDP has not been implemented because it lacked the consultative process with other stakeholders ... Lusaka City Council (LCC) has since reverted back to using the 'master plan' developed by another external consultant JICA (the Japan International Cooperation Agency) in 2009.

These key informants' views on V3 Consulting Engineers gives an indication that the Senior Planners associate the commencement of IDP with the formulating of the Lusaka City Council IDP in 2000. The view and major argument that IDP was indirectly / directly introduced by V3 Consulting Engineers in year 2000 is collaborated by Changula as cited by Hampwaye (2008:203). V3 Consulting Engineers were contracted by the Lusaka City Council (LCC) to prepare a new development plan for Lusaka that V3 Consulting Engineers later called 'Lusaka Integrated Development Plan' in year 2000. Again, as implied by Changula and Mukwato as cited by Hampwaye (2008:203), V3 Consulting Engineers did not prescribe this approach to the Zambian government directly. They produced an IDP for LCC as consultancy report output (LCC, 2000).

There were no other specific reasons that have been advanced nor documented by LCC for not implementing the 2000 IDP developed by V3 Consulting Engineers (MLGH/JICA, 2009) nor reasons why LCC has not developed a new IDP currently on their own in line with the new URP Act (3 of 2015) that requires them to do so. Nonetheless some respondents from LCC attributed the lack of specific IDP-formulating guidelines or regulations as the reasons for not developing the new IDP by 2017. When challenged in the Zambia Institute of Planners (ZIP) annual conference, as to why LCC had not developed a new IDP based on new legislation, one of the respondents was categorical and asked 'where are the guidelines'? This sentiment was echoed by other planners from other towns at this meeting and this was the overall consensus about *the need for Department of Physical Planning, national office to clarify what an IDP was and to provide them with specific guidelines on how to formulate IDPs*. This argument further suggests that lack of IDP formulating guidelines or regulations is a major problem for municipalities in Zambia.

Furthermore, there was much contestation on IDP versus master planning theory and practice, and a lack of clarity of what an IDP was in Zambia, during the ZIP Annual conference. This could further reinforce the notion that planners and municipalities in Zambia are struggling to develop their IDPs due to lack of clarity about IDP concept and master planning approach. Hence the need for policy guidelines and implementation frameworks to clarify these concepts.

Fundamentally, all these views about introduction of IDP by either V3 Consulting Engineers in 2000 or through enactment of the URP Act in 2015 suggest that IDP is a spatial or physical land-use planning tool in Zambia that has replaced the master planning approach. Conceptually IDP in Zambia is still a grey area and more inclined to spatial land-use planning by placing it in the URP Act that repealed the Town and Country Planning (TCP) Act of 1962. IDP incorporates the social, economic and environmental aspects further suggesting that an independent institution and not only municipality can still undertake this IDP process on behalf of central government at sub provincial level without affecting the general operations of the municipalities.

Overall strategic municipality management, planning and budgeting in Zambia is guided by the Local Government Act (22 of 1991) and not the URP Act (3 of 2015) (GRZ, 1991).

3.4. Motivation for introducing integrated development planning in Zambia

The motivation for introducing IDP concept in Zambia was also contested as there is no clear agreement between responses from the key informants in the study. Some respondents are of the view that the motivation for introducing the IDP concept and practice in Zambia was based on the need to amend the Town and Country Planning (TCP) Act of 1962 and chapter 194 of the Housing (Statutory and Improvement Areas) Act of 1975. This view corroborates with Hampwaye's (2008:231) who asserts that the terms of reference and motivation to engage a consulting firm by LCC to develop an IDP was due to dilapidated infrastructure in the city of Lusaka, and the outdated 'master plan' of Lusaka (1975), that had not been updated for 25 years. Integrated Development Planning through the current URP Act in Zambia therefore emanates from the 'master planning' concept that was embodied in the old TCP Act. The TCP Act was modelled after the 1947 British and Town Planning Act (Rakodi, 1986:201). Hence the current IDP in Zambia is still linked to the global north developmental approach through the old TCP Act, and to the alternative development planning theory.

The statements below captures the views of some of the respondents from UNZA and MLG DPP national office that:

... Integrated Development Planning in the TCP Act was implied even though not mentioned directly ... the view to amend the TCP Act became stronger as time went by, with the failure of the master planning approach ... we tried to articulate IDP into the current URP Act to address the shortcomings of the TCP Act (that prescribed master planning).

Although there is general consensus that the master planning and supporting legislation was outmoded pre-enactment of the URP Act in 2015 (Rakodi, 1986:201; Berrisford, 2011), the key informants did not make any direct reference to any rigorous study that was conducted in Zambia directly linking master planning failure to the IDP solution, and as a basis to have informed the change of the TCP Act to URP Act, process and terminology. This corroborates the views of Hifab (2008), the consultants that developed the 2008 URP Bill. They indicated in their report that IDP was international practice at the time, especially in Southern Africa without further substantiating this assumption. In this regard, this paper contends that consultants that drafted the 2008 URP Bill for Zambia merely presumed that IDP was better social, economic and spatial planning method to master planning in Zambia, and that URP was better terminology than TCP Act.

In summary, there is no documented, scientific explanation nor ideological expositions to suggest why the Zambian Government adopted the IDP model to replace the master planning and why IDP concept was not referred to as integrated spatial development planning or improved master planning. Besides, master planning is still resilient planning theory and practice (Okeke, 2016:111).

The Zambian IDP can still be considered to be governed by strong master planning principles from the old Town and Country Planning System but just rebranded. A critical review of the Zambian IDP model suggests that it is more of a statutory planning or

land-use planning and development controls management instrument that incorporates social, economic and environmental management (GRZ, 2015). Okeke (2016:74) has called this type of planning model as 'new master plan', a compromise between the resilient design-oriented master planning system that incorporates participatory process, but still with no clear explanation as to how to find synthesis between the two entities of participatory involvement and master planning process.

Five propositions could partly explain why the IDP concept has been adopted in Zambia between years 2000 and 2015. These are: the global movements promoting bottom-up, local development planning approaches, in form of spatial planning; the need for planning sustainable cities championed by the United Nations and coupled with the global new urban agenda policy movements; the general global and local views of the out-datedness of the Town and Country Planning Act movement, and then; the easy accessibility to the South African IDP model through regional consultants seem to be the motivation behind Zambian authorities to want to update the legal spatial planning framework leading to the enactment of the new URP Act that articulates IDP. Moreover, the Zambian IDP model can still be considered to have been adapted from the South African, general-municipality-management-oriented IDP model based on theoretical underpinnings analysed in this paper. Even though, the Zambian IDP model can also be considered to be a modified master planning or integrated spatial development plan informed by the need to transform the old Town and Country Planning Act (of 1962).

The Zambian government needs to clarify the scientific justification and the ideological basis for introducing the IDP concept to be documented for the future generation of planners, local government administrators, stakeholders and other policy makers to settle this debate. This requirement could be part of the specific IDP-formulating guidelines yet to be developed for Zambia. Stakeholders should however continue to debate the concept of IDP to establish the ideological hegemony that befits the Zambian context.

3.5. Current number of approved IDPs in Zambia and current practice

A total of 8 out of 118 anticipated IDPs have been approved by the Minister of Local Government as of 2018 (see Table 1). These are for Lusaka, Livingstone, Lumwana,⁴ Chongwe, Chavuma, Mambwe, Mongu and Limulunga municipalities.

The first three IDPs were commenced and approved before the enactment of the current URP Act (3 of 2015) (in 1999–2000 for Lusaka; 2005–06 for Livingstone and 2009–12 for Lumwana). These three 'IDPs' were mainly formulated to accommodate huge direct and indirect foreign investments. This was in addition to replacing the out-dated 1975 master plan for LCC. The three IDPs were developed by external consulting engineers, planning teams, suggesting a lack of local municipality drafting capacity by then. This capacity seems to be lacking still for Lusaka and Livingstone municipality that are supposed to have revised their IDPs by 2018. Moreover, Lusaka City Council already had an alternative master plan developed in 2009 on their behalf by another international engineering firm financially supported through the Japan International Cooperation Agency (JICA) (MLGH/JICA, 2009).

⁴The IDP for Lumwana township was developed in 2009 as an extension of Solwezi district, by then. It is now part of Kalumbila district declared by the Republican President in 2015.

Table 1. IDP formulation progress in Zambia year 2000–18.

Description (by August 2018)	Number of IDPs	% of total
Approved IDPs by Minister of Local Government	8	7
IDPs finalised but not yet approved, by the Minister	10	8
IDPs formulation commenced but not yet finalised	9	8
Municipalities that have not yet commenced formulating IDPs at all	91	77
Total	118	100

Nonetheless, by not revising their expired IDPs, municipalities planning departments could give an impression that they were not taking up their planning responsibility seriously. The researchers give the municipalities a benefit of the doubt for abrogating their responsibilities, until such a time when the IDP-formulating regulations are prepared in future. If the municipalities still fail to revise their IDPs by then, then it could be concluded that it is their internal local capacity that hinders new formulation or revising the old IDPs.

Whereas it was beyond the scope of this study to evaluate the human, financial and institutional capacity for developing IDPs, this paper acknowledges that this could have adversely affected the Lusaka and Livingstone municipalities to revise their IDPs as argued by (Royal Haskoning DHV, 2016; GRZ, 2017:35). Besides, addressing issue of funding, staffing levels and providing of subordinate legislation to guide the municipalities on how to formulate IDPs would be very critical as starting point to facilitate smooth preparations of the IDPs in Zambia in line with the Urban and Regional Planning Act (3 of 2015). Suffice to state that the MLG considered all these 8 IDPs formulated by consultants to have been very expensive and way beyond the local financial and staffing levels of the municipalities. For instance, Lumwana IDP cost ZMK2 billion, (un-rebased Zambian kwacha or an equivalent to US\$ 400,000 in 2009) (Phiri, 2017). Drafting of the other IDP reports also took long, a situation that concerned the MLG national office.

The other five IDPs highlighted above were approved in 2018 by Minister of Local Government. These are for Chongwe, Chavuma, Mambwe, Mongu and Limulunga municipalities. However, Mongu and Limulunga IDPs are not real IDPs by functional definition as in URP Act (3 of 2015) (GRZ, 2015). They are social and economic District Development Plans (DDP) promoted by the Ministry of National Development Planning according to Cabinet Circular (1 of 1995). This is illustrated in Section 3.6 in this paper. These two plans do not have comprehensive spatial development frameworks and were formulated by other government departmental planners at district level with no input from Geographic Information Systems (GIS) specialists. Chongwe and Chavuma, on the other hand were formulated by Copperbelt University Spatial Planning Department as their local consultants. Mambwe was formulated by the Provincial physical, and Provincial social economic development planning teams that incorporated inputs from GIS specialist among them.

3.6. Overall district and municipality development planning approach in Zambia

It is important to add that the political governance system in Zambia is highly centralised. Other government departments or line ministries to complement municipality

services are not decentralised by devolution to the district or local municipalities, an administrative unit below the province. As such three development planning systems exist at district level in Zambia as summarised in Figure 2.

The multiplicity of development planning systems at district level complicates development planning in Zambia. Central government hopes to rectify this anomaly through comprehensive decentralisation process of devolution. The national Director of Physical Planning at the Ministry of Local Government, clarified this issue during the ZIP annual conference in Siavonga 2017, that, *all these parallel district level planning systems would need to be streamlined and consolidated into an IDP and exclusively co-ordinated by the municipality managers through their planning departments*. It cannot be overemphasised that this process will go a long way in assisting those municipalities that have not yet started developing their plans.

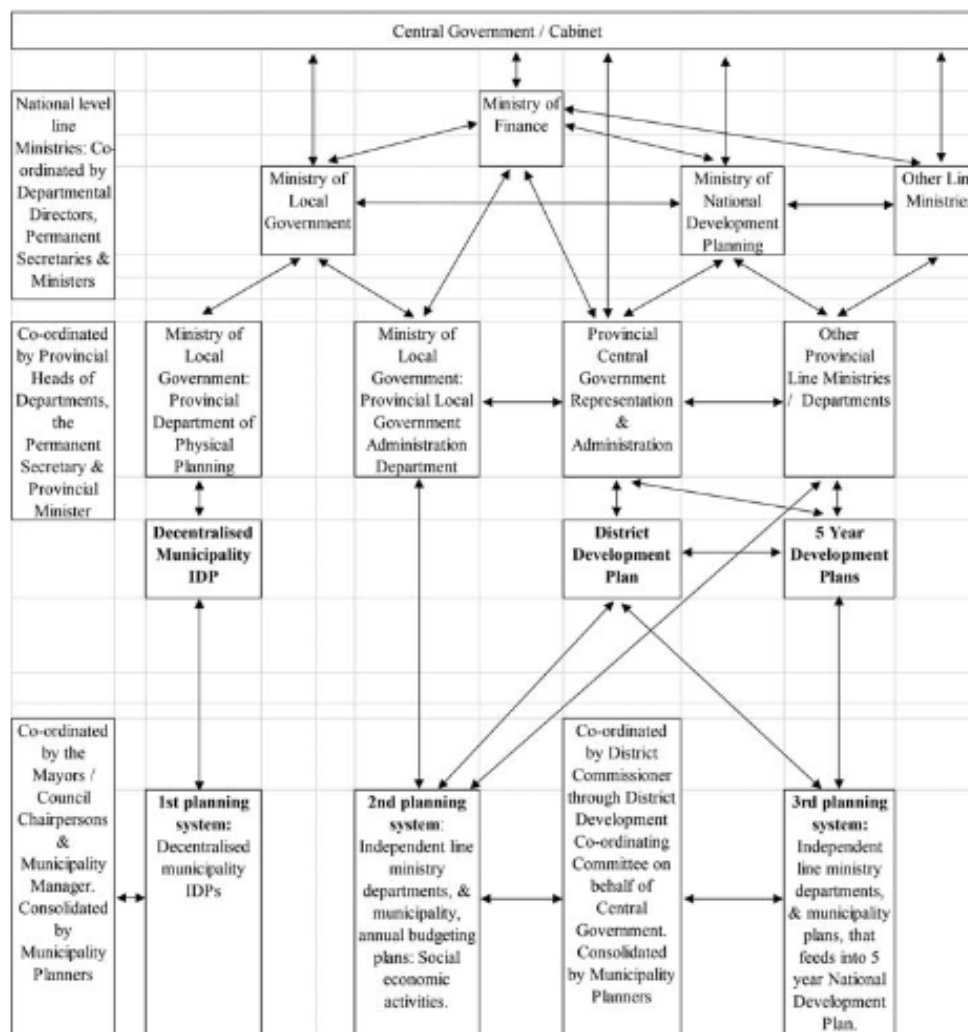


Figure 2. Representation of the parallel development planning framework in Zambia.

3.7. Challenges faced by municipalities to formulate integrated development plans

The study discovered that the lack of secondary legislation, regulations or guidelines for formulating IDPs is the major impediment to municipalities developing and implementing IDPs in Zambia. The lack of such guidelines could further explain why many municipalities are still struggling to formulate their IDPs, three years after promulgating of the URP Act (3 of 2015). Moreover, the lack of skilled planning staff at municipal level and general weak urban regulatory framework have also been identified as major challenges in Zambia (UN-Habitat, 2009:29). However, if the specific regulations are missing then it would be premature to evaluate the capacity of the municipalities to formulate the IDPs without a yardstick. It is only now that the national office of the MLG is developing guidelines for IDPs, the national urbanisation policy, and the national spatial development planning policy but are not categorical as to when these guidelines could be ready (Phiri, 2017). The senior planners ... *cannot not prioritise one policy for the other because all are considered equally important in central government's view* (Phiri, 2017). Specific regulations including policies and implementation frameworks in public service are however critical to clarify rudimentary laws promulgated (Anderson, 2006:200). This applies to the developmental planning field as well.

On the other hand, this study has found not enough evidence to conclude with high certainty that a rigorous systematic policy analysis-process was undertaken with serious methodological rigour nor ideological considerations as a basis for linking the weakness of the old master planning approach to the introduction of municipality IDP concept, plans and practice in Zambia. This finding is collaborated by (Berrisford, 2011).

4. Concluding remarks

This paper clarifies and documents for the first time in Zambia, a comprehensive explanation of the genesis of the Integrated Development Planning concept and practice from the ideological lens, theoretical underpinnings, historic perspective, current planning practices and views of the planners. In addition to identifying and placing the IDP concept and practice ideologically, theoretically, historically, this study found that the introduction of the concept of IDP is highly contested in Zambia and that most of the municipalities are struggling to develop their IDPs due to lack of formulating guidelines. Furthermore, the study has found no evidence to conclude with high certainty that a rigorous systematic policy analysis-process was undertaken with serious methodological rigour nor ideological considerations as a basis for linking the weakness of the old master planning approach and theory to the introduction of municipality Integrated Development Planning and Plans concept and practice in Zambia.

A review of the eight IDP documents already approved in Zambia looks similar to the IDP documents produced in South Africa. Nonetheless, a detailed comparative study of the two models between Zambia and South Africa has not been done. This study therefore suggests further research to be done, to systematically compare the Zambian spatially biased, or land-use and development control biased IDP model to the South African holistic municipality management model. Such an analysis could help stakeholders understand the prevailing intricacies of these two models in more detail to

further help make recommendations in the development of the specific IDP-formulating guidelines or regulations for Zambia. The analysis can factor in an understanding of other cross-cutting issues such as environment management, climate and disaster resilience, gender mainstreaming and how these can be embedded into the IDPs as it is done in South Africa. All these studies are to further help planners and other stakeholders appreciate how IDPs are supposed to be formulated and what they should contain in much broader and overall context of sustainable cities, the SDG number 11.

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CHAPTER 4: COMPARISON ANALYSIS OF INTEGRATED DEVELOPMENT PLANNING IN ZAMBIA AND SOUTH AFRICA

Article 2 - Integrated development planning and related financing practice: a comparison case study of Zambia and South Africa

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INTEGRATED DEVELOPMENT PLANNING AND RELATED FINANCING PRACTICE: A COMPARISON CASE STUDY OF ZAMBIA AND SOUTH AFRICA

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ABSTRACT

Evidence suggests that the Zambian government has adapted its developmental local government, Integrated Development Planning process and policy, partly modelled after the South African one. This paper investigates the policy convergence, divergence, synergies, and disparities between these two models to contribute to the improvement of the Zambian Integrated Development Planning process in future. Using a qualitative comparative policy analysis framework, this study analyses primary and secondary data obtained from a few selected municipalities in both Zambia and South Africa. The study found that the political economic ideology and legal framework supporting the South African Integrated Development Planning model seem to be superior to the Zambian one. The Zambian government can officially adapt additional aspects of the South African model but needs to harmonise a number of legal and operational frameworks related to Integrated Development Planning. This includes the speeding up of

decentralisation and improving on how the municipalities are financed.

Keywords: Integrated development planning, spatial planning, comparative policy analysis, Zambia, South Africa.

INTRODUCTION

Integrated Development Planning concept and practice as used in Zambia is partly adapted from South Africa (Hifab International AB, 2008). Integrated Development Planning is an inclusive long-term strategic, participatory, municipal and spatial planning process. Participatory municipal and spatial planning process assume different names in different parts of the globe but are referred to as Integrated Development Planning in Zambia and South Africa. These two countries have adopted the Integrated Development Planning approach to harmonise sectors or as devolved line ministry developmental plans at local government level. The two countries have adopted this development planning approach to further address their long-term spatial and

economic planning disparities. The Integrated Development Planning process results in Integrated Development Plans (IDPs) that are financed through central government and local government financing mechanisms. An Integrated Development Planning process is also public policy as it is formulated through local government.

In Zambia, Integrated Development Planning was indirectly introduced in the year 2000, through the World Bank-funded Lusaka Integrated Development Planning Consultancy project implemented by V3 Consulting Engineers of South Africa (V3 Consulting Engineers, 2000; Chitengi, 2016:149). Its introduction by V3 Consulting Engineers in 2000 was, however, contested. V3 Consulting Engineers were supposed to have upgraded the old 1975 Master plan for Lusaka but ended up producing an IDP based on their South African work experience (Hampwaye, 2008:203). The Integrated Development Planning concept and practice introduction in Zambia is reaffirmed through another Swedish Development Agency – (SIDA) funded consultant, Hifab International AB (from Sweden) that drafted the *Zambian Urban and Regional Planning (URP) Bill* in 2008. This Bill became law through the *Urban and Regional Planning (Act No. 3 of 2015)* that functionally defines Integrated Development Planning. Integrated Development Planning in Zambia is now public policy transferred voluntarily or policy lesson-drawn from South Africa through the URP Act.

The justification in part for Zambia to have adopted the South African model of Integrated Development Planning seems to have been a combination of three major factors. The first factor seems to be the global debate

and need to change the town and country planning approach from the 'failed' master planning theory and practice to something more participatory and a more inclusive planning model. The second factor seems to be the incorrect assertion that the South African Integrated Development Planning model was international practice in the whole of Southern Africa by mid-2008 (Hifab International AB, 2008). The third factor seems to be the cohesive nature of policy transfer from the World Bank, an external multilateral donor. The World Bank funded the consultancy and project to develop the Lusaka Integrated Development Plan for 2000-2007. The World Bank had a say on what type of municipality developmental planning model they were willing to fund and support in 2000 for Lusaka, based on their operational modulus (Bădescu *et al.*, 2013:1). A similar position can also be seen in the promotion and development of the Livingstone IDP through the World Bank-funded Support to Economic Expansion and Diversification (SEED) project for 2004-12 (World Bank, 2004). The World Bank is currently supporting another similar developmental initiative, the Pilot Project for Climate Resilience (PPCR) from 2009-2022, which seeks to improve local government capacity to implement IDPs, among other activities. The PPCR plans to support Integrated Development Planning as one of its project outputs (World Bank, 2012:2).

The German Government, and the European Union, but jointly with the United Kingdom Department for International Development (DFID), are currently also supporting individual projects that seek to promote Integrated Development Planning practice in Zambia. The German Government is supporting the

2018-2021 Decentralisation for Development (third extension) (D4D-III) from 2018-21, whereas the European Union jointly with DFID are supporting the Enhancing Local Government Capacity for Development project from 2018-2200 (EEAS, 2018). These projects are trying to reinforce the concept and practice of Integrated Development Planning from a public policy transfer perspective in the context of enhancing the decentralisation process and promoting good governance principles. According to Banda *et al.* (2019), the current Zambian IDP model was never adopted on the strong basis of scientifically rigorous policy analysis process to reveal the weakness of the past town and country planning legislation, the predecessor of the URP (Act 3 of 2015). For instance, Hifab International AB (2008) collected views from the districts and provinces and other stakeholders in Zambia on the perceived failed master planning in the country prior to the development of the 2008 URP Bill. However, the research methodology they used has not been well documented, thus Hifab International AB report cannot be said to be rigorous enough to link the failed master planning to Integrated Development Planning or to link the outmoded Town and Country Planning practice to URP theory and practice in the case of Zambia. There is no other evidence to suggest that Integrated Development Planning was international practice in Southern Africa by 2008 apart from being practised in South Africa. This is at the time Hifab International AB consultants from Sweden claimed that Integrated Development Planning was international practice in [the] whole of Southern Africa in 2008, a premised recommendation made for Zambia to adopt the Integrated Development Planning concept (Hifab International AB,

2008:30). To the contrary, the UN-Habitat (2009:63) has cautioned other countries from a blanket adoption of the South African IDP model unless such countries are well resourced and better governed like South Africa. South Africa has a well-functioning democracy, higher gross domestic product (GDP) per capita at US\$6 151 than Zambia at US\$1 513 (World Bank Online Database, 2017).

The introduction of the Zambian IDP through the current URP Act (No. 3 of 2015) was equally not based on sound 'political economy ideology' either, nor through properly recognised spatial planning theory, which is critical in adopting the IDP policy framework in a given country (Banda *et al.*, 2019, forthcoming). So, what does Zambia want to achieve with IDP ideologically? Based on the URP (Act 3 of 2015), Zambia intends to promote an organised and participatory social-economic and spatial development framework (GRZ, 2015:50). It is not clear in what context this ought to be achieved from the perspective of spatial planning theory; whether it is through rebranded or improved master planning that incorporates some participatory approaches (Okeke, 2016) or typically through a neo-liberalised IDP approach that could still be similar to improved master planning. If this last is the case, then why did Zambia not just rebrand its master planning process to 'improved master planning' instead of adopting the 'municipal Integrated Development Planning approach' meant for achieving developmental local governance?

One can further argue that the Zambian Integrated Development Planning model was introduced implicitly on the basis of

prevailing global discourse in the rejecting of the failed master planning model, but the master plan is still considered resilient and still manifest in one form or another (Odendaal, 2007:1; Okeke, 2016:28). The master planning approach is still a top-down, less consultative, and very technical approach that emphasises statutory regulations such as land-use zoning at the expense of stakeholder participation and the poor, marginalised or vulnerable in the planning process. A master planning approach produces technical land-use plans that are future blue prints of land-use systems in a given area favouring the elite (Okeke, 2016:113). As such, IDP that is more of a neo-liberal planning theory might still favour the elite in Zambia, since neo-liberal spatial planning theory does not attempt to change power structures just as in communicative and collaborative planning theory (Duma, 2002:47; Olesen, 2014). Could an evidence-based public policy-making approach implicitly be a salient alternative explanation behind this adoption and adaption process of the IDP concept in Zambia?

This paper analyses the two IDP models for Zambia and South Africa and compares them. The South African model is considered a baseline and a public policy framework for developmental local government in this paper. It incorporates a social-economic, environmental, as well as spatial development framework. It is also a cooperative governance coordinating tool. This policy comparison study is done so that the researchers can acquire an in-depth understanding of the major differences, similarities, synergies and gaps between these two planning models. The analysis is to contribute to the improvement of the IDP policy implementation guidelines

in Zambia that had not yet been formulated three years after promulgating the URP (Act 3 of 2015) and at initial drafting of this paper in 2018. The theoretical framework for comparing policies across two countries is outlined before documenting the actual convergences and differences in the two models. The findings of the study are presented by country and discussed in the form of the strategic-management presentation model of strength, weaknesses, opportunity and threats (SWOT) for ease of assimilation (Panagiotou *et al.*, 2005:157; Cloete *et al.*, 2011:11).

Public Policy Theoretical Framework

Etzioni (2006) argues that there is no one single way of analysing public policies across nations. However, public policy across countries can be analysed by evaluating many features and types of public policies that can be transferred/learned/diffused and benchmarked at the same time using different strategies and a combination of research methods (Dolowitz *et al.*, 1996, 2000; Dodds, 2013:252). Cartwright and Hardie (2012) have described such a process of public policy analysis as what works and what does not work in the overall context of evidence-based public policy analysis. For the purpose of this paper, public policy is defined as detailed public regulations of how to implement rudimentary legislation. In the context of public policy research theory, the researchers undertook this study under a combination of the general public policy transfer, policy diffusion, policy learning, best practice and bench-marking theoretical sub-frameworks that are nested in the "cross-national comparative public policy methodology" (Duijker *et al.*, 1954:9; Dodds, 2013:249). Using this cross-national comparative public policy

methodology, it is the researchers and not the practitioners or public servants that analyse what was, and should have been transferred and learned from the South African IDP context to Zambia. To achieve this objective, the similarities and differences between the South African and Zambian IDP, public policy models are analysed further in terms of concept, design and practice. IDP is thus investigated from a public policy perspective.

Cross-National Comparative Policy Study Framework

Cross-national, comparative public policy analysis or framework is one of the policy research methods in policy sciences but in the much broader context of public administration. A cross-national, comparative public policy analysis method investigates what works in one area to be adopted or transferred or learned into another area (Goodin *et al.*, 2006:5; Dodds, 2013:13). Technically, cross-national comparative policy analysis is not so much about empirical evidence but conceptual density in line with grounded theory research orientation. However, given the fewer cases to analyse and compare in policy sciences that would have many data collection variables, a case study can still be a good alternative approach to compare the few available cases in more detail to ensure their conceptual density. The case study approach is used for analysing the IDP process and plans in Zambia and South Africa based on the case study methodological strengths just highlighted (Charmaz, 2014:1).

Cross-national, comparative policy analysis can be based on one country, or on policy themes within that country, although more than two countries would be ideal.

Undertaking a study in only two countries might not be a good basis for generalisation as the two might not bring out very peculiar differences to make value judgements (Duijker *et al.*, 1954:9; Hantrais, 1999:99; Dodds, 2013:14). However, the analysis of the Zambian and South African IDP models is done on the basis of the strong indication that Zambia adapted its model after South Africa, which might yield valuable lessons.

Policy Transfer (Theoretical) Sub-Framework

A policy transfer theoretical sub-framework is a specific tool within comparative public policy research method in addition to the case study, that looks at how policies in one country can be understudied with a view to adopting and adapting them in another (Dodds, 2013:251). Two types of policy transfer tools, voluntary and coercive, exist (Rose, 2005:96). As the name suggests, voluntary policy transfer is adopted and adapted by countries on their own terms at their own time, whereas coercive policy is prescribed on recipient countries. There seems to be elements of coercive policy transfer imposed on Zambia by some bilateral and multilateral donors viz-a-viz IDP introduction in year 2000. The researchers therefore look at these issues of voluntary and coercive policy transferred to Zambia as well, to better understand the IDP models being discussed.

What Works and Does Not in Practice

The specific features analysed in this paper about what works and what does not work between the two Zambian and South African Integrated Development Planning models are further guided by the five theoretical

underpinnings identified by Banda *et al.* (2019). These are the general alternative developmental theory; the political economy ideology; a blend of spatial or urban and regional planning theories; planning professional ethics and values that influence the development of the IDPs in a given place; and legislation (Campbell *et al.*, 1996:475; Watson, 2006:38; Okeke, 2016:42). By studying or understanding people's perception, which is the most malleable variable considered in policy research (Etzioni, 2006:835), this study also incorporates views of the Integrated Development Planning managers in shaping the research findings to facilitate effective policy learning diffusion for future change.

RESEARCH METHODOLOGY

This study is qualitative and descriptive. It utilised qualitative data sets collected from ten key informants in Zambia at municipality and national level. The ten key informants included: eight spatial and social economic planners from eight municipalities out of 117 that already had finalised and approved Integrated Development Plans (IDP) in Zambia by end of 2018. The other two key informant were senior spatial planners at national department of physical planning, at the Ministry of Local Government (MLG) head office in Lusaka, Zambia. The eight municipalities with already approved IDPs at end of 2018 were Lusaka, Livingstone, Lumwana, Chavuma, Chongwe, Mambwe, Mongu and Limulunga. Through content analysis the study further analysed the eight IDP documents already approved by the Minister of Local Government between 2000 and 2018. This was done in addition to analysing the existing legislation and any other supporting

literature. Hence the study utilised both primary and secondary qualitative data in context of case study research approach.

For South Africa the researchers utilised the same four staged research approach as used in Zambia to analyse the Integrated Development Planning process and some selected IDP documents. First, extensive literature including legislative and policy frameworks or regulations on Integrated Development Planning process was analysed. Second, researchers purposefully sampled three municipalities and one provincial office in South Africa to understand in more detailed the planning process in these municipalities and one province. As such, some Integrated Development Planning documents from the Free State Provincial level, and from the three Municipalities being Mangaung Metro from Free State Province; Dr. Kenneth Kaunda District Municipality and Matlosana Local Municipality both from North West Province were analysed.

The three municipalities sampled represent all the three categories of Municipalities in South Africa being category A, B and C; or metro, local and district municipalities respectively. These three categories for municipalities in South Africa were reduced to only two in this paper when reporting the results. This was for convenience purposes to make the analysis compatible with Zambia whose municipality categories were also reduced to two, thus local and metro municipalities only. Thus category C or 'District level' municipality in South Africa was grouped and considered to be part of the category B or local municipalities' in this paper. 'District Municipality or District Council' in South Africa had a different meaning compared to

District Council in Zambia. This could have been a source of confusion to the readers if it were not well harmonised. As such the term 'District Council or District Municipality' was all together avoided in this paper.

Third, the researchers sought clarification in South Africa from a total of ten key informants as follows. Three of these key informants were Integrated Development Planning Managers from the three municipalities sampled. Clarification sought was in terms of the strength, opportunities, weaknesses and threats (SWOT) that they associated with Integrated Development Planning process and implementation in their municipalities. Another four of these key informants were interrogated from cross-cutting departments such as disaster risk management, environmental management and health at municipality level. An additional three key informants were from the provincial sphere of government in the Free State. These were the Provincial Integrated Development Planning Manager; the Provincial Disaster Risk Manager; and the Provincial Environmental Manager. These were sought to clarify the SWOT for Integrated Development Planning from the provincial perspective. For triangulation purposes primary data collection commenced with the municipalities before seeking further clarification at provincial level.

The SWOT analytical approach has been criticised for producing the same information that is already known but in a dangerously over simplistic manner and that it does not add any new information to what is already known. However it helps strategic planners to critically reflect on the information they already have and thus helps

them further reflect on the coherence and co-ordination nature of the policy being analysed (Panagiotou *et al.*, 2005:157; Cloete *et al.*, 2011:11). The fourth research stage implemented in South Africa was therefore to analyse and synthesise the findings from primary and secondary data collected to meet research objective using a combination of strategies already highlighted.

Findings

Based on key informant interviews and review of literature, the findings of the study are presented by country.

South Africa Integrated Development Planning Framework and Practice

South Africa is one and half times larger than Zambia at 1 219 090 square kilometres. It has 278 local municipalities and eight metros. Local government in South Africa is one of the three separate spheres of government. The other two are the national and the provincial governments. Local government is a highly decentralised and well-respected tier of government with its own powers enshrined in the Constitution. Each municipality employ its own staff locally. All ten respondents interviewed indicated that "... formulation and management of IDPs was well legislated in South Africa. It was the principal planning and budgeting tool for all municipalities in the country" (interview respondents). In short, all the respondents interviewed were aware that an IDP is a highly legislated requirement in their country. Additionally, the respondents were aware that participatory community engagement through wards, an existing lower level political administration unit under municipalities, was at the core of the

Integrated Development Planning process. Further evidence for this practice could be seen in the detailed IDP documents reviewed. Whether participatory planning processes and strategies used by the municipalities were the most effective was not the scope of this study.

Timeline of the IDPs in South Africa

All the three municipalities visited had their Integrated Development Plans in their fourth generation in 2018 since this model was introduced in 2001 after the all-inclusive local government elections of late 2000. All municipalities in South Africa are at this stage of IDP formulation due to its strong legislated nature.

Duration of the IDPs

In all three municipalities sampled, their respective IDPs were tied to elected municipal councils' five-year political cycle. Municipalities reviewed their respective five-year cycle IDPs annually and this rendered the Integrated Development Planning process an on-going activity. Core legislation of Integrated Development Planning in South Africa was the Constitution (Act 108 of 1996); the Local Government Development Facilitation Act (Act 67 of 1995); Local Government Municipal System Act (Act 32 of 2000); Local Government Municipal Finance Management Act (Act 56 of 2003); Local Government Municipal Planning and Performance Regulations of 2001; Local Government Municipal Systems Regulations of 2001 and now the Spatial Planning and Land Use Management Act (Act 16 of 2013) and its subsequent policy guidelines for managing spatial development plans (SAG, 2011). Disaster Management (Act 57 of 2002) and the subsequent National Disaster

Management Framework (NDMF) of 2005 also compel the municipalities to link Disaster Management Plans to IDPs.

The Local Government Municipal Systems Act (Act 32 of 2000) defines what an IDP is functionally and how the IDPs ought to be formulated and linked to other sector plans and budgeted for. Initial core legislation for IDPs was slowly developed between 1996 and 2000. Developing of specific IDP regulations followed later after 2000. Additional findings on the ground were that IDPs were five-year strategic and management plans that were reviewed annually commencing in August to June the year that followed. Formulating of IDPs was a full-time responsibility of the elected Executive Mayor who delegated the responsibility to the Administrative Municipality Manager and in turn to the Integrated Development Planning Managers. The Integrated Development Planning Managers were under the Municipality Managers' Strategic Planning and Performance Management Department and not the Urban and Regional Planning Department as in the case of Zambia. The Integrated Development Planning Managers had at least one support staff in smaller local municipalities and three in Mangaung Metro.

Organisation Structure for Integrated Development Planning Units in South Africa

Each of the three municipalities visited had its own organisation structure or administrative arrangements for Integrated Development Planning units since the municipalities were highly decentralised and operated autonomously. There was no prescription of how

big the Integrated Development Planning units under the municipality manager ought to be. The organisation structure for IDP was dependent on the municipality's financial capacity and localised IDP legal frameworks. All the Integrated Development Planning Managers in the three municipalities interviewed were, however, of the view that they were understaffed to undertake the planning process effectively without mental burn out.

Operational pressure arose from the fact that IDPs were approved by the Provincial Premier before the commencement of each municipality's financial year on 1 July of each year. Failure to finalise the IDP and budgetary provisions by any municipality by the end of June in any single year, and to have their respective plans and budgets approved by the Provincial Premier before commencement of the financial year, resulted in the dissolution or placement of the entire municipality under provincial administration by the Provincial Premier. This was in line with Article 139 sub-article 4 of the 1996 South African Constitution as amended. If such a situation arose, then all employment contracts for all contracted staff including the elected councillors would cease with the dissolution of the elected council, and fresh elections for elected office bearers would need to be called before new administrative staff including IDP Managers would be hired. IDPs were therefore a key performance indicator for each municipality as enshrined in the Republic's Constitution (Interview with Local Government IDP Advisor for Free State Province, 22 June 2018).

Spatial Development Frameworks

All the respondents were also very much aware of the detailed steps and procedures

involved in the development of their IDP plans. The municipalities were, however, free to sub-contract part of their IDP formulating work to consultants. All three municipalities canvassed in this study had sub-contracted the development of their spatial development plans or frameworks (SDF) since their first generation IDPs in 2001. They sub-contracted development of their SDF to highly specialised spatial planning consulting engineers 'because the municipalities did not have this capacity to undertake such a task'. The situation could be similar in some of the other 276 municipalities and seven metros not canvassed in South Africa. Nonetheless, two municipalities out of the three visited in this study were trying to build their own Geographic Information System's internal capacity within their separate Town and Country Planning Departments to be able to undertake their own strategic SDF in future.

Spatial development frameworks were considered core components of the IDP in South Africa. Externally hired consultants for SDFs were therefore guided by very elaborate, nationally developed guidelines on how to undertake this task in a participatory manner. This task of developing SDF was laborious, highly specialised and very expensive and therefore the municipalities sub-contracted the task to specialised consulting engineers for cost effectiveness. The SDFs were not revised annually as they were for a much longer period of about 15 to 20 years, thus IDPs were for five years in South Africa but their SDF ranged from 15 to 20 years'.

IDP Financing and Budgeting

All funding generated by the municipality was for supporting IDP implementation in South Africa. Respondents indicated that

the major sources of IDP financing were local revenue that was quite diverse and was supplemented by funding from central treasury and special project grants.

Co-operative Governance or Intergovernmental Co-ordination

All municipalities had to align some of their activities to those of the national and provincial government vision in addition to the local executive mayor's vision for them to receive special provincial project funding. Each local municipality was accountable to its own elected council, the community and province for such funding and for overall IDP management in general. Local municipalities were still autonomous at the same time, suggesting that the local municipalities had a legal right to choose to access or not to access any provincial special funds to implement the provincial special projects if they so wished, without facing any legal action from the provincial sphere of government.

Weakness and Threats for Integrated Development Planning in South Africa

Poor public management ethics and values affected South African municipalities as well. This was in the form of unqualified municipal audits that affected 92 percent of municipalities (AGSA, 2019:20). Poor municipality financial management was associated with poor Integrated Development Planning and implementation management, since overall municipality management was done through IDPs. Unqualified audits were an indication of poor resources management, which ultimately affected the quality of service

delivery and developmental local governance in some municipalities, culminating into a number of riots in respective municipality locations. Zambia municipalities ought to be mindful of the need for qualified audits. These have a link with and a bearing on overall municipality performance management, appraisals and IDPs as a principal planning and management tool.

Zambian Integrated Development Planning Framework and Practice

The study findings on Integrated Development Planning practice in Zambia in this paper are prior to government release of the Integrated Development Planning formulating guidelines. The Zambian government had not yet developed or published these guidelines by the end of 2018. These guidelines were, however, released by the Zambian Government, Ministry of Local Government, on 30 January 2019 with financial support from the German Government through GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH) (GRZ-MLG, 2019). The guidelines still lack consolidated outline for mainstreaming both climate change adaptation-mitigation and disaster risk reduction interventions as one concept, into IDPs.

Timeline for IDPs

Based on these new IDP-formulating guidelines of 2019, all municipalities are now expected to formally commence preparing their first generation IDPs to be finalised by September 2019. However, there were eight already finalised and approved¹ IDPs

¹ The final approval of IDPs is done by the Minister of Local Government who is also the Minister for Spatial Planning designate according to the Urban and Regional Planning (Act 3 of 2015).

out of a total of 117 municipalities² and one metro by the end of 2018. The eight already approved IDPs are now referred to as 'pilot IDPs'³ by the MLG. This paper adopts this terminology of 'eight pilot IDPs' in Zambia from this point onwards. Additional findings in this paper on the Zambian Integrated Development Planning concept and practice are based on content analysis of the already approved eight pilot IDPs from 2000-18.

Approval Process and Duration of the IDPs in Zambia

The eight already approved pilot IDPs varied in duration from five to 16 years. This was contrary to the recommended 10 years as prescribed in the URP Act even though these IDPs were formulated just before the current URP Act was promulgated in 2015. There was no official explanation from the respondents concerning why this variation in duration of the pilot IDPs existed. A possible scientific explanation based on literature could be that these eight already approved pilot IDPs were developed based on the three types of IDP models that exist, namely, the long-term city development framework; large spatial developmental project approach; and the most common, the Municipality Integrated Development Planning model that still incorporates a spatial development framework (Odendaal, 2007:1).

Key informants were not sure when the IDP documents became effective either, whether it was after approval by the Minister or on the original planning period indicated on the IDP documents. Effective dates for the approved pilot IDPs documents reviewed were not adjusted either after approval by the Minister. Preparation of the pilot IDPs from start to completion and then approval took too long. For instance, Chongwe and Chavuma IDPs took three years to finalise and be approved. They were commenced and completed in 2014 but approved in December 2017. Still these IDPs were not amended or updated to make mention of the current URP Act at the time of their approval in 2017. Again, no explanation was given by the respondents as to why these pilot IDPs took this long to finalised and approved. The researchers could only assume that the delay was due to low human and managerial capacity at municipality level to undertake this activity compounded by the lack of regulations on how to formulate IDPs. The country is yet to see if there will be any improvements in the IDP preparation process among municipalities now that the formulating guidelines were released in January 2019.

Revising of Expired Pilot IDPs

Ideally, Lusaka and Livingstone municipalities were supposed to have revised their pilot IDPs by 2008 and 2017 respectively. Lusaka and

² Zambia has three categories of lower level government councils according to Local Government Act 22 of 1991 as amended: city, municipal and now town council. Lusaka city council is similar to Bloemfontein Metro in South Africa, and hence categorised as a metro in this paper.

³ These eight already approved IDPs were not officially referred to as 'Pilot IDPs' by Government, at the time of under taking this study in 2017-18. The concept of 'Pilot IDPs' emerged during the launch of the IDP-formulating guidelines on 30 January 2019 at Crestar View Hotel, in Lusaka, when the Assistant Director of Spatial Planning from the Ministry of Local Government made his presentation on the legal framework for IDPs in Zambia. For the first time, he referred to these already approved IDPs between 2000-18, as Pilot IDPs.

TABLE 1: List of Finalised and Approved Pilot IDPs in Zambia 2000-2018

Sn	Municipality	Province	Pilot IDP Completion Year	Year IDP Approved by Minister of Local Government	IDP Duration In Years	IDP Duration Period	Formulators
1	Lusaka	Lusaka	2000	2002	5	2002-2007	V3 Consulting Engineers
2	Livingstone	Southern	2005	2006	10	2006-16	V3 Consulting Engineers
3	Lumwana	North-Western	2009	2012	15	2012-27	National, Provincial and Solwezi district municipality
4	Chongwe	Lusaka	2014	January 2018	6	2014-2019	Copperbelt University Consultants
5	Chavuma	North-Western	2014	January 2018	16	2014-2029	Copperbelt University Consultants
6	Limulunga	Western	2017	January 2018	10	2017-27	District IDP Team
7	Mambwe	Eastern	2015	January 2018	5	2015-2019	Provincial Planning Authority
8	Mongu	Western	2017	January 2018	10	2017-27	District IDP Team

Source: Authors

Livingstone pilot IDPs expired in 2007 and 2016 respectively. Respondents in Livingstone municipality planning department indicated that 'the expired 2006-16 IDP was not a principal planning document for the municipality. Rather the IDP was complementary guide for the engineering department to improve the city infrastructure with respect to improving tourism activities in the city that were not decentralised to the municipality by then nor currently'. Technically the Livingstone IDP for 2006-16 did not take the form of a typical municipality IDP but rather for a large spatial developmental project approach. Livingstone municipality were therefore currently utilising their revised 2017-21 Municipality strategic-management plan for their activity budgeting and implementation instead of an IDP or instead of engaging in revising their expired 2006-16 IDP. There was still no localised or inherent capacity in Livingstone to revise the expired 2006-16 IDP that was developed by external consultants more than 12 years ago, even if it was inclined to tourism development within municipality and Kafue

game park boundaries. Municipality Strategic-Management Plan is informed by Guidelines for Ministry of Local Government (MLG) Strategic Management Planning of 2012 (GRZ-MLGH 2012). Municipality strategic-management plan is therefore different from an IDP in that it does not include spatial development framework nor other devolved government departmental activities at municipality level. In other words, a municipality strategic-management development plan is not an IDP.

Respondents in Lusaka Metro Municipality also indicated that '...they reverted back to utilising the 'master planning' approach in 2009 instead of utilising the 2000-07 IDP that was never revised nor even implemented to start with. The 2000-07 IDP was replaced with the 2009 Lusaka master plan that the Metro was currently utilising to upgrade infrastructure for Lusaka. The current 2009 Lusaka master plan was developed with the help of the Japanese International Cooperation Agency (JICA), another external bilateral donor to the Zambian Government.

However, this 2009 master plan was technically developed to replace the outdated 1975 master plan for Lusaka since the 2000-07 IDP was rejected and never used.

Other Drafted IDPs in Zambia 2000-18

An additional 11 municipalities in Zambia to the eight already approved pilot IDPs had also prepared their draft IDPs by the end of 2018. The 11 municipalities were: Nakonde Town Council in Muchinga Province; Samfya Town Council in Luapula Province; Kapiri Mponshi in Central Province; Kabompo, Mufumbwe and Solwezi in North Western Province; Mulobezi, Mwandia, Sesheke, Shangombo and Sioma in Western Province. Based on content analysis, most of these draft IDPs from Western province were a mere conversion of the District Development Plans (DDP)⁴ into IDPs. District Development Plans do not have spatial development frameworks (SDF) and neither did these. In other words, these DDPs converted into IDPs were not close to being conventional IDPs as per URP Act.

Ultimately all the other 11 draft IDPs reviewed above were not approved by the Minister of Local Government before the current release of the IDP-formulating guidelines in January 2019. Reasons for the delay in the approval

process were a moratorium that was placed in 2018 on all municipalities to cease preparation of IDPs that were inconsistent with the URP Act' (GRZ, 2018). The Minister of Local Government, through the Permanent Secretary, requested all municipalities in the country to await the finalisation of the IDP-formulating guidelines before they proceeded with their submissions for final approval-considerations beyond 2018.

Organisation Structure for Integrated Development Planning Process at Municipality Level

Findings showed that the Integrated Development Planning process in Zambia was under the municipality planning departments that incorporated spatial, social-economic, environmental and other cross-cutting issues such as gender and HIV/Aids. Overall, formulating IDPs at municipality level was, however, the responsibility of the municipality manager referred to as either Council Secretary or Town Clerk. The role of the executive mayor was limited to approving the IDP through the full council. The municipality manager was supported by the spatial planning department in preparing the IDP. The IDP had to be approved by the elected council of the municipality before it could be submitted

⁴ District Development Plans comprise all public development programme activities for all government departments, decentralised or not, at local town level excluding the security wings. DDP are developed on behalf of the District Development Co-ordinating Committee, (DDCC) a central government coordinating structure at lower level. DDP process is overseen and coordinated by the District or Town Commissioner, a representative of central government at local level. The District Commissioner is supported by the planning department of the respective local municipality, thus by the Ministry of Local Government at local level to formulate these DDP. Office of the District Commissioner does not have a planning department of its own. Thus the municipality planners perform three major parallel planning functions at town level: to develop DDPs; municipality strategic management development plans; and now IDPs. DDPs are formulated based on Cabinet Circular Number 1 of 1995 and supported by the Decentralisation Implementation Policy Plan of 2009-13. DDP is further reinforced by Circular Number 10 of 2014 (GRZ, 2009:6; GRZ, 2014) and by the National Planning and Budgeting Policy of 2014 (GRZ, 2014:18). IDP is supposed to take precedence over DDP and the Municipality Strategic Management Plans once decentralisation fully takes place, but has not, by time of publishing this paper.

to and for consideration by the Minister of Local Government for final approval. The eight pilot IDPs reviewed were not tied to the budgeting cycle, neither did they inform the municipality budgeting process.

Unlike in South Africa, all municipality staff, including the planners, were centrally employed by the central government Local Government Commission of Zambia on behalf of the municipalities. Conditions of service for all staff were thus standardised at given operational level but paid locally. Thus all municipalities at a given level had similar organisational structure for IDP management under physical planning departments. Each municipality's physical planning department had a minimum of four specialists: two physical planners including the departmental manager who had to be a physical/spatial planner by training as well; a social-economic planner; and an environmental planner.

Weakness and Threats for Integrated Development Planning in Zambia

Four major structural weaknesses were observed with Integrated Development Planning in Zambia compared to South African. First, even though modelled after South Africa, the eight pilot IDPs reviewed in Zambia seem to have taken a slightly different operational meaning. Therefore, based on alternative development theoretical framework, the observations made in this study suggest that IDP in Zambia is a long-term land-use planning process thus an improved master planning tool but with mere incorporation of some form of participatory mechanism in its formulating process. As such, IDPs in Zambia seem to be more a strategic physical geographic planning tool than merely incorporated social, economic and environmental

aspects of development. The IDPs were not principal municipality planning, budgeting and decision making nor cooperative governance tools. Legally, for instance, the eight pilot IDPs reviewed were formulated based on the old Town and Country Planning Act of 1962 that was more physical geography planning inclined legislation informed by the master planning theory. The study can safely conclude that IDP in Zambia is a 'modified master planning tool' and that is why it is even placed in the department of physical planning and URP Act and not informed by the Local Government Act.

Secondly and based on findings, the Zambian IDP model still seems not to have been based on a clearly documented political economy ideology. Unlike in South Africa, a clear political economic ideology was not articulated in any of the eight pilot IDPs evaluated as a basis for their formulation. The Zambian Government still needs to clarify what it wants to achieve with IDP in very clear terms from a political economic ideological perspective. The third weakness is a fundamental challenge. The local governance system is still undergoing a decentralisation process in general since 2002 for the current phase of the process. As such developmental local government, an Integrated Development Planning process that is supposed to be led by municipalities, is not fully functional as per current URP Act. The fourth weakness is the whole process of local government development planning that should embrace other devolved decentralised government departments. The local government planning process is still very grey in Zambia given the four main parallel planning systems that are still in use, despite the current URP (Act 3 of 2015) and the ongoing decentralisation process.

CONCLUSION

As local governance development planning policy framework, there seem to be many more Integrated Development Planning weaknesses and threats in Zambia compared to South African. These challenges emanate from lack of a fully decentralised local governance system and other challenges related to human and managerial capacity coupled with the many parallel planning systems at lower governance level. These weaknesses can be improved with policy transfer and policy learning experiences based on the analysis in this paper. However, the policy learning process would need complementary harmonisation of the legislation and operational framework including the finalisation of the decentralisation process to support the IDP process in Zambia.

The South African municipality and IDP management process in terms of conceptual formulation, design and practice is superior to that of Zambia. From a public policy perspective, Integrated Development Planning in South Africa works effectively as a five-year and annual principal planning tool for developmental local governance and long term spatial development. Zambia can still learn from South Africa how the concept of IDP is defined from the alternative development theory perspective, and how local government development planning is streamlined in general and how IDPs are managed and financed effectively. Zambia can also adapt additional aspects of IDP management from South African experience, again through mechanisms of policy transfer, and policy learning of best practices.

Researchers did not find any evidence to suggest that Zambia has seconded any municipal staff in the last ten years to formally understudy the municipality management system and Integrated Development Planning process in South Africa and to later return as resource persons to Zambia. Combining with hiring additional consultants from South Africa and/or seconding a sizeable number of municipality staff to South Africa for a reasonable amount of time of about six months to understudy the municipality and Integrated Development Planning management system would help the Zambian Government to appreciate how municipalities in general and the Integrated Development Planning process are supposed to be managed effectively.

It is still important to note that South Africa has a well-functioning democracy, higher economic gross domestic product (GDP), higher gross national product (GNP) including per capita income than Zambia. This could explain to some extent the superior nature of the Integrated Development Planning management process in South Africa as it has better financial resources and good governance-legislative framework to effectively facilitate better participatory processes in their municipality development planning, budgeting and implementation. The option of seconding staff to understudy the South African IDP management system could be quite costly for Zambia but the benefit to the country would outweigh the cost in the long-term. Ultimately, there is no need for Zambia to reinvent the wheel in IDP policy and regulation formulation when so much has already been done in South African for Zambia to adopt.

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CHAPTER 5: LEGAL AND POLICY FRAMEWORKS TO MAINSTREAM CLIMATE CHANGE AND DISASTER RESILIENCE INTO DECENTRALISED MUNICIPALITY INTEGRATED DEVELOPMENT PLANNING IN ZAMBIA

**Article 3 - Legal and policy frameworks to harmonise and mainstream climate
change adaptation-mitigation and disaster risk reduction into municipality
integrated development plans: a case of Zambia**

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Legal and policy frameworks to harmonise and mainstream climate change adaptation-mitigation and disaster risk reduction into municipality integrated development plans: a case of Zambia

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Abstract

Climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR) are similar concepts that needs harmonisation and mainstreaming into municipality developmental practice to enhance natural and societal systems resilience. Municipalities are best equipped arms of governments in developed countries to implement such strategies but requires harmonised legal, policy and other enablers, to effectively implement these strategies. Using content analysis and the exclusive use of secondary data, this study reviews the extent to which the Zambian government, in a developing nation has tried to undertake two major promotions to: (a) harmonise CCA-M and DRR through revised, updated or newly formulated legislation, policy frameworks and strategies that relate to CCA-M, DRR and decentralised municipality integrated development plans (IDP), (b) mainstream either the harmonised CCA-M and DRR concept, or the individual options into municipality IDPs. There is not much activity to: harmonise legislation and policy frameworks that relate to the three themes of CCA-M, DRR and municipality IDP; promote harmonisation of the two concepts of CCA-M and DRR; and to mainstream these two concepts as individual themes or in unison into IDPs through legal, policy and other enabler frameworks. There is however good political will and good donor support for the mainstreaming agenda of CCA-M into portfolio sectors in general in Zambia but not so much about conceptual harmonisation.

Key words: Municipality integrated development planning; Legal and policy frameworks; Zambia; Climate change adaptation-mitigation; Disaster risk reduction; Mainstreaming.

1. Introduction

There is now better consensus and conceptual understanding among scholars, practitioners, and governments, post year 2015, that climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR) are similar developmental interventions. The two concepts and practices need harmonisation and streamlining at all government administration levels to enhance all types of resilience using private and public resources [1-10].

Zambia is highly prone to and projected to-be-highly-affected by the negative effects of climate change and associated disaster risks by 2060 [11]. To address this current and futurist problem the Zambian government is attempting to mainstream CCA-M into all sectors of government departments and the economy at national, provincial and local government or municipality level. All decentralised municipalities by devolution are therefore expected to use Integrated Development Planning (IDPs) as principal tool for their developmental, spatial planning activities and decision-making thus resource allocation and implementation [12]. Integrated Development Plans as outcomes for the integrated development planning process are important strategic, sector harmonisation, spatial land-use planning and budgeting instruments for local governments world over but needs clear guidelines or subordinate legislation to be operationalized.

In spite of all these efforts to plan to mainstream CCA-M and DRR into national and decentralised municipality IDPs, *to what extent has the Zambian government gone to harmonise legislation, policy frameworks and strategies between the different government departments and the decentralised municipalities to enhance resilience post year 2015?* Such a study to address this problem has not been undertaken in Zambia. Preliminary review of existing subordinate legislation to mainstream climate resilience into IDPs indicate that the 2019 promulgated guidelines are not very elaborate on how to: harmonise, and later mainstream CCA-M on one hand, and DRR on the other hand into IDPs [13]. These guidelines are for mainstreaming CCA only into IDPs. Suggesting that planners and municipalities might ignore mainstreaming DRR if they are not aware that CCA-M and DRR are similar concepts and options in practice. Further suggesting that such guidelines could limit municipalities and planners to harmonise and mainstream both CCA-M and DRR into municipality IDPs.

This study therefore analyses the existing public policy, legal frameworks, and strategies or other enabler documents that facilitate smooth harmonisation, and mainstreaming of both or individual themes of CCA-M and DRR practices into decentralised municipalities IDPs. This is to help identify synergies and inconsistencies to recommend areas for future improvements to harmonise and later mainstream both CCA-M and DRR into decentralised municipality IDPs. This whole effort is to contribute to the enhancement of climate and disaster resilience as part of the

social, economic, environmental and spatial development continuum in Zambia using public resources.

2. Methodology

This paper borrows from methodology used in Nicaragua in 2014 for a similar study focusing on climate change, disaster risk reduction, urban planning policy and legal frameworks. The major difference between the two studies is that the Zambian study is being undertaken post year 2015 when the four major international frameworks that governs CCA-M, DRR, Sustainable Developmental Goals (SDGs), and the New Urban Agenda (NUA) were ratified / endorsed by United Nations member states and agencies. These four international frameworks have had profound impact on how CCA-M and DRR are viewed officially, including the need for their conceptual harmonisation, mainstreaming, in context of participatory municipality planning and the SDGs. The other striking difference is that the study in Zambia looks at holistic, decentralised, district, social, economic, environmental and spatial development planning for both urban and rural development including development planning in traditional land tenure systems. The study in Nicaragua [14] only looked at statutory urban settlements and spatial planning. The other difference is the type of prevailing natural hazards in Zambia being drought, rural flood plain floods, and urban flash floods compared to seismic hazards in Nicaragua. Thus the study in Zambia focuses mostly on natural resources DRR as opposed to infrastructural engineering DRR in Nicaragua.

Philosophically the study in Nicaragua [14] reviewed integration of CCA into: DRR legislation and policies; then into Urban Planning policies and legislation; and later integration of DRR into Urban Planning. It did not look at possible harmonisation of the existing legal frameworks to influence further convergence of CCA-M and DRR legal frameworks; and how these legal and policy frameworks could have promoted the mainstreaming of the would-be harmonised concept of CCA-M and DRR into municipality IDPs that this study in Zambia looks at.

However, there is not much research and documentation that has been done in Zambia to understand extent to which government has attempted to harmonise and mainstream CCA-M and DRR into municipality integrated development planning. A number of consultancy studies that have been done in Zambia on the subject matter are mostly on CCA and from national, sector planning perspective. There are two studies that are exclusively on CCA and local government. Then two training manuals looks at both CCA and DRR as mutually exclusive concepts with respect to mainstreaming into municipality development planning. Another two studies are on general climate change and general development planning [15 - 20].

Feeding into this analysis has been the acknowledgement that the Zambian government now has a comprehensive National Policy on Climate Change to guide the coordination of this phenomenon in development planning. Equally the Disaster Management and Mitigation Unit (DMMU) has a bit of comprehensive documentation on Disaster Risk Reduction through their: National Disaster Management Policy; the Disaster Management Operations Manual; and the Zambia National Disaster Risk Management Framework 2017-2030 [21-23]. All these climate change and DRR frameworks are informed by: the Revised Sixth National Development Plan; by the current 7th National Development Planning Framework (2017-2021); and by the Long-term Vision 2030 Planning documents (GRZ 2013a; GRZ 2017b, GRZ 2006) [24-26]. Integrated Development Planning has to be informed by the national urbanisation, and the national spatial development framework policies that are not yet formulated.

With this background, the key legal and policy documents that were sought for to be analysed in this study were climate change-related legislation, policies and strategies; disaster risk reduction or management related legislation, policies and strategies, and local authorities integrated development planning legislation, policies and strategies. The National Development Planning, budgeting and performance management legislation, policies and strategies were also sought for preliminary review and analysis. In summary the major documents reviewed were:

- 2017: The current 5-year, Seventh National Development Plan for 2017-21, [25]
- 2006: The Long-term, Vision 2030 National Development Planning Framework, [26]
- 2016: Constitution of Zambia as (amended), [27]
- 2009: National Decentralisation Policy (2009-2013), [28]
- 2019: Local Government Act No. 2, [29]
- 2011: Environmental Management Act No. 12, [30]
- 2016: The National Policy on Climate Change, [31]
- 2007: National Adaptation Plan of Action, [32]
- 2010: Disaster Management Act No. 13, [33]
- 2014: National Planning and Budgeting Policy, [34]

After reviewing these documents above [25-34], additional documents were identified in Table (1-3). A decision was made to utilise as most recent documents as possible that would articulate need to harmonise CCA-M and DRR and mainstream these two concepts into IDPs post- year 2015. As much as possible, post year 2015 documents were therefore sought for to understand how they attempted to harmonise and promote the mainstreaming of CCA-M and DRR in Zambian developmental sectors and IDPs in particular.

The researchers made an additional decision to lower the cut-off date to year 2010 as part of exclusion / inclusion criteria for the documents reviewed in this study. Accordingly, the documents analysed were at least within 5 years before and after 2015. The justification for lowering the exclusion year was based on the realisation that governments should have already commissioned studies and processes to harmonising the concepts of CCA-M and DRR in developmental planning by 2012 [2, 5-6, 35-36]. Thus using this criterion, snowball sampling approach was used to identify the appropriate documents to review. Snow ball sampling is where one key document leads to the identification of other key documents that conversational sampling may not capture [37].

Thus, using the similar approach as the study in Nicaragua's approach [14], all these documents were placed into three main categories of study variables CCA-M, DRR and IDPs. Each of these categories had three similar sub-categories of legal, policy and other enabler documents to standardise the analysis among the major variables. The Nicaragua similar study's [14] classification of the third sub-category was modified to include implementation frameworks in Zambia. In Zambia every public policy framework has to be accompanied by a plan of action referred to as implementation frameworks [38].

Using content analysis and a form of systematic review, the key words used in the detailed analysis were "climate change adaptation", "climate change mitigation", "disaster risk reduction", "integrated development planning". These key words were used in the context that climate change adaptation means the process of adjustment to actual or expected climate and its effects. Climate change mitigation is a human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs) [39]. Disaster risk reduction are measures aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development [40].

However, in view of how these key words could be paraphrased, the search words for climate change adaptation were expanded to include: Climate proofing, Climate resilience/resilient, Adaptive capacity, Climate change action, Climate change response action, Participatory adaptation. Disaster risk reduction included: Disaster risk management, Disaster resilience, Reduce livelihoods vulnerability. Integrated development planning included: Spatial planning; integrated land-use plan / planning; Master plan; Local economic development planning; Local development planning. The additional words used to describe IDP were dependant on context used as they could also apply to District Development Planning or Sector Development Planning as well in Zambian context. Concept of District Development Planning is different from IDP and explained in full in section 3.3. Other words that related to IDP were: Ward

level development plan, Sustainable land-use practice, City development plan, Rural development plan, Local authorities plan/planning, Community development planning.

Again, borrowing from the Nicaragua similar study [14], codes were assigned to the main variables (A1 to A3) and their potential linkages from A4 to A6. When a code was found in a document, the section containing the code was classified according to one of the six categories outlined from A1 to A6 and as tabulated below. This was to show the current dynamic linkages between CCA-M, DRR and IDP to enhance systems resilience at local developmental level. Adjacent narratives accompanying the codes were critically analysed as well to understand the context in which the codes were used. Codes were not counted when they were used in a title and sub-heading, nor when used in the reference section of the documents reviewed. Codes used as adjectives but that did not mean CCA-M, or DRR, nor IDP were not included in the number of mentions. Codes used were:

- (A1) CCA-M: Extract includes CCA-M codes.
- (A2) DRR: Extract includes DRR codes.
- (A3) IDP: Extract includes IDP codes.
- (A4) CCA-M–DRR: Extract includes codes that show links between CCA-M and DRR.
- (A5) CCA-M–IDP: Extract includes codes that show links between CCA-M and IDP.
- (A6) DRR–IDP: Extract includes codes that show links between DRR and IDP.

Results from content analysis for each classification (CCA-M, DRR and IDP) were tabulated. All the six codes A1 to A6 listed above were used for the review of all major research variables and their connections to establish extent to which government had gone to harmonising and mainstreaming the CCA-M, DRR into IDPs post 2015 and whether there was any positive action toward this goal.

3. Results

The following Sections (3.1–3.3) describe the results of the analysis. A total of 46 documents excluding theoretical and methodological reference documents were selected and analysed. Important as they could be, the following 5 documents were not analysed because they were outside the inclusion criteria. These are the: National Policy on Environment 2007; the National Energy Policy 2008; National Transport Policy 2008; the National Adaptation Plan of Action 2007; and the Second Communication report to UNFCCC 2010. The later was about activities for 2002-2004 but reported in 2014 as Second Communication Report to UNFCCC for 2010.

The results depict the number a code is mentioned in the document reviewed, and refers to the three main variables of CCA-M, DRR and IDP and potential linkages between these

variables. Some discussion is integrated into the results section to clarify them before the exclusive discussion chapter is presented later.

3.1 A review of environmental legislation, policies and related enablers to promote and facilitate harmonisation and mainstreaming of CCA-M and DRR into IDPs

The Zambian Government adopted the National Conservation Strategy Paper in 1985 as the first formal basis for organising environmental legislation and policy. This was a further basis for formulating the 1990 Environmental Protection and Pollution Control Act, and the creation of Environmental Council of Zambia in 1991. Government later signed the United Nations Framework Conference (UNFCCC) treaty in 1992, established the first Ministry of Environment in the same year with donor support and ratified the UNFCCC in 1993 [41,42]. Since then, Zambia has continued to actively participate in UNFCCC associated programmes and has adjusted its CCA-M legislation, policies and strategies in line with latest international frameworks related to UNFCCC. Current legislation on environment and later the National Policy on Climate Change can be traced back to these processes and commitments. The 20 documents analysed in this category are outlined in (Table 1).

Table 1

Number of times a code, key words are mentioned in environmental related legislation, policy and other enabling frameworks and potential linkages between CCA-M, DRR and IDP

Environmental related legislation: Climate change adaptation-mitigation		(A1) CCA- M	(A2) DR R	(A3) IDP	(A4) CCA- M – DRR	(A5) CCA- M – IDP	(A6) DRR – IDP
Year	Legislation						
2019	Energy Regulations Act No. 12 [43]	0	0	0	0	0	0
2015	Forest Act No. 4 [44]	1	0	0	0	0	0
2015	Mine and Minerals Development Act No. 11 [45]	0	0	0	0	0	0
2015	Zambia Wildlife Act No. 14 [46]	0	0	0	0	0	0
2011	Environmental Management Act No. 12 [30]	1	1	0	0	0	0
2011	Water Resources Management Act No. 21 [47]	1	0	0	0	0	0
2011	Fisheries Act No. 22 [48]	0	0	0	0	0	0
	<i>Subtotal code mentions</i>	2	1	0	0	0	0
	Policies						
2016	National Policy on Climate Change [31]	15	5	5	5	5	0
2020	Zambia Climate Change Learning Strategy [42]	36	14	11	14	11	0
2019	Health National Adaptation Plan to Climate Change [49]	53	9	1	9	1	0
2014	National Forestry Policy [50]	10	0	5	0	5	0
2014	Second National Agriculture Policy [51]	10	0	0	0	0	0
	<i>Subtotal code mentions</i>	124	28	22	28	22	0
	Other relevant documents and enablers						
2018	Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I and II in Zambia (1 Mar 2018 – 12 Oct 2025) [52]	5	0	0	0	0	0
2018	Zambia Renewable Energy Financing Framework [53]	10	0	0	0	0	0
2017	National Investment Plan to Reduce Deforestation and Forest Degradation (2018-2022) [54]	19	1	3	1	0	0
2017	Building the resilience of local communities in Zambia through the introduction of Ecosystem based Adaptation (EbA) into priority ecosystems, including wetlands and forests [55]	60	0	2	0	2	0
2015	Intended Nationally Determined Contribution [56]	36	1	4	1	4	0
2015	National Strategy for Reducing Emissions from Deforestation and Forest Degradation (REDD+) [57]	25	0	2	0	2	0
2015	Zambia Second National Biodiversity Strategy and Action Plan (NBSAP-2), 2015-2025 [58]	8	0	6	0	6	0
2013	Technology needs assessment [59]	152	3	1	3	1	0
	<i>Subtotal for the codes</i>	315	5	18	5	15	0
	<i>Grand total</i>	431	34	35	33	32	1

The values 0 to X are the number of document sections containing codes of each field, which are classified according to the following categories: (A1) CCA-M: Extract includes CCA-M codes; (A2) DRR: Extract includes DRR codes; (A3) IDP: Extract includes IDP codes; (A4) CCA-M–DRR: Extract includes codes that show links between CCA-M and DRR; (A5) CCA-M–IDP: Extract includes codes that show links between CCA-M and IDP; (A6) DRR–IDP: Extract includes codes that show links between DRR and IDP

3.1.1 Environmental legislation related to CCA-M

There are seven documents in this environmental legislation sub-category that relate to climate change adaptation-mitigation analysed in this study. When analysed for the three main codes (A1) CCA-M, (A2) DRR, A3 (IDP), only three of these seven documents mention Code (A1) CCA-M. The three Acts of Parliament are the Forest Act No. 4 of 2015, Environmental Management Act No. 12 of 2011, and the Water Resources Management Act No. 21 of 2011.

Only the Environmental Management Act No. 12 of 2011 mentions Code (A2) DRR once (Table 1). No single Act of parliament related to environmental management and thus to CCA-M analysed in this study mentioned IDP. This includes the latest Energy Regulations Act No. 12 of 2019. Suggesting that these legal frameworks are not meant to promote decentralised municipality IDP or the harmonisation of CCA-M and DRR or the mainstreaming of these two interventions into IDPs. These legal frameworks seem to maintain the status quo of parallel implementation structure for CCA-M and DRR concept implementation.

3.1.2 Environmental policies related to CCA-M

Only five sector policies are available post 2010 exclusion / inclusion criteria and analysed, that directly relate to environmental management and CCA-M in different sectors. When analysed for the three main codes (A1) CCA-M, (A2) DRR, A3 (IDP), the 2016 National Policy on Climate Change, The 2020 Zambia Climate Change Learning Strategy [31, 42], and the Health National Adaptation Plan to Climate Change [49] mentions all the three main parameters and linkages between CCA-M and DRR, between CCA-M and IDP but no linkages between DRR and IDP. Suggesting that post 2016 policy frameworks in this category seem progressive concerning the recognising of the three variables even though IDP is not mentioned directly. The researchers deduced that IDP was implied based on other similar words analysed.

3.1.3 Environment: other related documents and enablers related to CCA-M

Eight documents are analysed in this sub-category of enablers related to CCA-M. The eight enabler documents are in agricultural production, energy financing, eco-based adaptation, forestry emission reduction, national biodiversity. Most documents relate to REDD+ mechanism. REDD+ is about: reducing emissions from deforestation, reducing emissions from forest degradation, conservation of forest carbon stocks, sustainable management of forests, and enhancement of forest carbon stocks.

When analysed for the three main codes (A1) CCA-M, (A2) DRR, A3 (IDP), these enabler documents are comprehensive on mentioning Code (A1) CCA-M (315 times). However, only three documents out of these 8, mention Code (A2) DRR (5 times), while six out of eight documents mention Code (A3) (18 times). It is clear from these mentions that these sectoral documents are more inclined to dealing with Code (A1) CCA-M and not the other two codes. A further clear indication of the lack of articulation of the need to harmonise CCA-M and DRR and even mainstreaming them into IDPs, but are to be implemented within specific sectors.

3.2 A review of disaster risk reduction legislation, policy and related enablers to facilitate harmonisation and mainstreaming of CCA-M and DRR into IDPs

From 1966 to 1992 disaster management activities were coordinated and managed centrally through the Contingency Planning Unit in the office of the Prime Minister by then. The Programme

Against Malnutrition (PAM) an inter-ministerial agency for Emergency Drought Recovery Programme management took over the direct running of disaster management and mitigation activities in Zambia on behalf of government and donors from 1992 to 1996 but overlapped in emergency delivery systems with the Disaster Management and Mitigation Unit (DMMU) under the Office of the Vice President that was created in 1994. The Disaster Management and Mitigation Unit was created with United Nations Development Programme (UNDP) support [41]. DMMU is now (2020) equivalent to a fully-fledged government Ministry even though it is not referred to as Ministry of Disaster Management and Mitigation.

The first Disaster Management Act for Zambia was developed in 2005 with technical support from UNDP [41]. The second and current Act is the 2010 version with accompanying 2015 policy framework, and the accompanying operations manual. The 2015 policy is implemented through the National Disaster Risk Management Framework (2017-2030) that attempts to operationalize the Sendai International Framework of Action for DRR [21-22, 30]. The DRR legislation, policy and enabler documents sub-categories have the lowest number of documents analysed in this study with respect to potential code linkages of CCA-M, DRR and IDP in Zambia (Table 2).

Table 2

Number of times a code, key words are mentioned in environmental related legislation, policy and other enabling frameworks and potential linkages between CCA-M, DRR and IDP

Disaster risk reduction		(A1) CCA- M	(A2) DRR	(A3) IDP	(A4) CCA- M - DRR	(A5) CCA- M - IDP	(A6) DRR- IDP
Year	Legislation						
2010	Disaster Management Act No. 13 [33]	7	7	0	6	0	0
	<i>Subtotal code mentions</i>	7	7	0	6	0	0
	Policies						
2015	National Disaster Management Policy (2015-2020) [21]	3	13	0	3	0	0
	<i>Subtotal code mentions</i>	3	13	0	3	0	0
	Other relevant documents and enablers						
2017	Zambia National Disaster Risk Management Framework, (2017-2030) [22]	2	70	0	2	0	0
2015	Disaster Management Operations Manual [27]	11	22	0	11	0	0
	<i>Subtotal code mentions</i>	13	92	0	13	0	0
	<i>Grand total code mentions in this category</i>	23	112	0	22	0	0

The values 0 to X are the number of document sections containing codes of each field, which are classified according to the following categories: (A1) CCA-M: Extract includes CCA-M codes; (A2) DRR: Extract includes DRR codes; (A3) IDP: Extract includes IDP codes; (A4) CCA-M–DRR: Extract includes codes that show links between CCA-M and DRR; (A5) CCA-M–IDP: Extract includes codes that show links between CCA-M and IDP; (A6) DRR–IDP: Extract includes codes that show links between DRR and IDP

3.2.1 Disaster risk reduction legislation

Disaster Management Act No. 13 of 2010 [33] is the only Act directly related to disaster management within the inclusion criteria of year 2010 to 2020 that was analysed. This sub-

category yielded 7 mentions for code (A1) CCA-M, another 7 mentions for (A2) DRR and none for code (A3) IDP. Mentions for potential linkages between CCA-M and DRR were only six and none between CCA-M and IDP nor between DRR with IDP. Suggesting that the Act was not oriented towards promoting harmonisation of the concept of CCA-M and DRR in 2010 nor promoting the mainstreaming for DRR into municipality IDPs by then.

3.2.2 Disaster risk reduction policies

Again only 1 policy framework that directly governs DRR exists and was analysed in this sub-category. When analysed for the three main variables, this sub-category yielded 3 mentions for code (A1) CCA-M, another 13 mentions for code (A2) DRR and none for code (A3) IDP. Suggesting that it is thin on harmonisation of CCA-M and DRR at 3 mentions. The Act does not recognise decentralised municipality IDP as a vehicle through which DRR could be delivered but through centralised governance system.

3.2.3 Disaster risk reduction: other related documents and enablers

Again only 2 documents were analysed in this sub-category. These were the 2017 Zambia National Disaster Risk Management Framework, (2017-2030) and the 2015 disaster management Operations Manual. The operations manual clarified the policy guidelines. The management framework was the plan of action for DMMU and operationalized the international Sendai Framework of Action [21-23]. When analysed for the three main variables that is codes (A1) CCA-M, Code (A2) DRR, and Code (A3) yielded the following: 13 mentions for CCA-M; 92 mentions for DRR and none for IDP.

These results suggests that the operations manual was not oriented to mainstream DRR into municipality IDPs from 2017 to 2030, post year 2015 and after Zambia signed the four international frameworks [5-6]. Neither is the policy-oriented so much towards harmonising CCA-M and DRR.

DMMU has highlighted DRM/DRR nexus as main basis for revising the old 2005 Policy to the latest 2015 document. However, the use of disaster management terminology as opposed to DRM/DRR still dominates their latest 2015 DMMU policy, operations manual, and the 2017 implementation plan.

3.3 A review of municipality integrated development planning legislation, policy and related enablers to facilitate harmonisation and mainstreaming of CCA-M and DRR

The bulk of the documents analysed in this category in (Table 3) were developed through the World Bank Supported Pilot Programme for Climate Resilience (PPCR) and forms the bulk of the documents at 11 out of 22 in this category [66,68-76]. GIZ has contributed 5 supported policy guideline documents (Table 3). These include all the 4 guideline volumes for integrated

development planning, thus Vol. 1 - 4, [62-65, 67] and the National climate proofing manual for 2014 [68]. The remaining legislation and the two national policies [13, 15, 29, 34, 60-61] are internally supported by the Zambian government.

Table 3

Number of times a code, key words are mentioned in environmental related legislation, policy and other enabling frameworks and potential linkages between CCA-M, DRR and IDP

Municipality integrated development planning		(A1) CCA- M	(A2) DRR	(A3) IDP	(A4) CCA- M - DRR	(A5) CCA- M - IDP	(A6) DRR - IDP
Year	Legislation						
2019	Local Government Act No. 2 [29]	0	0	0	0	0	0
2019	Public Service Financial Management Act No. 1 [60]	0	0	0	0	0	0
2018	Constituency Development Fund Act No. 11 [61]	0	0	0	0	0	0
2015	Urban and Regional Planning Act No. 3 [13]	0	0	105	0	0	0
	<i>Subtotal code mentions</i>	0	0	105	0	0	0
	Policies						
2017	7th National Development Plan 2017-2021 [25]	6	5	7	1	0	0
2014	National Planning and Budgeting Policy [34]	0	0	0	0	0	0
2019	Guidelines for Integrated Development Planning Vol. 1 [62]	4	1	286	1	4	1
2019	Guidelines for Integrated Development Planning Vol. 2 [63]	11	2	210	0	11	2
2019	Guidelines for Integrated Development Planning Vol. 3 [64]	6	3	118	0	5	3
2019	Guidelines for Integrated Development Planning Vol. 4 [65]	0	0	0	0	0	0
2019	Guidelines for mainstreaming CCA into IDPs (PPCR Supported) [13]	12	0	28	0	12	0
2019	Guidelines for Screening Climate Change in Sector Policies, Plans and Strategies (PPCR Supported) [66]	41	4	12	4	12	3
2014	Integrating climate change into development planning climate proofing manual for Zambia (Climate financing manual for sectors and national level) (GIZ Supported) [67]	56	4	3	4	3	1
	<i>Subtotal code mentions</i>	136	19	664	10	47	10
	Other relevant documents and enablers (all supported by PPCR)						
2019	Project Appraisal Document for the Transforming Landscapes for Resilience and Development (TRALARD) (2019-2025) [68]	33	8	5	8	5	5
2018	Landscape Vulnerability Decision Support Framework for TRALARD Project [69]	46	2	9	2	9	2
2018	Training Manual for Climate Change Risk and Vulnerability Assessment the PPCR in Western Province, and the TRALARD in Luapula, Muchinga and Northern Provinces [70]	35	4	35	4	35	4
2018	Project Appraisal Document for the Extension of the PPCR in Barotse sub-basin (2019-2022) [71]	25	2	11	2	11	0
2016	Training Manual for Climate Change Risk and Vulnerability Assessment for the PPCR: Strengthening Climate resilience in Kafue sub basin (SCRiKA) [72]	97	13	25	13	0	0
2015	Resource Guide Training of Trainers for Climate Risk Adaptation Facilitators and District Planning Officers [73]	76	48	1	48	1	0
2013	GRZ PPCR Participatory Adaptation Implementation Manual (PAIM), Vol. 1 (Participatory Adaptation Planning) [74]	47	0	31	0	31	0
2013	GRZ PPCR Participatory Adaptation Implementation Manual (PAIM) Vol. 2 (Implementation of Participatory Adaptation Sub-Grants) [75]	36	1	11	1	11	1

2013	GRZ PPCR Participatory Adaptation Implementation Manual (PAIM) Vol. 3 (Procedures for Participatory Adaptation) [76]	37	0	4	0	4	0
	<i>Subtotal code mentions</i>	432	78	132	78	107	12
	<i>Grand total code mentions in this category</i>	568	97	901	88	154	22

The values 0 to X are the number of document sections containing codes of each field, which are classified according to the following categories: (A1) CCA-M: Extract includes CCA-M codes; (A2) DRR: Extract includes DRR codes; (A3) IDP: Extract includes IDP codes; (A4) CCA-M–DRR: Extract includes codes that show links between CCA-M and DRR; (A5) CCA-M–IDP: Extract includes codes that show links between CCA-M and IDP; (A6) DRR–IDP: Extract includes codes that show links between DRR and IDP

3.3.1 Municipality integrated development planning legislation

A total of 4 Acts of Parliament are analysed in this IDP legislation sub-category: the Local Government Act No. 2 of 2019 [32]; Public Service Financial Management Act No. 1 of 2018 [56]; and Constituency Development Fund Act No. 11 of 2018 [57]; and the Urban and Regional Planning Act No. 3 of 2015 [20]. When analysed for the three main codes (A1) CCA-M, (A2) DRR, A3 (IDP), only the URP Act No. 3 of 2015 mentions Code (A3) IDP 105 times (Table 3). Thus there is no suggested linkage between CCA-M and DRR and IDP in these legislation nor is there suggested need to harmonise the CCA-M and DRR concepts. This is despite all these Acts being written in and post year 2015.

3.3.2 Municipality integrated development planning policies

A total of 7 policy documents are analysed for the three main codes (A1) CCA-M, (A2) DRR, (A3) IDP and for their subsequent mentions of potential conceptual linkages with the other, in this sub-category. The 4 volumes for the Guidelines for Integrated Development Planning (2019) [62-65] are the major policy framework for making IDPs in Zambia and have specific supplementary guidelines for mainstreaming CCA only into IDPs (2019).

Overall these national policies in this sub-category mentions Code (A1) CCA-M 136 times, Code (A2) DRR 19 times, and Code (A3) IDP 664 times suggesting they are more inclined to IDP making. Hence the policies are comprehensive on linkages between code CCA-M and IDP linkages (47 mentions), but weak on linkages between CCA-M – DRR, 10 mentions, and weak on linkages between DRR – IDP, 10 mentions.

These policies and guidelines have not articulated on need to harmonise or converge the two concepts of CCA-M and DRR nor do they mention need to mainstream harmonised concept of CCA-M and DRR into IDP. They are inclined to promoting mainstreaming of CCA-M into IDPs.

3.3.3 Municipality integrated development planning: other related documents and enablers

All the 9 documents analysed in this sub-category are developed by World Bank PPCR project from year 2013 to 2019. Their mains focus is CCA-M, national development planning, sectoral planning, District Development Planning, some elements of DRR and DRM and not primarily

municipality integrated development planning. The researchers placed these documents in this sub-category because the PPCR and now TRALARD Projects are the only projects that have been instrumental to try to build capacities of the municipalities to deliberately mainstream CCA-M and now DRR into District Development Planning and IDPs compared to any other projects in Zambia.

When analysed for Code (A1) CCA-M, (A2) DRR and (A3) IDP, these 9 enabler documents score very highly with Code (A1) CCA-M at 432 mentions, Code (A2) DRR has 78 mentions, and Code (A3) IDP has 132 mentions respectively. This is big improvement in the mention of DRR in these documents and this is attributed to three primary documents for the PPCR.

4. Discussion

Based on the documents reviewed from (Tables 1-3), no single document mentions need to harmonise or converge the concepts of (A1) CCA-M and (A2) DRR into one before the resulting concept can be mainstreamed into IDPs. Most documents reviewed overall, mentions more of need for these two concepts of CCA-M and DRR to be mainstreamed separately (implicitly) into national development planning, sectors and district development plans. However, some PPCR documents [69-76] on CCA-M and the National Health Adaptation Plan [49] calls for close recognition of Disaster Risk Management into national, sector, district and sub sector development plans.

Inherently there is less mention of Code A3 (IDP) in most documents analysed apart from those specifically dealing with IDP: the guidelines for making IDPs, IDP legislation, policy and other PPCR supporting documents in the IDP legal, policy and enabler sub-categories of the analysis. It is important to note however that Code (A3) municipality IDP, in its functional definitional form, through URP Act No. 3 of 2015, is much more recent a concept in Zambia than the codes of (A1) CCA-M and Code (A2) DRR. Code (A3) which is decentralised municipality IDP concept, has just been clarified with the release of the IDP making guidelines in 2019 [62-65]. Hence the relatively recent introduction of the concept could explain why it is not mentioned much more in many earlier documents apart from the PPCR documents that based its inclusion on the draft Urban and Regional Planning Bill of 2009 [77]. Though anecdotal, there seems to be conceptual competition between IDP and District Development Planning (DDP) concept, between spatial and social-economic development planning themes, between decentralisation and continuation of sectoral developmental approaches in Zambia. These could be additional reasons as to why DDP could be mentioned more than IDP in these documents analysed. There is also a possibility of the government departments or sectors or line ministries resisting decentralisation as another layer of explanation. The MNDP for instance is still championing the idea of Zambia continuing with the District Development Planning systems through the District Development

Coordinating Committee based on Cabinet Circular No. 1 of 1995, and through the National Development Planning and Budgeting Act No. 1 of 2020 [78]. Such a position in 2020 reinforces the parallel planning system and dilutes the need to have a decentralised municipality system by devolution and subsequent to have decentralised municipality IDPs as principal planning, budgeting and decision-making tool at district level. The MNDP thus reinforces the sectoral ways of implementing CCA-M and DRR and thus reinforcing the findings of [82].

Despite this low activity to harmonise CCA-M and DRR at local level and to mainstream the resulting harmonised concept into IDPs, Zambia still has good political will from central government to try to harmonise and mainstream CCA-M and DRR into municipality development planning and decision-making. This can be seen from the other newly commissioned development projects in Local Government to build capacity of the decentralised municipalities to fully utilise IDPs as principal planning tools [19]. By the same token IDPs have not been completely ignored in the newly proposed National Planning and Budgeting Act No. 1 of 2020 [78]. This government commitment is further demonstrated in the pronouncements: in the national developmental frameworks; the establishment of the National Designated Authority to coordinate UNFCCC climate change-related projects; establishment of the fully fledged Department of Climate Change Adaptation and Mitigation at the Ministry of Lands and Natural Resources; the establishment of DMMU; and enactment of URP No. 3 of 2015 that mandates municipalities to formulate IDPs [42, 79]. Only that the Zambian government does not have money of its own to advance and domesticate this harmonisation and mainstreaming of CCA-M and DRR agenda, without international support.

Albeit some scholars have perceived the external donor-funded agenda of CCA-M in Zambia as a deliberate strategy by the government to tap into this international funding mechanism. To meet its chronic national budget deficits of about 40% annually, to provide electricity, improve food security through promotion of Conservation Smart Agriculture for example, improve storm water drainage in urban areas to address flash floods, generally improve rural market linkage related infrastructure, utilisation of the natural resources in rural areas, thus to create jobs and ultimately satisfy voters [41, 16]. This developmental approach of tapping into international climate financing is also perceived to be a tool for the elite in Zambia to control the country through the control of natural resources [16]. Rodham (2017) on the other hand views international climate change funding as an opportunity for Zambia to improve in developing CCA-M and DRR policy in general.

Be as this may, it is still a good thing again that the government is pursuing mainstreaming of CCA-M into national and sectoral developmental planning to enhance resilience and address super wicked nature of CC and Disaster risk. But whether being dependant on external donor

funding and project developmental approach is the best approach to champion CCA-M and DRR harmonisation and mainstreaming into development planning could be another debate. Developmental projects / programmes may also be too short and limited in geographic scope to effectively contribute to the harmonisation and mainstreaming of CCA-M and DRR into many municipality development plans but can provide valuable lessons for scaling up but again with which funds? Suggesting that public funding is critical to building municipality resilience in Zambia.

The World Bank PPCR seem to have had a long-life span, if the preceding projects of Social Recovery Programme, the Zambia Social Investment Funds (2000-2008) and the Emergency Drought Recovery Programme (2003-2005) [80, 81] are factored in. The PPCR therefore seem to have tried to promote the CCA-M and DRR linkages agenda and to strengthen local government capacity in CCA-M, but some of the funds used under PPCR have been in form of loans to the Zambian government. As such Zambia still needs to pay back these loans thus perpetuating the vicious cycle of financial indebtedness on one hand while trying to improve CCA-M and DRR programming on the other. It would seem like digging one hole to fill another thus perpetuating the vicious cycle of national indebtedness to the international financing institutions.

Overall these findings discussed above suggest two things: that the status quo of sectoral, parallel, national level and District Development Planning mainstreaming of the two concepts still prevails; that this debate on need to promote harmonisation of the two concepts of CCA-M and DRR is still at international debate level and not very much translated into actionable plans at national and local level 5 years after the watershed signing of the four international agreements on CC, DRR, SDGs and NUA [5-6]. The findings in this paper collaborate with [39] that mainstreaming and implementation of CCA-M (and DRR by implication) at local level is always challenging even though steps of how this could have been done are identified. Other researchers [82] equally found out that there was still continued implementation of the two concepts in parallel on one hand at SADC countries' level and that the debate to harmonise (by implication) the two concepts of CCA-M and DRR and / or to mainstream the individual concepts was still on paper and not on the ground. Ultimately, there is, still a lot of work that needs to be done to try to harmonise the two concepts of CCA-M and DRR and to later mainstream both of them into municipality development planning and decision-making. This activity should mainly be articulated in legislation or policy frameworks for the public programmes that are highly depended on legal frameworks to operationalize their mandate.

5. Conclusion

It can be seen from the combined total of 46 legal, policy and enabler framework documents analysed in this study, that should promote harmonisation and mainstreaming of CCA-M and DRR into municipality IDP, that there is: little activity to amend legislation, policies and enabling

documents that relate to CCA-M, DRR and IDP post 2015 in Zambia. The revised legal, policy and other enabler documents should promote the harmonisation of CCA-M and DRR into one hypothetical or converged concept. These revised legal, policy and other enabler documents should later promote the mainstreaming of these harmonised two concepts into decentralised municipality IDP, or even promote the mainstreaming of these two concepts in their independent form into decentralised municipality IDPs.

The acknowledgement by the four major international frameworks that CCA-M and DRR are similar and should be harmonised and mainstreamed into decentralised IDPs seem not to have helped a lot to translate this united consensus into action on the ground to promote resilience. However, the World Bank multilateral funded PPCR on one hand has helped to strongly articulate the similarities between CCA-M and DRR in their earlier 2015 training guidelines for district planners [73], this position has not been incorporated into their exclusive guidelines for mainstreaming CCA into IDP in 2017 and released to the public in 2019 [13]. Suggesting a missed opportunity at the same time for MNDP / World Bank PPCR to have developed guidelines that would have mainstreamed both CCA-M and DRR into municipality IDPs. Inconsistently the same MNDP / World Bank supported PPCR in the same year in 2019 strongly articulated the similarities of these two concepts of CCA-M and DRR in their TRALARD Project for Luapula, Muchinga and Northern Provinces based on what they claim are lessons learned from their initial activities. GIZ on the other hand developed climate financing manual or guidelines for mainstreaming climate change into all sectors and national level development planning for Zambia in 2014 [67] but these were not acknowledged in another set of guidelines by PPCR, the 2018 PPCR Guidelines for Screening Climate Change in Sector Policies, Plans and Strategies [66]. As such the researchers did not see the much required consistency in policy messaging needed to actively promote conceptual harmonisation between CCA-M and DRR or later to mainstream this harmonised concept or as separate individual themes of CCA-M and DRR into decentralised municipality IDP.

The 2019 PPCR guidelines for mainstreaming CCA only into IDPs [13] thus the only exclusive guidelines for IDP mainstreaming that are available in Zambia, may need to be revised to clearly include DRR. It would therefore be important for the Zambian government to take advantage of the existing donor support and political will to revise the appropriate legislation, policies and enablers to help municipality planners harmonise and later mainstream CCA-M and DRR into IDPs in future. It would also be critical to reconcile the top-down District Development Planning system with the decentralised bottom-up municipality IDP system. The lack of clarity between these two planning systems reinforces the fragmentation and fragmented implementation of CCA and DRR.

Institution wise, it would be important to continue reconciling the functions of MNDP, MLNR, DMMU and Ministry of Local Government as far as harmonisation of CCA-M and DRR and later mainstreaming of these two concepts in a harmonised manner or as individual concepts into decentralised municipality IDP. It would also be important for DMMU to review how they operate vis-à-vis CCA-M and DRR mandate, and how they use disaster management, disaster risk management, and disaster risk reduction terminology.

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CHAPTER 6: GLOBAL EVIDENCE OF MAINSTREAMING CLIMATE CHANGE ADAPTATION-MITIGATION AND DISASTER RISK REDUCTION INTO MUNICIPALITY INTEGRATED DEVELOPMENT PLANNING

**Article 4 - Climate change adaptation-mitigation and disaster risk reduction: global
evidence in municipalities' integrated development plans**

Climate change adaptation-mitigation and disaster risk reduction: global evidence in municipalities' integrated development plans

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Abstract

Climate change adaptation, mitigation (CCA-M) and disaster risk reduction (DRR) are similar concepts and practices that needs harmonisation and mainstreaming into development planning to enhance natural and societal systems' resilience at all levels of public developmental administration. The challenge is how to implement this on the ground. Through use of secondary data coupled with a blend of theoretical frameworks to identify best practices' case studies, this paper attempts to identify case studies of municipalities globally that have successfully attempted to harmonise and mainstream both CCA-M and DRR into their respective integrated development plans and decision-making processes post year 2015. Among countries with high Climate Risk Index analysed, Canada and Philippines seem to have best models for harmonising and mainstreaming CCA-M and DRR into their respective municipality development planning that other countries could try to emulate.

Key words: climate change adaptation-mitigation; disaster risk reduction; mainstreaming; best practice case studies; municipality integrated development planning

1. Introduction

There is now better understanding and unified consensus among scholars, practitioners and governments globally, that climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR) are similar concepts and practices (IPCC 2012; IPCC 2014; Natoli 2019; GIZ 2019:5). This is to address super wicked problems of extreme climate events associated with climate variations, changing climate and associated disaster risks. These two concepts and practices of CCA-M and DRR need to be harmonisation and mainstreamed into development practice at all levels of developmental administration. Again, this is to effectively enhance natural and societal systems resilience, using public resources. However, these two interventions and practices still continue to be implemented in parallel at global, national and sub-national levels (Nemakonde 2017:333; GIZ 2019).

Decentralised municipalities are recognised and considered best equipped arms of governments in developed countries to harmonise and mainstream these two concepts and practices of CCA-M and DRR at grassroots level (IPCC 2014:107; Pasquin et al. 2015). If well supported by respective central governments in terms of financial, human resources, political will including proper legislation and mentorship, municipalities in developing countries could also provide such effective support to communities to enhance resilience against changing climate, variability and associated disaster risks. However, the challenge is how to go about harmonising and mainstreaming these two concepts and practices into decentralised municipality developmental practice and decision-making. This is so, especially in developing countries that are considered undemocratic, very much prone to the negative impacts of climate change and associated disaster risks (Djalante et al. 2013:167; Pasquin et al. 2013; IPCC 2014:107). On the other hand, continued implementation of CCA-M and DRR in parallel at all levels of development administration could suggest the following. That, there are still no public or democratic mechanisms in place globally on how municipalities should go about to harmonise and mainstream these two concepts and practices into development practice, decision-making and resource allocation (Pasquini et al. 2013:60; SEEDS Technical 2014:33; Klein et al. 2014:903; Natoli 2019:11; Satterthwaite 2016:3; Nemakonde et al. 2017:330). In case such mechanisms for harmonising and mainstreaming of CCA-M and DRR into municipality development planning and decision-making do exist, they may not have been popularised. Lack of widely documented best practices for harmonisation and mainstreaming have also been considered a barrier to mainstreaming CCA-M and DRR into development planning (ICLEI 2016:3). Thus need to document such mechanisms if they exist, is critical for municipality planners to use, that may not be experts in CCA-M and DRR science, especially for developing countries that may not have the necessary resources to invest in CCA-M, DRR, Municipality IDP interface research.

Through the use of secondary data, this paper attempts to identify municipalities' case studies globally, but presenting them according to their respective countries in which they are found, that may be considered as best practices to have successfully harmonised and mainstreamed CCA-M and DRR into decentralised municipality development planning and decision-making process.

2. Conceptual framework

In this paper the term municipality refers to decentralised local authorities both rural and urban based, with city or no city status. Thus, Municipality integrated development planning is the participatory, holistic and strategic as well as functional planning process of decentralised local government planning. Technically integrated development planning process is the analysing of social-economic, build environment, natural resources and spatial development challenges that societies encounter at local level and putting together activities to address these identified problems. Integrated Development Planning thus involves the identification of activities to address these problems in salient, credible and legitimate manner using public resources to enhance societal resilience. In this context integrated development planning is multi-sectoral, short and long-term for both rural and urban populations of the municipalities. On the other hand, integrated development plans are the outcomes of the integrated development planning process (Venter 2018:110). IDP acronym is used to refer to both process and plans in this paper.

In addition to being rooted and inclined to public management, policy and public planning challenges (van der Waldt 2009:32), CCA-M and DRR are heavily rooted in natural, applied and other social sciences (IPCC 2012). This makes these two concepts and practices to be cross-cutting, multi-sectoral, trans- and multi-disciplinary, developmental options (van Niekerk 2006). Rudimentary legislation guides these two concepts and practices of DRR and CCA-M, if they have to be mainstreamed into municipality development planning and decision-making (Ziervogel et al. 2019:13). Mainstreaming of CCA-M and DRR into municipality integrated development planning should therefore be guided by each country's, multi-tier risk governance and local government level legislation (UNDP 2017). Such legislation should prioritise long-term risk reduction over emergency management but should also provide legal requirements to guide the post-disaster recovery process. As such, municipalities as well as decentralised multi-tier risk governance institutions of central governments ought to be well supported with capacity and policies to function properly. In-country sectoral laws such as land-use laws, environmental and natural resources management laws also need to be revised, streamlined and are key to proper functioning of climate and disaster risk governance system (UNDP 2017:10).

Mainstreaming in this paper is acknowledged to have had a long history in development and environmental policy framework (Ayers et al. 2014:40). It is also acknowledged to be in three types thus: conceptual¹, experiential² and systemic³ (Scott et al. 2019:303). Mainstreaming of CCA-M and DRR into development administration at all levels is further recognised as key to achieving climate and disaster resilience on the ground (Hettiarachchi et al. 2014). However, limitations of harmonising the two concepts are also recognised to be along the lines of scale (spatial, temporal and functional), norms, and knowledge mismatches (Birkmann et al. 2014:48, Natoli 2019:11). Challenges of mainstreaming into municipality development planning are further recognised along thematic knowledge understanding, action, and institutional transformation to manage the two themes (Ziervogel et al. 2014:66).

In this paper however, mainstreaming is the process of considering or inclusion or merging of CCA-M and DRR positive interventions during the planning process or into already existing municipality development plans and decision-making to achieve resilience (Asif 2014; Wamsler et al. 2015:257). As such, the management process by the planners of trying to identify entry points and tools for harmonisation and mainstreaming could entail utilising already existing policy implementation guidelines, and in their absence to adapting other experiences from other countries that could be deemed best practice, good practice or benchmarks. This in turn would entail utilising associated research methods for best practices to identify such entry points.

Considering that CCA-M and DRR similarities are now widely understood and accepted to have converged on the basis of the probabilistic risk analysis and assessment methodology, thus linked by analysis and assessment of vulnerability variable, resilience, sensitivity and systems exposure to extreme events would further imply that, the theory underpinning probabilistic risk analysis and assessment could also be utilised to help identify the best practice case studies of municipality IDPs that have successfully harmonised and mainstreamed CCA-M and DRR. Even though climate change adaptation and disaster risk reduction are highly localised options and practices and may be difficult to replicate to other areas (Ziervogel et al. 2019:11).

Conceptually, the use probabilistic risk analysis and assessment has shifted the analysis of social-economic and built environment, associated climate and disaster risks to multi-hazards, combined with vulnerability, sensitivity, exposure, coping and resilience capacities. This is a shift

¹ Conceptual mainstreaming describes a situation in which actors are beginning to consider the idea and implications of integrating climate change into their thinking, but not yet into action.

² Experimental mainstreaming describes areas and activities that are in the early stages of testing what the integration of climate change entails in practice, usually on small and limited scale, before any commitments are made to systematic mainstreaming.

³ Systemic mainstreaming describes areas and activities where climate change has been made central component of the work, that is, a policy, programme or project where climate consideration have been integrated into the core logic and design such that it is difficult to lose or remove the climate component.

from hazard inclined risk analysis in general, and from single-hazard perspective. Thus a shift from hazards' centred, to holistic or multi-criteria risk analysis and management requiring a different decision-making framework (IPCC 2012:464). Multi-criteria or integrated risk management and thus mainstreaming is key to proactive planning, management and reducing systems vulnerabilities, thus exposure and their sensitivity to hazards. This is a shift to proactively enhancing resilience (UN-Habitat 2020:142). Additionally, the revised definition of resilience and vulnerability on the other hand in both climate change and disaster risk sciences has also helped to narrow the conceptual-gap understanding by the scholars and practitioners, between risk or extreme events associated with the drivers of climate change, and other hazards, and thus between CCA-M and DRR (IPCC 2012:27; IPCC 2014; USEPA 2017; Natoli 2019). The implication of this seemingly harmonised approach to understanding risk in disaster risk sciences is that, climate change and associated disaster risks has seen a shift in the management practice of disasters from being perceived exclusively as 'protection issue' to 'holistic management of risk'. Thus, a shift from perceiving disaster risk and outcomes as a 'hazard', to the sum of the whole of hazards, vulnerability, sensitivity, exposure, coping and resilience capacities. There is also a shift from disaster management approach that emphasises on analysing physical vulnerability changes to include social vulnerability, and also from the previous narrow view of only analysing static vulnerability to progressive vulnerability (Birkmann et al. 2009; Birkmann & Pardoe 2014).

Another additional shift is in planning. There is equally a shift from planning based on use of single scenario grounded on historic data, to the use of multiple scenarios based on probability analysis and assessment in uncertainty and even factoring in indigenous knowledge systems. Other implications are the alternative focus on loss and damage as opposed to just resilience and adaptation; the promotion of flexible development planning methods as opposed to traditional static planning methods; consideration of alternative land uses and assets that have different time lines; and a conceptual promotion by some scholars to place CCA-M into DRR are the common new threads. These implications show how cross-cutting and complex analysis of multi-hazards risk of climate change and other hazards can be, for development planning and decision-making (Lawrence et al. 2017:418).

Nonetheless, there is recognition among scholars and practitioners that probabilistic risk analysis approach alone may not be enough to understand how climate change and other hazardous risk manifests at individual household or community level for instance, to factor into municipality plans. Such analysis of risk would need complementary household or participatory approaches for instance (IPCC 2012:464; USEPA 2014; USEPA 2017; Liu et al. 2018). Hence a further recognition of need for participatory risk assessments to be used to complement the desk oriented probabilistic risk analysis. Thus this would be required by analysts trying to identify best

practice case studies that have successfully mainstreamed both CCA-M and DRR into municipality development planning and decision-making.

The purpose of this paper is to explore already existing models, tools, document them in one paper, adapt them if necessary and then apply them to identify municipalities that can be considered best practice models to have successfully harmonised and mainstreamed both CCA-M and DRR into municipality development planning. Coincidentally, the process to identify such best practice case studies entails utilising of best practice theoretical framework or methodology. Thus best practice in this paper refers to both actual case studies as well as methodology.

3. Potential frameworks for identifying best practice case studies that harmonise and mainstream CCA-M and DRR into municipality development plans

The process of trying to harmonise CCA-M and DRR, and then mainstream them as single concept or as combined intervention option into development planning and decision-making is still in its infancy (Natoli 2019). Apart from the UNDP combined risk governance model, there are not many other models that can be cited to have: deliberately promoted the analysis and harmonisation of CCA-M and DRR; and prescribed through applied policy implementation guidelines, the mainstreaming of both CCA-M and DRR options into national, sectoral and decentralised municipality development planning and decision-making (Mysiak et al. 2018:4; Cedergren et al. 2018; UNDRR 2019:31). Some examples of these exclusive frameworks for harmonisation and mainstreaming are outlined in (Table 1). What is critical however in these examples is for users to understand what these tools are all about, and then apply them to identify existing best practices.

Table 1: Examples of exclusive tools that have attempted to harmonise and mainstream CCA-M and DRR into municipality development planning

Model / tool	Articles	Emphasis of the model	Municipalities & Country used and year
Probabilistic Risk Assessment to Inform Decision-Making, Or Comprehensive Approach to Probabilistic Risk Assessment (CAPRA)	USEPA 2014; Cardona et al. 2012	See discussion in section 2.	Washington DC, & Worcester, MA, (USA). 2017, (Colombia, Mexico, Nepal) 2011
Functional Model for Disaster Risk Management (DRM) Systems Analysis in Urban Planning context	Rivera 2016:37	Functionally comparing two DRM systems without heuristic bias. See detailed discussion in section 3.2	(Nicaragua and Sweden) 2014

Adaptive Integrated Disaster Resilience	Djalante et al. 2013	Building resilience in an integrated manner and strengthen mechanisms to build system adaptiveness at national and community level. Has 7 pathways to achieve AIDR.	(Indonesia), 2013
Community Based Risk Screening for Adaptation and Livelihoods (CRiSTAL) tool	IISD 2012	For analysing livelihoods, food security, parks, forestry to help integrate CCA-M and DRR into development projects.	(Bolivia, Costa Rica, Dominican Republic, Ecuador, Ethiopia, Guatemala, Haiti, Honduras, Indonesia, Kenya, Mali, Nicaragua, Niger, Peru, Sri Lanka, Tanzania, Uganda, Zambia) 2004 - 2012.
Communication of (Climate and Disaster) Risk Descriptors for Better Decision-Making model	Lin et al. 2017; Lin et al 2016.	Importance of effective communication of risk descriptors among many different actors for effective collaboration in DRM, presumably in CCA-M as well.	Scania, (Sweden), 2017
Spatial Planning and Computer Aided Decision-Making Infrastructure	Ran et al 2016:74; Ran et al 2018	Need for better understanding of potentials of geographic information and technologies in mainstreaming developmental themes into development planning and decision-making.	(Ireland, Germany, Netherlands, England). 2016.
Spatial Development Framework (SDF)	Spaliviero et al 2019;	Framework allows establishing of clear linkages between reality on ground and adopted spatial planning policies. Meant for rapidly urbanising countries but with weak planning systems/legislation. Tool can also help planners understand the functional SDF of their areas and can complement other tools.	Darfur (Sudan). 6 sites in (Rwanda). Napula province (Mozambique). (Myanmar). 2011-2016.
Urban Climate Resilience Framework	ACCCRN 2009. Archer et al. 2017	Encourages each city to confront the complexities of climate change, formulate, finance and implement corresponding resilience strategies. Thus, develop their own local capacity to address their specific challenges.	56 Cities in 5 countries. (Bangladesh, India, Indonesia, Thailand and Vietnam).
City Resilience Action Planning (CityRAP) to develop Cities Resilience Frameworks of Actions. Similar to Climate Resilience Framework that operates in information rich areas	UN-Habitat 2018; UN-Habitat 2020; Spaliviero et al. 2020;	Modification of the Climate Resilience Framework. CityRAP guides decision-makers to improve city resilience and reduce risk. Uses systems thinking to address resilience, or urban risk including climate and disaster risk in poorer, smaller and intermediate cities of 250,000 inhabitants, that have scarce data, human resources, low governance capacity systems, but to make good investment decisions.	Morondava (Madagascar), Fombeni & Moroni (Union of Comoros), Chokwe, Vilankulo & Mocuba (Mozambique), Zomba & Karonga (Malawi), Dar es Salaam (Tanzania) Lideta sub-city of Addis Ababa (Ethiopia), Nairobi (Kenya), Ibadan (Nigeria), Niame (Niger), Ouagadougou, (Burkina Faso), Dakar (Senegal), Freetown (Sierra Leone), Lusaka (Zambia) 2014-2019.
City Disaster Resilience Scorecard or Ten Essentials for Making Cities Resilient	UNISDR 2017	Launched in 2010, Making Cities Resilient: "My city is getting ready!" Campaign addresses local risk governance, urban risk and resilience. Campaign advocate for widespread local government	San Francisco, Cebu Province (Philippines) Potenza Province (Italy), Stepanavan (Armenia), Karlstad (Sweden), Makati City (Philippines),

		commitment to build resilience against disasters as well as consistent national government support to cities to further strengthen capacities.	LACDE (Israel), Wellington Region (New Zealand), Mashhad City (Iran), and Lisbon (Portugal).
Experimental climate resilience mainstreaming into municipality integrated development planning	Scott et al. 2019; Pasquini et al. 2013.	Co-production of trans-disciplinary knowledge using mode 2 and negotiated third space methodology for decision-making for sustainability. In both urban and rural municipalities.	Capetown, Johannesburg, Pretoria, Durban. Eden, Swartland, Hessequa, Mossel Bay, George, Oudtshoorn and Knysna municipalities (South Africa) 2007-2019.
"PARA" (protect/accommodate/retreat/avoid) framework	Dronker et al. 1990; Doberstein et al. 2018; Doberstein et al, 2020	Practical tool that promotes municipality strategic planning and implementation for community level CCA and DRR in a more proactive manner. 1 st reported in the First Annual Report on Climate Change in 1990. Initially meant for sea level rise in coastal cities. Becoming useful for other slow onset climate/disaster risks as well in non-coastal zones.	Multiple cities and countries. Latest comparison analysis in Manila (Philippines) and Vancouver (Canada), 2020
UNCDF LoCAL and Associated ACCAF (United Nations Capital Development Fund, Local Climate Adaptive Facility, Assessing Climate Change Adaptation Framework)	UNCDF, 2020	Launched in 2011. Integrated into existing national developmental administration system, promotes and incentivises actual mainstreaming of climate resilience options into local government development planning, budgeting and decision-making. Thus provides external financial grants to municipalities upon certifying their awareness raising, mainstreaming, implementation and capacity building of actual climate resilience activities based on pre-agreed implementation, performance-based climate resilience goals linked to good governance and financial management and based on a LoCAL menu of climate resilience options.	Operational in 293 Cities (local municipalities) in total of 14 Least Developed Countries in Asia and Africa (Bangladesh, Benin, Bhutan, Cambodia, The Gambia, Ghana, Lao PDR, Lesotho, Mali, Mozambique, Nepal, Niger, Tanzania, Tuvalu)

Source: Authors

In this paper, three of these models cited in (Table 1) are reviewed in more detail and generic analytical steps identified from these models and streamlined to be used for both CCA-M analysis /assessment and DRR analysis assessment, and later for mainstreaming the harmonised developmental interventions into IDPs. The three models analysed in more detail are: the best practice research theory to identify best practice case studies; the function model for comparing disaster risk management systems (fmDRM), and; the UNDP climate and disaster risk governance framework. Based on literature review, these three offered best potential to be blended (harmonised) into one streamlined model that could be used to analyse both CCA-M and DRR at the same time, and thus identify case studies of municipalities with best practices of having successfully harmonised and mainstreamed both CCA-M and DRR into municipality

development planning.

3.1 Best practice research theory to identify best practice case studies

There are many definitions of best practice. In this paper, best practice is considered *a selective observation of a set of exemplars across different contexts, in order to derive more generalizable principles and theories of management*. These exemplars should be the 'best of the best' and not the 'best of the worst' (Overman et al. 1994:69). Exemplars should also be selected from multiple contexts so that they can be generalizable to derive principles and theories (Myers et al. 2004:6). However care must be exercised when deciding which types of cases to be included in best practices sampling frame, to avoid considering worst case studies as best practice. Albeit, best practice is not a theory in its own right but a strategy or methodology for achieving excellent outcomes cost effectively. The identified or defined common threads in the exemplars is what constitutes theories. Practitioners and analysts therefore ought to define what they would like to see in those exemplars, and it is that which is defined that forms theoretical aspects of specific best practice case study, a position adopted in this study.

Best practice, good practice or benchmarking research tools are also part of cross-national, comparative public policy analysis tools in overall context of public administration and policy science. Best practice investigates what works in one area to be adopted or transferred or learned into another area (Dodds 2013:13). Again, best practice is not so much about empirical evidence but conceptual density in line with grounded theory research orientation (Charmaz 2014:1). Hence given the fewer cases to analyse, and to compare in policy sciences that would have many data collection variables, a case study can still be a good alternative approach to compare the few available cases in more detail, to ensure their conceptual density.

Philosophically, best practice case studies ought to meet six important principal criteria in much broader terms as a research method (Myers et al. 2004:7). These criteria forms the building blocks for the criteria that this paper uses to identify best global practices for mainstreaming CCA-M and DRR into local government.

The first criterion in identifying best practice is a set of *a priori* standards that should be identified by the practitioners / researchers to guide the inquiry of best practices. Secondly there ought to be a criterion identified to present innovative and creative solutions to common problems and a basis to judge that the best practices identified are sustainable and have the potential for replication. Thirdly there must be a criterion identified to provide at least some empirical support or evidence for claims of best practices. The fourth criterion is that the researchers should be mindful of the effects of best practice on perceived change. The researchers should therefore be able to theorise on expected changes they expect the best practice would have on their systems.

As such they should be able to navigate prescriptive knowledge, manage the biasness that might arise and understand the casual theory, or the cause and effect linkages of the best practices being reviewed and how this linkages could be manipulated (Bretschneider et al. 2004:308). The fifth criterion is that the researchers must be mindful of methodological rigor. The sixth criterion is that the researchers must be mindful of the decision-making elements used in the case studies being reviewed (Myers et al. 2004:7 cites Oyen 2002; Klein et al, 2006:907; Sutcliffe et al. 2005:4; Barends et al. 2014:10; Bretschneider at al., 2004:308; Manela et al. 2002: 12). Considering that this study also looks at issues of harmonising already two complex problems of CCA-M and DRR in context of Horizontal Policy Integration, and mainstreaming, best practice policy research may not be sufficient to elicit the problem under review. Hence need to supplement it with other models.

3.2 Function model for comparing disaster risk management systems

Function Model for Comparing Disaster Risk Management (fmDRM) systems is very similar to best practice research theory including data enveloping analysis (DEA) that measures relative technical efficiency (Bretshcneider et al. 2004:307; Rivera 2016). Both best practice method and fmDRM avoids deducing risk knowledge based on experience that might be biased (Rivera 2016:125). Functional model for evaluating DRM systems across different areas focuses on system functionality and not at the purpose the system was designed for, or answering the question, why the system was designed. Rather it is to answer the question *what does the system do to address DRM*. Acquiring information about the system to analyse it, is therefore very critical in risk management (Rivera et al. 2016:461) and would be equally critical in identifying best practices that mainstream both CCA-M and DRR into municipal development plans. Thus function model for assessing and comparing DRM systems is used in this paper to complement best practice theoretical framework at understanding the emotive nature of disaster risk and thus climate resilience to avoid biases in selecting case studies.

3.3 Climate and disaster risk governance framework

By acknowledging the similarities between CCA-M and DRR, UNDP has streamlined its exclusive CCA-M governance, and its DRR governance framework into one, *the CCA-M and DRR screening and assessment framework (UNDP 2017)*. This streamlined *climate and disaster risk governance framework* could be considered to be the overarching public administration management framework through which all the models highlighted above could be packaged. Technically this UNDP framework identifies underlying root causes of risk for natural and societal systems, and thus their subsequent management in a proactive manner (UNDP 2017). This climate and disaster risk governance harmonisation framework could also be considered to complement the best practice theory and fmDRM for identifying good case studies that mainstream both CCA-M and DRR into municipality development planning.

Within this context of *UNDP climate and disaster risk governance framework*, planners could use an additional of four technical tools or methodological approaches to identify municipality best practice case studies that have tried to successfully mainstream CCA-M & DRR into municipality development planning and decision-making. The four tools are: the normative instruments (such as strategies, policies, and plans); technical aspects of climate change and disaster risk screening, analysis and assessment that includes review of the generic steps for risk analysis and assessment (or risk assessment and analysis); robust decision-making instruments; and expert elicitation decision-making process (UNDP 2017).

3.3.1 Normative instruments for climate and disaster risk governance to identify best practice for mainstreaming into municipality integrated development plans

In line with the four converging international frameworks for DRR, CCA-M, SDGs, and for Sustainable Urban Development, coupled with the improved understanding of the similarities between CCA-M and DRR and their converging tendencies at municipality level, central governments should by now in year 2020 have initiated the harmonisation of their respective legislation to reflect this globally accepted understanding on similarities. Harmonised legislative framework and streamlined organisation structures are therefore critical for effective mainstreaming of CCA-M and DRR practices into public institutions and programmes to enhance resilience, being cross-cutting and multi-sectoral interventions. Such legislation and revised institutional frameworks should prioritise risk reduction over emergency management and should be matched with resources and institutional capacity to be effective (UNDP 2017:10).

In summary, harmonised local legislation and streamlined organisation implementation structure as part of theoretical framework to identify best practice case studies for mainstreaming ought to have at least the following eleven points to avoid heuristic biases.

- i. Establish structures, frameworks, plans, procedures and strategies that cut across government sectors and administrative levels to enhance resilience at either sectoral or decentralised local government level (van Niekerk 2006:96). Such regulations should also establish clear communication, financing and feedback channels (Scott et al. 2011:v).
- ii. Recognise global goals of reducing impacts of climate and disaster risk through the current Sendai Framework of Action though non-binding, the UNFCCC Conference of Parties (COP) 21 / Paris Agreement, the UN-Habitat New Urban Agenda, and through the Sustainable Development Goals. Actions for most of these agreements endorsed at national level, take place at local government level (Satterthwaite 2016:3).

- iii. Take deliberate action to harmonise, the conceptualisation and implementation of these two concepts and practices on the ground (Llosa et al. 2011:2).
- iv. Have clear legislation concerning the placement and alignment of DRM and CCA-M within the government departments even where these practices remain to be implemented in parallel. Legislation should also be clear on how municipality should source funding for their CCA-M and DRR activities being public entities (IPCC 2012: 512).
- v. Have policy frameworks that go a step further to recommend the section within the decentralised municipality where CCA-M and DRR should be placed, as well as the support structure (Scott et al. 2019:309). These issues should not be left hanging otherwise they would fall within the cracks.
- vi. Ensure political buy in exist from the inception of the legislation to implement the two concepts (van Niekerk 2006:100; Scott et al. 2019:306). Thus establish a responsible structure within the public sector that will guide, oversee and advise on issues related to DRM and CCA-M. In other words, establish a structure on how these issues would be coordinated in a streamlined manner, planned and budgeted for, financed, implemented and accounted for up to community level.
- vii. Place DRM and CCA-M in the highest office in the public sector at national level and within municipality for overall coordination purposes (Scott et al. 2019:306). In other words CCA-M and DRM should not be placed alongside other service delivery line-function departments but in a strategic cross-cutting coordinating position (ibid. 308). Promote transversal working approach in municipalities to enhance mainstreaming of DRM and CCA-M. Overall such an operational approach should be promoted in both countries where local government is highly decentralised by devolution or not (Ziervogel et al. 2019:11).

- viii. Recognise the important role of other non-public service players such as NGOs, early warning system, placement of competent staff to manage and explain CCA-M and DRR concepts to others in the public system (Scott et al. 2019:308).
- ix. Recognise the incorporation of indigenous knowledge system (Le Dé 2017:275).
- x. Identify and appoint champions for mainstreaming and resource mobilisation at municipality level (Scott et al. 2019:308).
- xi. Undertake regular reviews to take stock of climate change and documenting the progress of mainstreaming climate change at regular intervals (Scott et al. 2019:308).

3.3.2 Technical aspects of climate change, disaster risk analysis and assessment: steps in risk analysis and assessment

As already outlined in the conceptual framework, practitioners trying to identify best practice case studies that have successfully harmonised and mainstreamed CCA-M and DRR into municipality development plans and decision-making ought to be aware that risk analysis and assessment process is part of the overall climate and disaster risk governance process (IPCC 2012:27; UNDP 2017:6) Risk analysis and assessment in practice is thus both a political process as well as technical, a quantitative as well as qualitative social process and a basis for planning and decision-making to enhance resilience (Warren et al. 2018:2). It involves both desk and field analyses / assessments to create appropriate scenarios for decision-making but emphasis should not be on the hazards but vulnerability, thus on systems exposure and sensitivity (Coburn et al. 1994; IPCC 2012:462, Birkmann et al. 2014).

Desk analysis of risk is done before actual outcomes of impacts of extreme events and other hazards on vulnerable and exposed systems. Follow up field assessment and additional analysis of risk is also done before actual outcomes of impacts of extreme events.

The technical steps in climate and disaster risk analysis and assessment being described in this section are therefore expected to be guiding principles for effective identification of best practice case studies that have successfully harmonised and mainstreamed CCA-M and DRR into municipality development planning. The challenge with this type of analysis is to find data sets on climate change scenarios at lower level of scale, which is a limitation.

3.3.2.1 Generic steps for climate and disaster risk analysis and assessment

The general overriding framework for risk management process involves about 5 steps that is: risk identification, analysis, evaluation, treatment and selection of controls. This is the overriding framework for all models for analysing climate and disaster risk that can be varied depending on circumstances. However as already stated and based on probabilistic risk analysis and follow up field assessments, the generic steps for climate and disaster risk analysis / assessments now revolves around hazards, vulnerability, exposure, sensitivity analysis and assessments thematically, thus on resilience capacity. But prior to the strong recognition of the two concepts of CCA-M and DRR using the probabilistic risk assessment approach, the exclusive steps for analysing climate risk and subsequent mainstreaming involved about six generic steps (OECD 2009). The general disaster risk analysis and subsequent mainstreaming equally involved about 10 generic steps (Coburn 1994; Reddy 2010, van Niekerk 2006:111; SAG 2005; Dickson et al 2012). These two types of generic steps for analysing climate risk and disaster risk are placed side by side in (Table 2) below as basis for comparing their similarities and as a basis for harmonising them to be used to identify best practices for and that mainstream CCA-M and DRR into development planning.

In addition to the generic and harmonised steps for analysing risk as basis for identifying best practice, there has to be evidence of strong support towards the reorganised institutions to address underlying root causes of vulnerability and resilience capacity at local level planning and decision-making within climate and disaster risk analysis (Reddy 2010, van Niekerk 2006; SAG 2005; OECD 2009; IPCC 2012; Cardona et al. 2012; Djalante et al. 2012:1734; USEPA 2017; Kelman et al. 2017).

Table 2: Generic steps for analysis and assessing climate change and disaster risk in climate and disaster risk governance framework

Six generic climate change risk analysis and assessment / steps. Desk analysis, field assessment and additional second level analysis and decision-making	Ten generic disaster risk and risk reduction analysis and assessment / steps. Desk analysis, field assessment and additional second level analysis and decision-making
Climate change risk analysis for identifying CCA involving 6 generic steps at local government level, mainly articulated by OECD 2009; Adger et al. 2018; Vincent et al. 2018; and UNCDF 2018. According to the trio, good practice for mainstreaming CCA into local government integrated development plans should include the following sequenced activities.	The 10 generic steps for analysing disaster risk and identifying associated DRR are outlined below. They are mainly articulated by Reddy 2010, van Niekerk 2006:111, supported by SAG 2005 and the experience of the authors
i). Preparation to undertake the desk and field analysis / assessment of climate change risk, especially vulnerability. World Bank 2013:14 refers to this process as risk identification.	i). Preparation to undertake the desk and field analysis / assessment of disaster risk especially vulnerability.
No details available	a). Well decentralised municipality by devolution, identifies the need to undertake this exercise for short-term or long-term local economic and spatial planning purposes based on legal requirement, and

	based on impending rapid or slow onset hazards, and / or other systemic hazards. b). Municipality decides to undertake the analysis using own multi-disciplinary planning team or hire external consultants. c). Local planning staff or committee or external consultant's orients / debrief local political leadership about concept, importance and practice of disaster risk and disaster outcome as developmental concept. Core planning team or consultants identifies methodology to use to analyse risk. Defines risk, and identifies secondary data sets to analyse risk.
ii) Undertake current and future gender-sensitive climate risk assessment (GCRA) to.	ii) Core planning team undertakes a priori desk analysis of disaster risks.
<i>a). Analyse /assess current climate risk</i>	<i>a). Analyses past and current disaster risk.</i> Analyse past disaster risk causes (chronic disaster risk and past disaster outcomes) using historic secondary information of hazards, vulnerability, exposure and sensitivity. They are many methods to use. These methods use a combination of data sources that include remote sensed, geographic information data, to analyse hazards. Proxy - indicator-based, model and geographic based, and other society economic data for vulnerability, sensitivity and exposure analysis. Though subjective, politically filtering reports that indicate potential hazard manifesting are also considered in this type of analysis. This type of analysis is done to identify the most at risk geographic areas within municipality boundaries and most at risk physical infrastructure and other natural, human systems including demographic profiles for DRR.
a-i. Ensure planners are familiar with gender roles & relationship.	a-i. Ensure planners are familiar with risk analysis methodology and conceptualisation of disaster risk.
a-ii. Determine the hazard exposure & how it has changed over time.	a-ii. Determine the hazard exposure & how it has changed over time.
a-iii. Determine the sensitivity / biophysical vulnerability.	a-iii. Determine the sensitivity / biophysical vulnerability.
a-iv. Determine social vulnerability / adaptive capacity.	a-iv. Determine social vulnerability / adaptive capacity.
	iii). Ongoing monitoring of systemic hazards and assessing potential immediate risk for emergency response purposes. Use of early warning systems.
a-v. Validate existing risk (Ground truthing)	iv). Undertake field-based assessment after desk analysis to assess past, current and futuristic disaster risk using participatory methodologies. Also validate existing risk in the process (Ground truthing).
<i>b). Analyse future climate risk</i>	
b-i. Determine future climate risk.	
b-ii. Future visioning.	

b-iii. Identify long list of adaptation options (to address future).	v). Identify long list of disaster risk reduction options in participatory way (To address future and prepare for disaster. Includes community social resilience building).
b-iv. Consolidate short list of adaptation options.	vi). Consolidate short list of risk reduction options.
a-v. Finalise list of adoption priorities.	vii). Finalise list of disaster risk reduction options and discount them using economic tools of decision-making.
iii). Climate risk screening to see how proposed activities are affected by climate risk.	viii). Decide on discounted DRR options and allow these decisions to be validated by community, external or independent experts before implementation.
iv). Analyse options to adapt and enable climate resilient development (Same as viii in DRR).	ix). Implementation DRR (and CCA-M) activities and integrating them into preparedness, recovery and reconstruction in case of impending and actual disaster outcomes.
v). Implementation, monitoring and evaluation.	x). Monitoring and evaluation including ongoing monitoring of systemic hazards on daily basis.

Source: Authors

This streamlined approach outlined above in (Table 2) to analyse and assess both climate change and disaster risks can be used to identify best practice case studies at municipality level that successfully tries to or have successfully harmonised and mainstreamed both CCA-M and DRR into their municipality development planning and decision-making.

3.3.2.2 Further harmonised steps for CCA-M and DRR analysis and assessment to help identify best practice case studies

In practical terms, considering that climate change science seem to have better political will, and receive better funding for long-term interventions strategies (EU 2014), the DRM fraternity can incline their risk analysis and assessment approach towards the climate change adaptation – mitigation strategies as best practice approach on the ground thus to systemic mainstreaming approach. It is however crucial for the climate change science fraternity to recognise that disaster preparedness, eventually response and recovery are integral parts of DRM and thus DRR. Response and recovery planning should also be integral parts of CCA-M as well, in context of holistic sustainable developmental approach. These practices cannot be ignored in development practice (Kelman 2017). Separating response and recovery planning practices from CCA-M would not be best practice for mainstreaming CCA-M and DRR into local government IDP. This could also be the weakness of some of the models highlighted in preamble to section 3.0. They do not make development, climate resilience proof beyond actual hazard impacts. The mere fact that municipalities would be planning for CCA-M could suggest that the municipality operational area

is disaster prone. Hence disasters or disaster outcomes cannot be eliminated all together in such an area under planning but could be minimised.

3.3.3 Economic decision support tools for effective mainstreaming of CCA-M and DRR into municipality development planning

A mere analysis or assessment of climate and other systemic disaster risks at municipality level is not enough to translate the findings into effective developmental options to enhance natural and societal systems resilience. Economic decisions have to be made about optimal resilience options. There are about five different economic decision-making tools that can be used for climate and disaster risk reduction options at municipality development planning and implementation level. These are similar to decision-making elements in best practice theory. The five examples are: cost-benefit analysis; cost-effectiveness analysis; iterative risk management; real options analysis, robust decision-making; and portfolio analysis. See Watkiss (2015) and Hallegatte (2014) for their detailed discussion.

However, to ensure that there is harmonisation between the two concepts of CCA-M and DRR in uncertainty, analysts from the Disaster Risk Management (DRM) fraternity are discouraged from utilising a lot of historic disaster impact data, and the cost-benefit analysis tool for decision-making in uncertainty. Over relying on data of past disaster impacts' tends to skew the analysis of futuristic disaster risks and outcomes that might be bigger in magnitude than the past and hence tend to under invest in CCA-M and DRR. Disaster Risk Management scientists are instead encouraged to attempt to create decision-making scenarios based on projected risk outcomes in uncertainty (Hallegatte 2014:6). In view of this challenge of decision-making in uncertainty, lead authors for the IPCC Fifth Annual Report for Climate Change (IPCC 2014) have recommended a shift from using of cost-benefit analysis decision-making tool to what they call 'robust decision-making' tools that is consistent with precautionary principle in high uncertainty (IPCC 2014:209). Robust decision-making (RDM) is a set of concepts, processes, and enabling tools that use computation, not to make better predictions, but to yield better decisions with wide stakeholder involvement under conditions of deep uncertainty. Robust decision-making tools are considered more flexible and could be used to quantify other options that are not easily quantified in monetary terms. Robust decision-making are also considered relatively easier to use compared to cost-benefit analysis. Flexibility in decision-making is a very critical when dealing with high uncertainty (IPCC 2014).

Robust decision-making tools have been utilised successfully in CCA-M scenarios without realising that these same scenarios saves as DRR options (Lawrence at al., 2017:423). As such RDM can be considered as best practice in view of decision-making in uncertainty. Best practice case studies should therefore focus on reducing what Hallegatte (2014) refers to as *direct*

potential climate change risk and disaster welfare losses as part of (future) climate and disaster risk reduction strategy through such options as building codes (structural) or regulations (non-structural) solutions. Best practice should also focus on reducing potential indirect disaster welfare losses through making good of the local economic fundamentals to ensure robust fullness of the local economy.

Direct and indirect potential disaster welfare losses are important new concepts for climate change adaptation, mitigation scientist as well as DRM practitioners. These new concepts shifts the focus of climate change adaptation / disaster risk reduction from being viewed as only requiring proactive physical improvements to proactively requiring an improved local social-economic fundamental and programmes to enhance resilience for both natural systems and people at risk. This proposed conceptual shift: in climate change adaptation-mitigation / disaster risk reduction focus to look at proactive potential direct and indirect economic disaster welfare losses due to climate change and other systemic disaster risks; and how to address them; is also the ultimate focus of municipality development planning concept. This is from political-economic, and alternative developmental theory perspectives. In summary best practice case studies that mainstream CCA-M and DRR into municipality development planning and decision-making systems should attempt to address developmental implementation barriers as well as technical variable of CCA-M and DRR (Adger et al. 2007:719; Klein 2014:904; Taylor et al. 2019:57).

3.3.4 Expert elicitation decision-making as best practice for mainstreaming

Expert elicitation may seem similar to economic decision support but are slightly different. Expert elicitation is a scientific consensus making methodology. It allows the municipality planners, other stakeholders and the community at risk to arrive at consensus on what should consists best practice model to facilitate resilience building using public resources and strategies at municipality level, and what the harmonisation of CCA-M and DRR should hinge on. Such a process should be based on all the tools highlighted and discussed above. Consensus should also extend on how these two harmonised concepts of CCA-M and DRR could be mainstreaming into municipality development planning and decision-making, and how the development indicators for such systems' success could be monitored and measured (Vincent et al. 2018).

3.4 Other alternative risk assessment methods

There are other risk analysis and assessment methods and models such as Comprehensive Adaptive Systems theory; Landscape approach, Move; BBC; PAR, Access model (Birkmann 2006:9) that could be used to analyse and identify best practice case studies that mainstream both CCA-M and DRR in both urban and rural settings. Others are Climate, Environment and Disaster Risk Reduction Integration Guidance (CEDRIG) developed by Swedish Development Cooperation; Assessment and Design for Adaptation to Climate Change (ADAPT) tool developed

by World Bank; Climate change and Environmental Degradation Risk and Adaptation Assessment (CEDRA) tool developed by Tear Fund; Climate Vulnerability and Capacity Analysis (CVCA) developed by Care International; Climate Guide developed by the, Red Cross / Red Crescent; Adaptation Wizard developed by the UKCIP; Adapting to climate variability and change: a guidance manual for Development developed by USAID; Household Economy Approach developed by the Save the Children Fund to cite a few examples (GIZ 2011).

Some of these models are very helpful at understanding vulnerability, access to resources, absorptive, transformative and adaptive capacity and thus risk in much more detail. They could be handy for specific thematic or sector programme planning like food security and poverty alleviation including human rights but there is very little evidence to suggest that these models have been used to analyse, harmonise and mainstream CCA-M and DRR into local government or municipality integrated development planning and decision-making and / or used to establish which municipality could be considered best practice case study post year 2015. Individualised cases studies of mainstreamed CCA, CCM or DRR into municipality development plans or sectors as standalone concepts exists pre-2015 but these are not the focus of this study.

4. Applying the blended analytical framework to analyse and identifying best practice case studies

Using the criteria outlined and assembled model in the first part of this paper, the researchers have identified and analysed 10 country level case studies of municipalities with potential best practices for harmonising both CCA-M and DRR into their municipality development practices. The 10 countries analysed are identified based on the global Climate Risk Index (CRI) for 2018 being the latest CRI analysis available but published in 2020 (Germanwatch, 2020). The global CRI identifies the current extent to which countries have been affected by extreme weather events and these countries varies from year to year. Climate Risk Index analysis and ranking were based on the impacts of the extreme event on the following indicators: the number of deaths per 100 000 inhabitants, the sum of losses in US\$ in purchasing power parity (PPP) as well as losses per unit of gross domestic product (GDP) (Eckstein et al. 2020:39).

This ranking represents the most climate and disaster risk affected countries in 2018. In each of the four indicator categories, ranking is used as a normalisation technique. Each country's index score is derived from that country's average ranking in all the four indicator categories, according to the following weighting. Death toll, is weighted 1/6 and this weight is multiplied by the ranking of that country in the death toll category for that particular year or reference period against all other countries in the world in this particular indicator category. Deaths per 100 000 inhabitants, is weighted 1/3 thus this weight is multiplied with the ranking of this particular country

being analysed against other countries ranked in this same particular indicator category. This goes for these other two indicators thus absolute losses in PPP, the weighting of this variable is 1/6. The losses per GDP unit is weighted 1/3.

For example, in the CRI for baseline period of 1999-2018, Bangladesh ranks 9th in fatalities category indicator among all countries analysed in Eckstein et al. (2020) study. It further ranks 37th in Fatalities per 100 000 inhabitants, 17th in losses and 40th in losses per unit GDP. Hence, its CRI Score is calculated as follows:

$$\text{CRI Score} = 9 \times 1/6 + 37 \times 1/3 + 17 \times 1/6 + 40 \times 1/3 = 30.00$$

Only six countries have a lower CRI Score for 1999-2018, hence Bangladesh ranks 7th at index 30.00 in CRI in that particular analysis. See Eckstein et al. (2020) for additional information on CRI computation.

The researchers avoided to use the Notre Dame Global Adaptation Country Index because this had an inbuilt process to assess country capacity to leverage private and public sector investment to address countries vulnerability (Chen et al. 2015:1). Such capacity tended to reduce vulnerability index of developed countries thus overall risk weighting. This would have biased the analysis of models for mainstreaming CCA-M and DRR into municipality development planning to only developed countries with low vulnerability. Developed countries have inbuilt resilience capacity due to their high level of economic development. At the same time, such countries with inbuilt low vulnerability, can be considered best of the best exemplars as far as resilience is concerned but a decision was made to remove the developed country versus developing country nexus bias.

Concerning CRI, a decision was also made to use the current index as opposed to the 10 year cumulative risk index. Risk scientists are encouraged to use more recent data to analyse uncertainty as opposed to using more of historic data (Hallegatte 2014:6). Secondly decision was made to assign a value of one to depict a municipality to have made provisions to acknowledge, harmonise and mainstream the two concepts, or assigned a value of zero to quantify if municipality have not made any provision to acknowledge, harmonise and mainstreamed the two concepts in their planning systems. The 10 countries analysed with already high CRI are outlined in (Table 3) with their computed cumulative scores, a final basis on which they are prescribed to be best practice or not. A list of reports and documents evaluated for each country and associated municipalities are also highlighted. Again as much as possible, post 2015 documents were sought for. Year 2015 is the time when the four related international agreements to governing DRR, CCA, Sustainable urban development and SDGs were signed by United Nations Member States.

Table 3: Ten countries analysed and two countries identified with best practices for harmonising and mainstreaming CCA-M and DRR into municipality development practice globally

Best Practice Variables Used to Analyse & Identify Municipalities with Best Practice for Harmonising & Mainstreaming CCA-M and DRR into Developmental Practice	Identified Best Practice Case Studies: Using harmonised analytical criteria to identify municipalities that have mainstreamed CCA-M and DRR into development planning									
	Japan CRI: 5.5	Philippines CRI: 11.17	Germany CRI: 13.83	Madagascar CRI: 15.83	India CRI: 18.17	Sri Lanka CRI: 19.0	Kenya CRI: 19.67	Rwanda CRI: 21.17	Canada CRI: 21.83	Fiji CRI: 22.5
Based on harmonised legislation for CCA-M and DRR post 2015 criteria										
a. DRM and CCA legislation has been harmonised into one post 2015	no info available in English on the Web	0	0	0	0	0	0	0	n/a	0
b. Existing DRM and CCA legislation, policies and programmes after 2015, acknowledges that CCA-M and DRR are similar concepts?		1	1	1	not clear	1	1	1	1	1
b. Existing legislation for DRM and CC prioritises risk reduction over emergency management in harmonised Act?		1	0	1	0	1	1	1	n/a	0
c. Places overall national level coordination of both CCA-M and DRR in highest office in country?		1	0	0.5	0.5	0.5	0	0.5	n/a	0
d. Has appointed one institution to lead implementation of both CCA-M and DRR at national to local government level. Political buy in.		0	0	0	0	0	0	0	n/a	0
e. Country has legislation that supports municipality level harmonisation of both CCA-M and DRR? (Different from other government departments' sector legislation)?		1	0	0	0	1	0	0	0	0
f. Does the support above have legislated process (regulations, capacity, finances, performance appraisal mechanism and feedback process)?		1	1	0	0	1	0	0	1	0
Municipality management level legislation										
a. Guidelines on how to place CCA-M into as specific department at municipality		1	1	0	0	0	0	0	1	0

b. Guidelines on how to place DRM into specific department at municipality		1	1	0	0	1	0	0	1	0
c. Guidelines on how to harmonise both CCA-M and DRR into specific department at municipality		1	0	0	0	0	0	0	no evidence seen	0
Economic and political decision support tools										
a. Existence of generic national level guidelines for climate and disaster proofing, thus analysing and assessment of climate change and disaster risk at national policy level?		1	1	0	1	1	0	1	0	1
b. Specific evidence of existing harmonised guidelines to analyse climate change and disaster risk before mainstreaming their options into municipality development plan? Should include process for the development of alternative vulnerability scenarios for DRR as well (Birkmann et al. 2015:2)		0	0	0	1	no info	0	0	0	0
c. Incorporates / evidence of cost-benefit analysis tool for municipality decision-making level?		0	1	0	1	no info	no info	no info	1	no info
d. Incorporates cost-effectiveness analysis for municipality decision-making level?		0	1	0	1	no info	no info	no info	1	no info
e. Incorporates iterative risk management for municipality decision-making level?		0	1	0	1	no info	no info	no info	1	no info
f. Incorporates real options analysis for municipality decision-making level?		0	1	0	1	no info	no info	no info	1	no info
g. Evidence to promote robust decision-making for CCA-M and DRR combined development investment?		0	0	0	1	no info	no info	no info	1	no info
Expert elicitation decision-making										
a. Evidence of participatory / consensus building practices for both CCA-M & DRR mainstreaming?		1	0	0	1	no info	no info	0	1	no info
Weighted score		10	9	2.5	8.5	6.5	2	3.5	10	2

Table 4: Additional selection criteria used to identify best practices for harmonising and mainstreaming CCA-M and DRR into municipality development plans globally

Country	Major city identified	Common framework identified in use	Comment
Japan CRI: 5.5	no information on Web in English		
Philippines CRI: 11.17	Marinduque province municipalities. Sorsogon City, Silogo,	Comprehensive community and local government / development / investment-based climate and disaster resilience mainstreaming and implementation	Philippines has two twin legislation that mandates the integration of CCA into IDPs, and DRR into IDPs. Philippines undertook harmonisation process of CCA-M and DRR into land use and municipality development planning by 2012. Even though these are still regulated by different regulations there is a lot of effort to harmonise them and mainstream them into urban planning and local government development planning. Relatively well devolved local governance system. Development of this approach has developed bottom-up since 1978 with the creation of Marinduque Council for Environmental Concerns (MACEC) NGO in Marinduque province. (NEDA/UNDP/ECHA 2008; Benson, 2009; Magalang 2010; Mercado 2011; Tio 2011; Florano, 2015)
Germany CRI: 13.83	No information accessed	No information accessed	CCA-M and DRR is done by different government departments based on strong legal mandates each line Ministry has. There is no evidence of conceptual harmonisation of CCA-M and DRR and mainstreaming of both as one concept taking place at municipality level (Marx et al. 2017)
Madagascar CRI: 15.83	Morondava, Antananarivo, Tsihombe, Tuléar, Moroaantsetra	CityRAP (Climate Resilience Framework of Action)	Generally, there is no evidence of institutionalised promotion of harmonisation and mainstreaming of CCA-M and DRR into municipality development planning but there is one good example of CityRAP trial in Morondava that could provide best practice of how functionally harmonisation and mainstreaming could be done without conceptually calling it that. Morondava under UN-Habitat CityRAP (CRFA) can be considered a good case study for further review as city rap has been considered policy in other countries like Malawi and Mozambique. Only weakness for CityRAP is that it more inclined to build environmental interventions as opposed to natural resources management thus may not be very much applicable to rural based municipalities that incorporate rural development. Nonetheless it CityRAP would be a good entry point for mainstreaming CCA-M and DRR into municipality integrated development planning. In Madagascar however most municipal plans are prepared by consultants and are vague to be useful for practice. The countries municipal development planning in general is not best practice (Lee et al., 2018; Spaliviero et al. 2020)
India CRI: 18.17	Gorakhpur, Surat, Idore	Urban Climate Resilience Framework	Evidence reviewed was for 2010 by ACCCRN in the four cities and suggests India's good examples of mainstreaming into government sectoral departments and not municipality, these examples can be adapted into decentralised and integrated municipality development planning. India's local government is complex and governed by provincial administrations but could offer some good insights of harmonisation and mainstreaming (Gol-NDMA 2009; ACCCRN 2009; Tyler et al. 2010; Gupta et al. 2014; Gupta et al. 2016; UNESCAP 2017)

Sri Lanka CRI: 19.0	Kelani and Mundeni river basins	Climate Resilience Multi-phased Programme Approach	Municipalities seem to be overshadowed by Regional and community based structures in Sri Lanka. Projects tend to be implemented directly by agents at regional and community level without so much involvement of the district level structures. World Bank has just commenced supporting a Climate Resilience Multi-phased Programmatically Approached Programme to address risk in Kelani and Mundeni river basin 2019-2028 but the role of the municipality is low unlike in a similar project in Zambia, Southern Africa where role of government and World Bank are trying to amplify role of municipality planning department in such projects. Equally most municipalities in Sri Lanka are too dependent on central government for funding through Provincial Councils (Hettiarachchi 2014; DSRSL-DMC 2015, UNESCAP 2017; Pallawala 2018; World Bank 2019)
Kenya CRI: 19.67	Nairobi	Climate resilience management framework. CityRAP	Does not have much documented evidence of mainstreaming works into municipality development planning apart from CityRAP pilot projects. More activities are into drought management for natural resources management and slum upgrading. Have comprehensive document on climate resilience management framework (GoK-NDMA 2016; GoK-MENR 2016)
Rwanda CRI: 21.17	no information accessed	no information accessed	Just commenced implementing a World Bank Supported Climate resilience project but its more sensitive sectoral (GoR-MoE 2017; UNDP-GoR-MINEMA 2018)
Canada CRI: 21.83	Lower mainland, Winnipeg, Toronto, Calgary	Risk, systems thinking, participatory governance and resilience management frameworks	Canada governance system is highly decentralised and the provinces are responsible for municipality management and legislation (ICLEI 2016; Henstra et al. 2017; Doberstein et al., 2019)
Fiji CRI: 22.5	n/a	n/a	Even though Fiji has scored poorly, it has engaged in comprehensive climate resilience study to guide in 2017 to guide development planning up to 2036. Current intentions are statements of form. Biggest challenge is many parallel governance structures for CCA-M and DRR and even with the same theme. However, CCA-M is very high on the agenda. Overall country undergoing policy and institutional reforms (GoF-MDMMS 2018; UNDRR 2019)

5. Conclusion

Of the ten countries analysed with already high Climate Risk Index based on the latest 2018 global index analysis available online, Canada and Philippines seem to have the best practices of how to harmonise and mainstream CCA-M and DRR into decentralised municipality integrated development planning. This can be attributed to their having well decentralised municipalities system that are well supported with robust legislation, political will and financial management systems. In other words evidence of good case studies that are attempting to harmonise CCA-M and DRR do exist at global level in these two countries. Other countries globally can emulate these two.

There are a few models globally and tools that are being perfected for either CCA-M or DRR mainstreaming into municipality development planning in both developing and developed countries and could be well adapted to harmonise both CCA-M and DRR for effective mainstreaming. However, their effectiveness is not yet conclusively established but could still be adapted for adoption by respective countries. Three of these models that are promising are the CityRAP model being piloted in information scarce cities under the UN-Habitat. The other model is the UNCDF LoCAL and associated ACCAF. The third is the Experimental climate resilience mainstreaming into municipality integrated development planning in Cape Town. The weakness for all these three promising models is that they are very much inclined to promoting and incentivising mainstreaming of CCA-M only into municipalities IDPs. The other major weakness specifically for CityRAP is that it is promoted as a standalone programming tool and not integrated into the legal, and overall municipality development planning and budgeting process.

Municipalities are legally constituted body cooperate entities and highly regulated by respective country legal frameworks. Thus, any models or planning tools that should attempt to harmonise and mainstream CCA-M and DRR into municipality development plans have to be integrated into overall and legally supported municipality development planning process, to be effective.

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CHAPTER 7: PROPOSED GUIDELINES FOR MAINSTREAMING HARMONISED CLIMATE CHANGE ADAPTATION-MITIGATION AND DISASTER RISK REDUCTION OPTIONS INTO INTEGRATED DEVELOPMENT PLANS IN ZAMBIA

7.1 Introduction

This chapter serves two functions. As Chapter 7 of this thesis, which is the final output of the study, and as the proposed alternative guidelines for mainstreaming both CCA-M and DRR into IDPs in Zambia. Chapter 7 addresses the research question (RQ 5) from Chapter 1 thus: what elements should the proposed alternative (public policy implementation) guidelines for mainstreaming both CCA-M and DRR options into IDPs for Zambia contain? In so doing, this chapter incorporates recommendations from all the four articles presented in this thesis. It also builds on the tertiary guidelines just realised by the Ministry of Local Government in January 2019 as illustrated in (Figure 1.2) to culminate into the proposed alternative guidelines. In terms of format, these proposed guidelines partially adopts the recommended public policy making process and presentation outline format promulgated by the Zambian Cabinet (GRZ 2010) and discussed in brief in Chapter 2, section 2.11 of this thesis.

The proposed guidelines presented in this chapter can also be referred to as *technical steps for analysing, assessing and harmonising both CCA-M and DRR options for mainstreaming into integrated development planning and plans for Zambia*. As already hinted to, these proposed guidelines are based on synthesising the findings from Chapter 1 to 6. A synthesis is an amalgamation, combination, blending or even production of something from other primary elements or outcomes (Hornby 2010:1515). As the term suggests, a synthesis is the best way to tie all these findings together objectively. The detailed methodology of how these guidelines were synthesised are presented in section 7.3.

The proposed alternative guidelines in Chapter 7 further utilises a blend of public policy convergence, coherence and the general public policy implementation guidelines making, theoretical frameworks as well. These frameworks form a thread that ties up all the four articles together in this thesis. These proposed guidelines further explains how the mainstreaming of these two concepts and practices of CCA-M and DRR ought to be done in the overall context of IDP and disaster management continuum as well as climate change adaptation-mitigation developmental cycle. It is important to state that emphasis of these proposed guidelines is on harmonising all these process for effective long-term, strategic, and immediate use of the Integrated Development Planning process to enhance resilience using public resources. Overall

the proposed guidelines takes a balanced view of developmental practice in line with the trans- and multi- disciplinary nature of the CCA-M and DRR concepts. The proposed guidelines avoids overemphasising one concept over the other but presents issues based on empirical evidence on the ground. Additionally the proposed guidelines also avoids over emphasising one international framework over the others between Agenda 2030, that is the SDGs, the Sendai Framework of Action, the Paris Agreement of 2015 and the New Urban Agenda of 2016. All these frameworks are supposed to be implemented from the SDG lens.

7.2 Guiding principles for these proposed guidelines in Chapter 7

Obtained from other chapters in this thesis, the following guiding principles informed the development of these proposed guidelines in this chapter. That is:

- a) All municipalities in Zambia were expected to use integrated development planning and plans as tools to guide their statutory planning, budgeting and developmental administration in their jurisdictions (GRZ 2015).
- b) Changing climate and variability and associated disaster risks were increasing globally, in Southern Africa and even in Zambia. This super wicked problem required urgent attention to address (Davis-Reddy & Vincent 2017: 21).
- c) Using the Climate Risk Index of 2018, Zambia was ranked 137 as worst affected country globally out of 181 countries analysed by Germanwatch. Climate Risk Index analysis and ranking were based on the impacts of the extreme event on the following indicators: the number of deaths per 100 000 inhabitants, the sum of losses in US\$ in purchasing power parity (PPP) as well as losses per unit of gross domestic product (GDP) (Eckstein et al. 2020:39).
- d) Zambia was vulnerable to severe negative impacts of climate change and had low resilience capacity in general (ND-GAIN 2020). Even though the country was globally not amongst the top 10 countries that were worst affected by climate change impacts on natural, built environment and societal systems based, Zambia still required government attention to address this anticipated problem of climate change and disaster risk through policy guidance. This was before the situation translated into severe disruptive impacts for these systems.
- e) Climate change adaptation-mitigation and disaster risk reduction were also similar concepts in Zambia (Vincent & Cull 2015) and required harmonisation and streamlining within primary guidelines for making IDPs to enhance resilience and sustainable development at the local level.
- f) CCA-M and DRR concepts continued to be implemented in parallel at the local level in Zambia as well. (See discussion in Chapter 2 and NemaKonde et al. 2017:330). This

parallel implementation approach did not enhance public resource utilisation efficiency to enhance natural, built environment and societal systems resilience.

- g) The proposer of these alternative guidelines was an individual citizen and was aware that these two concepts of CCA-M and DRR had developed in parallel and through different subjects and policy processes (Becker et al. 2013) and had some mismatches (Birkmann & von Teichmann 2010). The researcher was also aware that these two concepts and practices were governed by different international frameworks (Kelman 2017). They were implemented by different line ministries with their legal mandates at the local level as well (Nemakonde et al. 2020). The same international frameworks that governed CCA-M, DRR, SDGs and Sustainable urban development had formally recognised the similarities between these two concepts when analysed using the probabilistic risk analysis and assessment methods. Implicitly, these same international frameworks were calling for the harmonisation and mainstreaming of these two concepts into developmental practice even though it was still difficult to do so at the grassroots level (Nemakonde 2017, 2020; Natoli 2019:1).
- h) Local government decentralisation process by devolution was not yet completed in Zambia. It was still on going and then there were no harmonised guidelines to facilitate the implementation of the harmonised concept of CCA-M/DRR into municipality IDPs. Even specialised staff at local government level was not adequate to champion this cause (GIZ & Global 21 Consulting 2014). Nonetheless, these two concepts and practices of CCA-M and DRR converged at local level (Vincent & Cull 2015), and the local communities did not differentiate between CCA-M strategies from DRR implementation strategies.
- i) Which institution to lead the implementation of the harmonised CCA-M and DRR concept was highly contested in Zambia between deconcentrated line Ministries of Agriculture; Community Development and Social Services; Lands and Natural Resources; National Development Planning; nationally based Disaster Management and Mitigation Unit all on the one hand, and the devolved local authority on the other hand (Funder et al. 2017).
- j) The focus of these proposed guidelines was decentralised municipality integrated development planning, budgeting and decision-making based on the Urban and Regional Planning Act (3 of 2015) to be led by the devolved municipalities.
- k) In the absence of full decentralisation by devolution having taken place in Zambia, some practitioners could be tempted to utilise these proposed guidelines in this Chapter 7, to plan individual sector (government departments) development plans or to use the guidelines for the combined District Development Plan under District Development Coordinating Committee (DDCC) planning framework championed by the Ministry of National Development Planning (MNDP). The challenge with the District Development

Planning approach under the District Development Coordinating Committee planning framework was that it was not the same as Integrated Development Planning that incorporated a Spatial Development Framework (SDF) as defined in the URP Act (3 of 2015). District Development Planning through the DDCC had no Spatial Development Framework. Lack of SDF compromised overall land-use planning systems that were critical in both CCA-M, DRR and IDPs (IPCC 2018). District Development Plans championed by the Ministry of National Development Planning through the DDCC planning, and coordinating framework promoted the 'silo' or fragmentation of the sectors to operate independently within their ministerial / sectoral legal mandates. As such the use of these proposed guidelines in Chapter 7, in the District Development Planning approach would be discouraged to avoid parallel ways of implementing CCA-M and DRR.

7.3 Methodology used for developing the proposed, alternative guidelines for mainstreaming both CCA-M / DRR into IDPs

As a synthesis of the other findings already presented in this thesis in Articles 1 to 4, a heuristic and functional modelling process discussed in Chapter 2 was used to develop these proposed guidelines in Chapter 7. As stated in Chapter 2, the heuristic approach had two connotations, and both were applied in Chapter 7. The first connotation was that a heuristic method was a mental construction grounded on the researcher's hands-on experience with the subject matter but being mindful of eliminating negative heuristic biases. The second connotation of the heuristic method was that heuristic policy-making theory and methodology was evidence-based policy-making approach (Cloete et al. 2011). Functional modelling was an art of systematic design approaches implemented by designers in order to support and guide their conceptual designs (Eisenbart et al. 2013). Functional modelling further involved what worked and what did not work process. Thus, functional modelling was similar to an iterative process or reflexive or repeated design process until something worked (Srivastava & Hopwood 2009).

Thus, using the two theoretical frameworks of heuristic and functional modelling, the researcher applied the past and current acquired working experience, skills and knowledge in risk analysis and assessment using the USAID Famine Early Warning Systems (FEWS) Indicator-based approach (FEWS 1997). Two decades ago, the researcher extensively participated in vulnerability analysis and mapping research and surveys using an indicator-based approach to undertake desk, weather and climate-related disaster risk analysis and field risk assessments (Flamm et al. 1996). This was in the mid to late 1990s to undertake real disaster risk analysis and assessments of drought hazards, food insecurity vulnerability using both satellite imagery data and social, economic, indigenous knowledge data in Zambia (FEWS 1997; GIEWS 1997; Hutchinson 1998). The researcher equally applied academic skills and knowledge acquired last decade (2010-2012)

at Master's degree level in disaster risk analysis and assessment, or in environmental risk analysis and assessment module. Thus the evidence generated through this thesis from Articles 1 to 4 to develop and propose the alternative guidelines presented in this chapter were supplemented with the heuristic skills and knowledge already acquired by the researcher in disaster risk analysis and assessments. In summary, the development process for coming up with these alternative guidelines involved three iterative stages.

Stage 1

The first stage was the developing of the conceptual framework for these guidelines. This involved further unifying the generic process presented in (Table 2) in Article 4, Chapter 6 into one consolidated process for both climate risk and disaster risk analysis/assessment. Thus, (Table 2) in Article 4, Chapter 6 was therefore consolidated into one using the experiential or evidence-based policy-making, and the functional modelling process by the researcher. In simpler terms, this process involved looking at the similarities between climate change risk and disaster risk based on what (Table 2) in Article 4 outlined, supplemented by researchers learned skills, knowhow, and experience in undertaking actual climate change and disaster risk analysis and assessments. The applied, learned skills and knowhow were in both using indicator-based and participatory approaches, including actual *ground truthing* of the desk, analysed results. The synthesised and further reinforced outcome from (Table 2) in Article 4 resulted in identifying nine steps outlined below in Table 7.1.

Table 7-1: Summary of the unified process (model) for analysing, assessing climate change and disaster risk at local level, to further guide the identification of the harmonised CCA-M and DRR interventions, for further mainstreaming into municipality integrated development plans using the integrated development planning process in Zambia, December 2020

Synthesised, 9 generic climate and disaster risk analysis and assessment steps for mainstreaming both CCA-M and DRR into IDPs. The 9 synthesised steps comprise initial desk analysis of risk, then field assessment and then an additional level (second round) of desk/field-based analysis of risk and solutions identification, then decision-making steps. The 9 steps were mainly articulated and adapted from OECD 2009; World Bank 2013:14; Vincent & Colenbrander 2018; UNCDF 2018; GRZ 2019b; Measham et al. 2011; Morchain & Kelsey 2016; Reddy 2010, van Niekerk 2006:111, supported by SAG-DPLG; SAG 2005; Dr KKDM 2018 and the experience of the researcher. Hence the heuristic process in reference.
Step 1). Actual planning and preparation to undertake the desk and field analysis / assessment of climate change and disaster risk, especially vulnerability. World Bank 2013:14 refers to this process as risk identification.
a). Well decentralised municipality by devolution identifies the need to undertake this exercise for short-term or long-term local economic and spatial planning purposes based on legal requirement and based on impending rapid or slow onset hazards, and/or other systemic hazards.
b). Decentralised municipality by devolution decides to undertake the analysis using own multi-disciplinary planning team or hired external consultants.

c). Local planning staff or committee or external consultants' orients / debriefs local political leadership about the concept, importance of climate change risk and practice of disaster risk and disaster outcome as a sustainable developmental concept. The core planning team or consultants identifies methodology to use to analyse climate and disaster risk. Defines risk, and identifies secondary data sets to analyse risk.

Step 2). Core planning team undertakes a priori desk analysis of climate and disaster risks at the district level before going into wards / community to undertake participatory assessments. Use indicator-based methodologies and a blend of Gender-sensitive climate risk analysis (GCRA) at this stage.

a). Analyses past and current climate and disaster risk.

Analyse past climate and disaster risk causes (chronic or past climate shifts and related disaster risk) using historic secondary information of hazards, vulnerability, exposure and sensitivity. There are many alternative methods to use at this stage. These methods use a combination of data sources that include remote sensed, geographic information data, to analyse hazards. Proxy - indicator-based, model and geographic based, and other social economic data for vulnerability, sensitivity and exposure analysis. Though subjective, politically filtering reports that indicate current potential hazard manifesting/impacting on natural, built environment and societal systems are also considered in this type of analysis. This type of analysis is done to identify the most at risk geographic areas within municipality boundaries and most at risk physical infrastructure and other natural, human systems including demographic profiles for CCA-M and DRR.

a-i. Ensure planners are familiar with risk analysis methodology in use and conceptualisation of climate and disaster risk.

a-ii. Ensure planners are familiar with gender roles & relationship – desk analysis level.

a-iii. Determine the hazard exposure & how it has changed over time if have the information – desk level.

a-iv. Determine the sensitivity / biophysical vulnerability if have the information – desk level.

a-v. Determine social vulnerability / adaptive capacity if have the information – desk level.

Step 3). Ongoing monitoring of systemic hazards and assessing potential immediate risk for emergency preparedness and possible response purposes. Use of early warning systems. Integrating preparedness and possible responses in process to identify CCA-M and DRR solutions.

Step 4). Undertake field based assessment after desk analysis to assess past, current (existing risk) and futuristic climate and disaster risk using participatory methodologies, especially the latest Gender-sensitive climate risk assessment (GCRA) methodology. Also validate existing risk analysed above in the process (Ground truthing) (See more detailed process in next section of this chapter, on how to undertake GCRA).

a). Analyse / assess current climate change and disaster risk

a-i. Ensure planners are familiar with risk analysis methodology in use and conceptualisation of climate and disaster risk.

a-ii. Ensure planners are familiar with gender roles & relationship – participatory field based.

a-iii. Determine the hazard exposure & how it has changed over time – participatory field based.

a-iv. Determine the sensitivity / biophysical vulnerability – participatory field based.

a-v. Determine social vulnerability / adaptive capacity – participatory field based.

b). Analyse future climate and disaster risk as part of GCRA

b-i. Determine future climate and disaster risk as part of GCRA.

b-ii. Future visioning (mental picture) as part of GCRA.

Step 5). Decide on discounted CCA-M and DRR options (second level desk analysis) and allow these decisions to be validated by community, external or independent experts (Second level field based assessment or done on a different date from step 5) before implementation.

Step 6). Climate and disaster risk screening of CCA-M and DRR developmental options. Climate and disaster risk screening already proposed and discounted options to see how these proposed activities are/would be affected by climate risk and how they would also worsen climate change and associated disaster risk. Thus, analyse options with the community to adopt and enable climate and disaster resilient development.

Step 7). <u>Implementation strategy</u> for CCA-M and DRR activities, integrating them into preparedness, recovery and reconstruction in case of impending and actual disaster outcomes.

Step 8). <u>Monitoring and evaluation</u>, including ongoing monitoring of systemic hazards and vulnerabilities on a daily basis.
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Step 9). <u>Legislative feedback forum</u> on IDP including CCA-M and DRR mainstreaming
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Stage 2

The second stage in developing these proposed alternative guidelines for mainstreaming CCA-M / DRR into IDP involved mental replacement of the current 2019 government tertiary guidelines for mainstreaming climate resilience only into IDPs with new guidelines that included both CCA-M and DRR as depicted in (Figure 7.1) below. A lot of illustrations are used to explain the process that has been involved in developing these tertiary guidelines, to explain where these guidelines are or supposed to be placed within the overall primary guidelines for making IDPs, and how they can be used. The use of these many illustrations is a result of the complex nature of the process involved in the justification, harmonisation and mainstreaming of the two super wicked problems of climate change, disaster risk and associated solutions into decentralised municipality integrated development planning and plans.

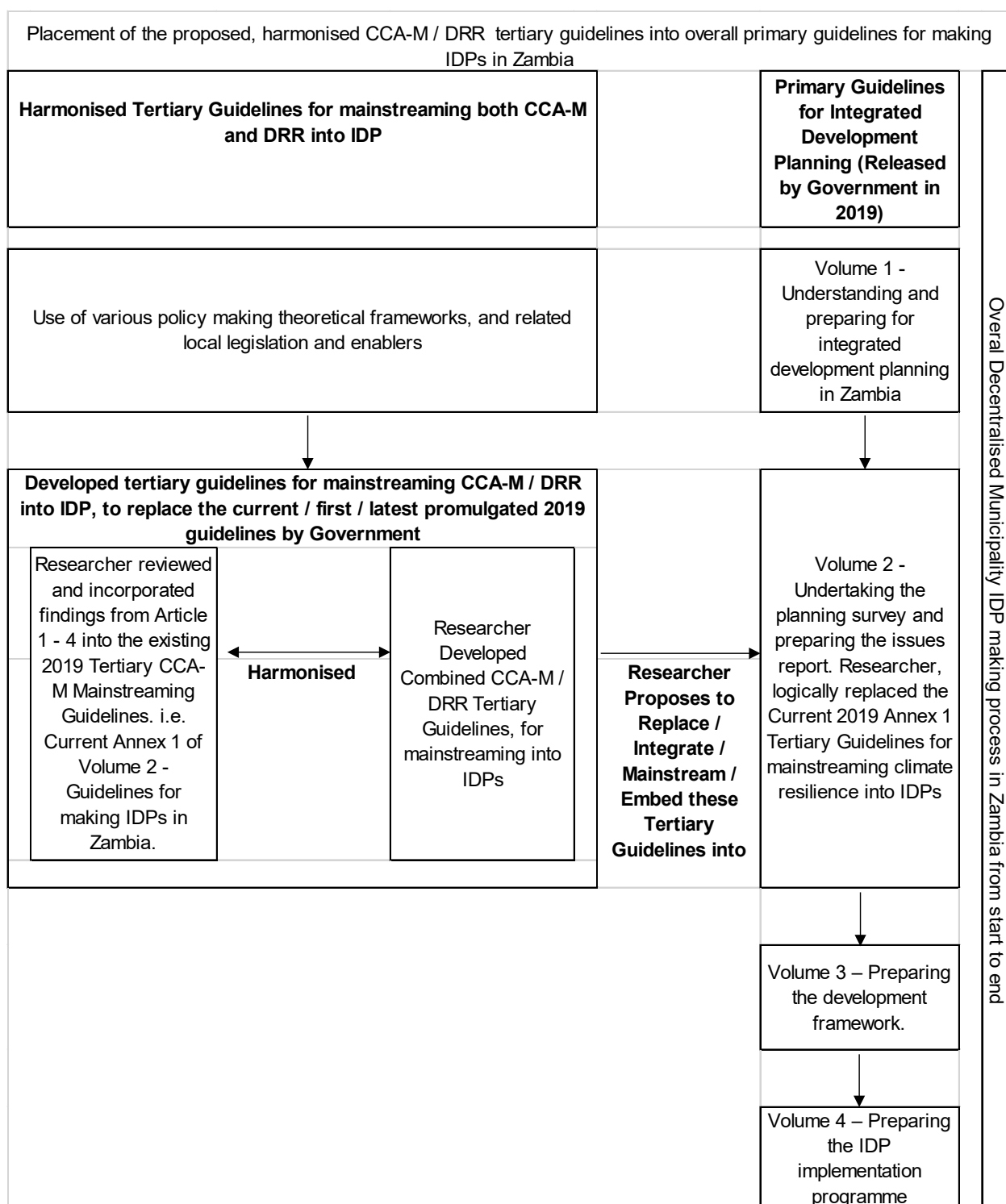


Figure 7-1: Placement of the proposed, harmonised CCA-M / DRR tertiary guidelines into overall primary guidelines for making IDPs in Zambia

Stage 3

Stage three in developing these guidelines would be for the Ministry of Local Government to formally adopt these proposed guidelines as a public policy through Cabinet and through

additional stakeholder consultations. That process would result in the formal re-placement of the 2019 guidelines for mainstreaming climate resilience only, with both CCA-M and DRR into the Integrated Development Planning process and later into Integrated Development Plans as depicted in (Figure 7.1).

7.4 How to use / detailed process for mainstreaming both CCA-M and DRR into IDP in Zambia

As already indicated, the synthesised guidelines in this chapter culminated into nine technical steps for harmonising and mainstreaming CCA-M and DRR into integrated development planning process and plans. These nine technical steps or actual proposed guidelines are already outlined in (Table 7.1) in this chapter. These steps were refined from (Table 2), Article 4, Chapter 6 of thesis and from other findings from Articles 1 to 3. The other findings in Chapter 1 to 6 were synthesised and already presented in the form of guiding principles presented in section 7.2 of this Chapter 7. By now the guidelines for harmonising and mainstreaming CCA-M and DRR into IDPs are already developed (Table 7.1) and just discussed in more detailed in section 7.5.

Concerning how to implement these guidelines, there were five different types of municipality planners in Zambia thus: municipality physical; municipality social-economic; municipality environmental and natural resources; municipality environmental health and; municipality community development / informal settlement planners. All these planners were involved in the leading and development of IDPs in their respective municipalities. As they would lead to develop IDPs that mainstreamed both CCA-M and DRR using the nine technical steps in (Table 7.1) and discussed in more detail in section 7.5, these planners ought to take the additional findings and recommendations from Articles 1 to 4 in this thesis into considerations.

As such the additional recommendations based on Article 1 (Banda et al. 2021) were for the planners to understand and appreciate the concept and practice of integrated development planning and plans from a much broader developmental context and not from a narrower physical planning / master planning context as the case could be. The planners ought to appreciate that integrated development planning and plans were participatory municipality and ideally bottom-up developmental planning approach informed currently by the Agenda 2030 / Sustainable Developmental Goals. Critical with this perspective was that integration, policy coherence and convergence theories were the basis on which the SDGs were supposed to be successfully implemented. As such, all UN member states were expected to take integrated development planning and plans seriously. This was a further basis on which developing countries like Zambia could also access additional developmental assistance from developed nations. The SDGs further linked CCA-M and DRR and sustainable cities / urban development through the Sendai

Framework of Action for Disaster Risk Reduction, the 2015 UNFCCC Paris Agreement, and UN-Habitat New Urban Agenda Framework for sustainable urban and regional planning.

Based on the findings from Article 2 (Banda et al. 2020), integrated development planning was a highly valued performance management tool for the municipalities in South Africa as enshrined in the South African Constitution. *Zambian planners could emulate this approach in the form of policy learning. For instance, in South Africa, failure to finalise the IDP and budgetary provisions by any municipality by the end of June in any single year, and to have their respective plans and budgets approved by the Provincial Premier before the commencement of the financial year in July of every year, would result in the dissolution or placement of the entire municipality under provincial administration by the Provincial Premier. This was in line with Article 139 sub-article 4 of the 1996 South African Constitution as amended. If such a situation arose in South Africa, then all employment contracts for all contracted staff, including the elected councillors, would cease with the dissolution of the elected council, and fresh elections for elected office bearers would need to be called before any new administrative staff, including IDP Managers would be hired.*

Planners in Zambia equally ought to be mindful of the need for clean audits even as they implemented their IDPs. Clean Audits were a good performance management indicator of how well municipalities were managed through IDP process.

Given the relatively long duration it took to draft IDPs in Zambia (based on pilot IDPs lessons learnt) and to have such IDPs approved by the Minister of Local Government, the municipality and thus IDP planners ought to adjust the date of commencement and expiry of their IDPs based on the date on which the Minister approved the IDPs.

The IDPs ought to have a vision statement as they were supposed to be strategic and operational documents. Additionally, Planners ought to revise the IDPs every year but within the 10 years development cycle as was done in South Africa if their IDPs were to be annual budgeting, as well as strategic tools in Zambia.

From Article 3. The planners ought to be mindful that there was still little action by the Zambian central government in terms of harmonising the legal, policy and other enabler frameworks across the closely related sectors to help facilitate and mainstream CCA-M and DRR into IDPs. The planners also ought to be mindful that IDPs, CCA-M and DRR concepts were still relatively new in Zambia. As such, there was need for the planners to be a bit more patient with other stakeholders if they discovered that only a few people within their municipality planning cycle knew something or very little about these concepts under discussion in these guidelines. The planners could embark on educating the other stakeholders about these concepts and how the concepts were linked to Agenda 2030 / SDGs, other international frameworks, and the local Urban

and Regional Planning Act (3 of 2015). Planners could even engage some external stakeholders to help them (as Planners) to get educated on these concepts. External consultants could even help the municipalities develop the Spatial Development Frameworks as was done in some municipalities in South Africa based on Article 2 findings.

Recommendations from Article 4, feeds into the detailed set of guidelines outlined below.

7.5 The nine technical and detailed steps for climate and disaster risk, resilience analysis, developmental intervention options' identification / mainstreaming into IDP

Below are the details of the nine technical steps to guide the planners in climate change and disaster risk analysis, assessment, and thus mainstreaming into the integrated development planning process and plans.

7.5.1 Step 1: Preparation to undertake the desk and field analysis / assessment of climate change and disaster risk, especially vulnerability

Step 1 involves three other sub-activities thus:

- a) The decentralised municipality planners identify the need to undertake the mainstreaming process of CCA-M and DRR into IDPs. This is for both short-term and long-term local economic and spatial planning purposes based on all the associated legal and policy requirements for management of the changing climate and variations and disaster risk management. This is at the respective municipality level and technically based on impending rapid or slow onset hazards, and/or other systemic localised and trans-boundary hazards. This is a crucial stage and starting point as it gives the planners the cognitive orientation on the importance of analysing, assessing, and identifying resilience options and thus mainstreaming both climate change and disaster resilience. This process also offers the planners an opportunity to engage in the discussion among themselves about the similarities between CCA-M/DRR. It further allows the planners to revisit and revise their understanding of the legal frameworks, developmental framework both locally (municipality and national level) and internationally on CCA-M and DRR.
- b) The Municipality planners should decide who should lead the analysis of climate change and disaster risk within Step 1 of the mainstreaming process. They should decide whether to use their own multi-disciplinary planning team or hire an external facilitator/consultant (s). However, the 2019 primary guidelines for making IDPs has discouraged the municipalities from hiring consultants to undertake overall IDP making. Nonetheless, these proposed guidelines recommend that municipalities seek guidance from

independent consultants to help them clarify the latest developments in the nexus between CCA-M and DRR. This recommendation does not suggest nor imply that the consultant or expert in climate change and disaster risk sciences takes over the overall IDP making.

- c) Local planning staff or committee or external consultants should help orient / debrief local council or municipality political leadership about the concept, importance and practice of climate change, disaster risk, disaster outcome and resilience as a developmental concept. Council chairperson or mayors have the overall responsibility for municipality management and thus planning and decision-making. The administrative staff, even though employed centrally in Zambia by the local government services commission and seconded to the municipalities, are just advisors to the political structure of the local Council or municipality. Within this sub-stage, the core planning team or consultants helping to make an IDP identifies methodology to use to analyse risk. They should further define risk and identify secondary data sets to analyse risk in their local context but could be further guided by national level definitions of risk. Localised definition of climate change and disaster risk helps in contextualising the problem locally and to take the indigenous knowledge into account. Thus, embedding the whole process into the local structure and enhancing local ownership of the process. Moreover, disaster and climate risk tend to impact localities first before such impacts are aggregated to district provincial, national and transnational boundary level.

7.5.2 Step 2: Undertake a priori desk analysis of climate and disaster risks at district level.

Core IDP planning team should undertake a priori desk analysis of multi-hazards or climate and disaster risks at the district level before going into wards to undertake participatory assessments. They can use proxy- or indicator-based or secondary quantitative and qualitative aggregate data methodologies, model- and GIS-based methods (FEWS 1997; Seaman 1997; Liverman et al. 1998; Davis-Reddy & Vincent 2017:50; Petrie & Rusere 2019:7), and a blend of gender-sensitive climate risk analysis (Morchain et al. 2015) at this stage. It is critical to understand the higher scale analysed data on climate change and other disaster risks and how these high scaled analyses can be contextualised at local level. It is further important to understand the national level technical reports such as the National Adaptation Plan of Actions (NAPA), Voluntary Determined Contribution (VDC) to climate change mitigation, on climate and disaster risk and how they explain the national level scenario(s). Even though subjective, politically filtering reports that indicate potential hazard manifesting are also considered in this type of analysis. Overall, this type of analysis is done to identify the most at risk geographic areas within municipality boundaries and most at-risk physical infrastructure and other natural, human systems, including

demographic profiles for DRR. This desk analysis serves to lay the background understanding of past, current, and futuristic manifestations of risk and identify both short and long-term solutions. It also offers an opportunity for the planners to revise the concepts of climate change and variation and disaster risk in more detail before they venture out into the field.

7.5.3 Step 3: Ongoing monitoring of systemic hazards and assessing potential immediate risk for emergency response purposes

Use of early warning systems. Municipalities in Zambia do not have staff employed to manage disaster risk at strategic management level and as fulltime, apart from municipality line functional areas of fire fighting, municipal public health surveillance, rural water and sanitation, engineering and community development staff, including HIV/AIDS coordination. However, even though disaster risk management is more of a national level function and coordination responsibility under DMMU, municipalities ought to be monitoring climate change and disaster risk associated early warning indicators at the local level as part of climate change and disaster risk and response preparedness.

Climate change adaptation-mitigation and disaster risk reduction cannot be separated from the immediate and long term emergency response when the response needs arises. Issues of maladaptation or creating secondary vulnerability have to be addressed during emergency response as well. Moreover, these two concepts of CCA-M and DRR are part of both short-term and long-term emergency and non-emergency developmental work, as they affect natural, built environment and societal systems resilience. Then if these issues of climate and associated disaster risk, emergency preparedness and response activities are detached from municipality functions, then who is supposed to address them at municipality level. Then what would be the environmental and natural resources management planners, the staff employed to promote adaptation and climate change mitigation be doing during long-term disruptive emergencies?

According to DMMU (GRZ 2017), early warning system is an interrelated set of hazards' warnings, risk assessments, communication and preparedness activities that enable individuals, communities, businesses and others to take timely action to reduce their risk. Early warning systems are a very important management and decision-making tool to help make timely decisions to protect the investments from both rapid on-set or slow on-set calamities.

There are many sources of climate and other disaster-related data for early warning systems in Zambia. The most prominent source is the Zambia Meteorological Department for drought and flooding, hazard data. Ministry of Water Development is responsible for surface and underground water levels. The Forestry department is responsible for deforestation and biodiversity, and the Zambia Environmental Management Agency responsible for air and water pollution thus air and

surface and ground water quality. The Ministry of Health and the Municipality Public Health Department is responsible for potential health hazards like the malaria disease that is slowly becoming more endemic in some areas due to global warming thus due to climate change (GRZ 2019).

7.5.4 Step 4: Undertake field based assessment of climate and disaster risk

Upon completion of the priori desk analysis, planners should undertake field based assessment to assess past, current (existing risk) and futuristic climate and disaster risk using participatory methodologies, especially the latest Gender-sensitive climate risk assessment (GCRA) methodology or social vulnerability methodology (Morchain et al. 2015; Vincent & Cull 2015; Vincent & Colenbrander 2018). At this stage, the municipality planners or core IDP planning team should validate existing risk analysed during the desk analysis process. This is referred to as ground truthing process (Rindfuss & Stern, 1998:12).

Within the context of GCRA as highlighted in Article 4, Chapter 6 of this thesis, and as adapted from Vincent & Colenbrander (2018) and GRZ (2019b), the following 10 sub-steps should be undertaken.

Sub Step 1 in Context of GCRA – Ensure core IDP planning team is familiar with gender roles and relation.

Since climate risk assessment is gender-sensitive, it is essential to be familiar with the contextual gender roles and responsibilities.

Potential tools to use are: Focused group discussions on gender norms; Exploration of how community brings up boys and girls; Seasonal calendar; Daily calendar; Livelihoods ranking.

Sub Step 2 in Context of GCRA – Determine the hazard exposure and how it has changed overtime.

Identify the climate hazard that has occurred (frequency, intensity, timing, duration); the effects they have had on the community; how the effects of these variables have varied relative to other shocks; perceptions of changes in weather and climate.

Potential tools: Historic timeline; Risk vulnerability/matrix; Transact walk; Seasonal calendar (and change over time).

Sub Step 3 in Context of GCRA – Determine the sensitivity / biophysical vulnerability

Spatial analysis of effects of climate change extreme events/hazards thus disaster risk on natural resource changes over time and its effects on people; other causes of natural resource change that has any impact on mediating hazards (and for whom).

Potential tools: Community resource map; Risk map.

Sub Step 4 in Context of GCRA – Determine the social vulnerability / adaptive capacity / resilience capacity / social risk governance capacity

Who was/were most affected by the hazard exposure and why? What were the effects, and how long did they last? Who was best able to deal with the hazards? What did they do and what enabled them to do that (preparation and response)? What prevents people from responding? What barriers need to be removed to allow for risk reduction?

Potential tools: Historic timeline; Risk map; DFID Sustainable livelihoods model.

Sub Step 5 in Context of GCRA – Validate existing risk

Compile and analyse sex-disaggregated data to provide an assessment of current climate risk; how it differs within the community, and how it has changed over time. Validate these findings through community feedback meetings and discussion with those that know the community well (for example, local leaders and government extension staff).

Potential tools: Impacts chains; Community Meetings; Focused group discussions; Key informant interviews.

Sub Step 6 in Context of GCRA – Determine future climate risk

Based on observed changes to date and potential climate projection, what are the project's impacts on hazards on the natural environment (Sensitivity analysis) and on social systems (taking into account adaptive capacity/resilience / social risk governance capacity)?

Potential tools: Focused group discussions; Participatory scenario generation.

Sub Step 7 in Context of GCRA- Future Visioning

Determine future vision (“what are your hopes for your children?”). What does adaptive / resilience / social risk governance capacity look like? How is adaptive capacity/resilience / social risk governance capacity different for different groups? This is in order to be able to determine appropriate adaptation/mitigation / resilience / social risk governance capacity that address current and future climate and disaster risk while also contributing to future development visions.

Potential tools: Focused group discussion; Future calendar; DFID Sustainable livelihoods model.

Sub Step 8 in Context of GCRA – Identify long list of climate change adaptation-mitigation / disaster risk reduction options in participatory way and identifying long list of adaptation option

Generate (with the help of impact chains) potential adaptation/mitigation / resilience / social risk governance capacity that addresses current and future climate and disaster risk and are keeping with long-term developmental vision and brainstorming with a community member.

The core IDP planning team to facilitate for community and other experts/stakeholders to generate list of all climate change adaptation-mitigation and disaster risk reduction options in their perspective localities. This should be based on the assessments done in steps 1 to 4 and sub-

steps 1 to 7. This is critical as climate change and disaster risk affect the local natural, built environment and societal systems first before these impacts are aggregated at the national macro level. This stage is equally important to allow the community own the solutions as they are the first responders during a calamity. This stage is part of a developmental framework planning stage in the overall IDP process.

Potential tools: Impact chains; Focussed group discussion

Sub Step 9 in Context of GCRA - Consolidate a shortlist of climate change adaptation-mitigation and disaster risk reduction options

Remove options with insurmountable barriers (e.g. insufficient institutional capacity, weak governance structures at the district level, unreliable or inadequate information, financial constraints to support implementation, technical constraints).

Potential Tools: Focussed group discussion.

Sub Step 10 in Context of GCRA- Finalise list of adoption priorities / disaster risk reduction options and discount them using economic tools of decision-making.

Develop gender-sensitive evaluation criteria for shortlist of adaptation/mitigation / resilience / social risk governance capacity options and apply to shortlist of priorities to determine final community adaptation priorities.

Potential tools: Focussed group matrices of evaluation criteria against adaptation options.

7.5.5 Step 5: Discount the options using desk economic analysis of risk reduction options

A mere analysis or assessment of climate and other systemic disaster risks at the municipality level is not enough to translate the findings into effective developmental options to enhance natural and societal systems resilience. Planners have to make economic decisions about optimal resilience options. There are about five different economic decision-making tools that can be used for climate and disaster risk reduction options at the municipality development planning and implementation level. These are similar to decision-making elements in best practice theory. The five examples are: cost-benefit analysis, cost-effectiveness analysis, iterative risk management, real options analysis, robust decision-making, and portfolio analysis. See Watkiss (2015) and Hallegatte (2014) for their detailed discussion.

7.5.6 Step 6: Climate and disaster risk screening of CCA-M and DRR developmental options

Climate and disaster risk screening of developmental options is to see how these already proposed and discounted intervention options would be affected by climate and disaster risks

(thus risk perspective) and how they might also worsen climate change and disaster risk (impact perspective). Thus, discuss options with the community to adopt and enable climate resilient development.

In Zambian context, there are two types of screening being promoted by the government in the climate change fraternity. The first approach is development option screening against national level, portfolio sectors' or subject matter policy frameworks. Specifically, these are in the context of the following: a) the regulatory environment and inter-linkages thus existing climate change / disaster risk reduction related policies and initiatives; planning and budgeting processes; coordination mechanisms; b) screening against institutional arrangements and authorities thus: institutions and actors; mandates and decision-making processes (Petrie & Rusere 2019; GIZ & Global 21 Consulting 2014). The second approach is where the community provides input and direction regarding what works and what does not to address climate risk and prevent worsening risk.

With these two types of screening, planners ought to analyse CCA-M, including DRR options with the community to adopt and to enable climate and disaster resilient development. This process requires that each option is to be evaluated against respective hazards, climate and associated disaster risk variable as depicted in the following.

This risk screening process is part of robust decision-making that is promoted in the climate and disaster resilience decision-making process. In overall context of IDP formulation, this step looks at how climate change affects the development framework. Thus, the intervention options should be married to the spatial development framework at this stage.

7.5.7 Step 7: Identify implementation strategy for CCA-M and DRR activities and integrating them into preparedness, recovery and reconstruction in case of impending and actual disaster outcomes

The planning team ought to be aware of or identify what implementation strategy they are going to use. However, considering that these developmental options are not stand alone from IDP, they are implemented as part of the overall IDP implementation strategy.

7.5.8 Step 8: Develop monitoring and evaluation, including ongoing monitoring of systemic hazards on a daily basis

All the seven Steps outlined above, in the whole mainstreaming process develops a framework of indicators and outputs that appropriately monitors progress towards reducing risk and building resilience, as well as indicators linked to key projects' activities. There is the option to add additional indicators in the eighth step that specifically monitors risk changes within the district /

ward based on vulnerability and adaptive capacity. This is particularly useful to monitor the successes of building adaptive capacity and to identify gender differences as required.

7.5.9 Step 9: Legislative feedback forum on IDP including CCA-M and DRR mainstreaming

Unlike in South Africa and based on Article 2 findings, Zambia does not have municipality IDP legislative forum. This specifically reviews progress made with IDP implementation, to help contribute to the revision of IDP legislation at national level. Such a forum should be considered and constituted at municipality level in Zambia that could sit once in a year to review legislative progress of IDP process and provide such documented legislative feedback to central government. However this recommendation may require additional amendments to the Local Government Act (2 of 2019), the Urban and Regional Planning Act (3 of 2010), the National Development Planning and Budgeting Act (1 of 2020), the National Policy on Climate Change of 2016 and the National Disaster Management Policy of 2015 to facilitate this inclusion at municipality level.

7.6 Conclusion

These developed and proposed alternative guidelines for mainstreaming both CCA-M and DRR into IDPs were not yet validated by the stakeholders' through repeated implementation or through mass stakeholder feedback. However, the guidelines were based on scientifically generated evidence through sub-studies conducted in Articles 1 to 4 and guided by the theoretical frameworks reviewed in Chapter 2. What remained for these proposed guidelines was to convert them into a green paper or policy agenda-setting document and then submitting them to the Ministry of Local Government. The Ministry of Local Government with overall national mandate to coordinate integrated development planning process and plans in Zambia on behalf of the central government, would then escalate these guidelines to Cabinet to consider and convert them into binding official public policy implementation guidelines. Through this process, MLG would ensure that these proposed guidelines meets all the four quality assurance criteria of public policy guideline making of salience, credibility, legitimacy and addressed thematic boundaries as articulated in Chapter 1. Apart from legitimacy, all the other three quality assurance criteria set out in Chapter 1 were met by the researcher when developing and proposing these alternative guidelines for mainstreaming CCA-M and DRR into IDPs.

CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

8.1 Introduction

The need to develop credible, salient, legitimate policy implementation guidelines that would be converted into public policy implementation guidelines and that addresses thematic boundaries, especially for the super wicked and trans-disciplinary theme of CCA-M/DRR has been the main anchor for this study. Additionally, this thesis applied a rigorous scientific methodology to ensure that all these principles of credibility, salience, legitimacy and thematic boundaries were addressed. This was in addition to the quest to apply the forward reasoning approach by the researcher to address the super wicked policy problem of CCA-M and DRR. The study was conducted overall under best practice policy research theoretical framework. The whole study was by publishable peer reviewed journal Articles and a synthesis chapter.

8.2 Article-based conclusions and achievement of research objectives

8.2.1 Article 1 - Integrated development planning in Zambia: ideological lens, theoretical underpins, current practices, views of the planners

Article 1 published in 2021, was a sub-study, a framing paper on integrated development planning concept and practice in Zambia. The article sought to address research question one (RQ 1). The question asked was RQ 1.1: How did the few municipalities that already had approved IDPs in Zambia manage to formulate their IDPs in the absence of subordinate legislation? RQ 1.2 was: What ideology and developmental theory motivated the Zambian government to introduce IDP concept in the first place? RQ 1.3 was: What hindered the Zambian government from marking subordinate legislation for making IDPs in a timely manner?

Correspondingly Article 1, as a sub-study addressed the first research objective of the overall research: To frame the concept and practice of IDP in Zambia to obtain a broader, detailed explanation and document this concept and practice from an ideological perspective, theoretical underpinning, historical perspective, current practices and views of the developmental planners. In other words, this research objective was to review literature, obtain views of the stakeholders especially planners, clarify and document how the few existing IDPs were formulated in Zambia, in the absence of subordinate IDP making guidelines.

A blend of research methods was used in this sub-study. That is an extended literature review, sample survey and semi-structured interviews were conducted. Relevant documents to the subject matter were reviewed, and 81 key informant's interviews were carried out with purposefully and snowballing selected municipality planners at the municipality level, provincial,

national head office and tertiary institutions. Thus, this Article reviewed the contents of eight IDPs approved between 2000 and 2018.

Article 1 therefore documented, provided the broader and detailed explanation of the concept, practice and policy of IDP as well as an input into the subsequent Articles 2 to 4, and Chapter 7. Hence Article 1 established many facts about IDP concept in Zambia. Critical findings through this sub-study were that IDP concept used in Zambia was not home-grown but emanated from the West. The neo-liberal development theory highly influenced integrated development planning. This influence was compounded with the traces of the 1947 British colonial, spatial development planning theoretical orientations, and the proximity to the new South African municipality IDP model. Lack of detailed guidelines on IDP was also impeding the formulating of IDPs by many municipalities in Zambia.

Article 1 further clarified and documented for the first time in Zambia, a comprehensive explanation of the genesis of the integrated development planning concept and practice from the ideological lens, theoretical underpinnings, historical perspective, current planning practices and views of the planners. These principles could have influenced and could explain why and how the consultants for the eight municipalities with pilot IDPs, formulated the eight integrated development plans without any accompanying formulation guidelines. The eight municipalities with pilot IDPs in 2017-2018 were Lusaka, Livingstone, Lumwana (and now Kalumbila), Chongwe, Chavuma, Mambwe, Mongu and Limulunga municipalities.

Without help from consultants, all the municipalities in Zambia were struggling to develop their IDPs due to a lack of formulating guidelines. A review of the eight pilot IDP documents already approved in Zambia in 2017-2018 looked similar to the IDP documents produced in South Africa. Even so, a detailed comparative study of the two models between Zambia and South Africa had not been undertaken. Thus Article 1 recommended further research to be done to systematically compare the Zambian spatially biased or land-use and development control biased IDP model to the South African holistic municipality management model. This was to help stakeholders understand the prevailing intricacies of these two models in more detail to help further make recommendations in the development of the specific IDP formulating guidelines or regulations for Zambia. Article 1 further recommended an analysis to factor in an understanding of other cross-cutting issues such as environmental management, climate and disaster resilience, gender mainstreaming and how these could be embedded into the IDPs as it is done in South Africa. All these studies were to help planners further and other stakeholders appreciate how IDPs were supposed to be formulated and what they should contain in a much broader context of sustainable cities especially the SDG number 11.

8.2.2 Article 2 - Integrated development planning and related financing practice: a comparison case study of Zambia and South Africa

Article 2 published in 2020, was a continuation of Article 1. Article 2 further sought to analyse what integrated development planning and plans were. This was in view of scanty literature on Integrated Development Planning and Plans in Zambia, and because of the findings from Article 1 that IDP concept and practice as used in Zambia seemed to have been public policy transferred voluntarily or policy lesson-drawn from South Africa through the *Zambian Urban and Regional Planning Act (3 of 2015)*. As such, Article 2 sought to answer research question two (RQ 2) thus: What additional (public policy convergence and coherence) lessons could Zambia learn from South Africa to enhance its quest to develop alternative (public policy implementation) guidelines for integrated development planning, that would mainstream both CCA-M and DRR into integrated development plans? Consequently, Article 2 sought to address research objective 2: To undertake a cross-national comparative policy analysis study in Zambia and South Africa to obtain an additional in-depth exploration and document the similarities of the IDP concept and practice as used in Zambia compared to South Africa.

This sub-study for Article 2, involved the collection of secondary and primary data from both Zambia and South Africa to saturate the research objective. The study was a qualitative descriptive and multi-case study. Process wise it involved an extended literature review and utilised qualitative data sets collected from 10 key informants purposefully sampled in Zambia at municipality and national level, and another 10 key informants purposefully sampled in South Africa at provincial and municipality level. For triangulation purposes, extended literature review was conducted first then primary data collected from municipalities before collecting the data from respective provincial and national level institutions. Findings from Zambia were compared to South Africa that was considered as a baseline between these countries. The data was analysed in cross-national comparative public policy transfer, policy diffusion, policy learning, best practice, benchmarking and case study strength, weaknesses, threats, and opportunities.

Article 2 findings established the similarities that existed between the two models of IDPs in Zambia and South Africa, but still, there were fewer activities taking place in Zambia on IDPs, compared to South Africa. South African IDPs were in the fourth generation of 5 years each while the Zambian IDPs were at the pilot stage but without accompanying policy implementation guidelines. Indeed, the South Africa IDP model was well entrenched in the local government legislation considered the second constitution. This demonstrated how seriously IDPs were considered a developmental administration, budgeting, municipality key performance, and a cooperative governance tool. Ultimately the South Africa IDP model was more superior due to the streamlined and strengthened legal framework that governed IDP compared to Zambia. However,

the South African IDP process equally faced challenges with the lack of municipality clean audits in many municipalities.

The study found that the political-economic ideology and legal framework supporting the South African integrated development planning model appeared to be superior to the Zambian one. There was no need for the Zambian government to reinvent the wheel in IDP policy and regulation formulation when so much had already been done in South Africa for Zambia to adopt. The Zambian government could officially adopt additional aspects of the South African model but must harmonise several legal and operational frameworks related to integrated development planning. This included the speeding up of decentralisation and improving on how the municipalities should be financed.

8.2.3 Article 3 - Legal and policy frameworks to harmonise and mainstream climate change adaptation-mitigation and disaster risk reduction into municipality integrated development plans: a case of Zambia

Article 3 was equally a public policy convergence and coherence study. It looked at the existing interface between CCA-M, DRR and IDP in the context of the current legal, policy frameworks and other enabler documents' in Zambia. It focused on legal, policy frameworks and enabler documents developed closer to the 2015 reference year, thus from 2010-2020. The 2015 reference year was when four important international development frameworks on climate change (the Paris Agreement), on Disaster Risk Reduction (Sendai Framework of Action), on sustainable urban development (UN-Habitat New Urban Agenda) and the Sustainable Development Goals (the Global Agenda 2030) were ratified / endorsed. These frameworks recognised similarities between CCA-M and DRR and the need to integrate / mainstream these into sustainable urban and rural development practice. Thus, this Article was critical to understanding what the Zambian government was doing to promote the harmonisation and mainstreaming of both CCA-M and DRR into IDP post year 2015 in line with Sustainable Developmental Goals. This was from the legal, policy and enabler point of view. That is from horizontal integration or harmonisation or in country policy convergence perspective. Where as in line with sustainable development goals vertical integration or policy coherence.

Therefore line with policy convergence and coherence theoretical frameworks, Article 3 sought to address research question three (RQ 3). The question asked was RQ 3.1: What other legal frameworks (apart from the Urban and Regional Planning Act 3 of 2015), public policy guidelines and enablers supported IDP development, harmonisation and mainstreaming of CCA-M and DRR into IDPs in Zambia? RQ 3.2 was: To what extent had the government gone to harmonising current legislation, policy frameworks and enablers to support the harmonisation and

mainstreaming of CCA-M and DRR into integrated development plans in Zambia? Consequently, the study sought to address the research objective three: To analyse existing legal and policy frameworks, institutional capacity, explore and document if any actions by the Zambian government tried to harmonise the existing legislation, policy frameworks and enabler regulations to facilitate mainstreaming of CCA-M and DRR into local government development planning.

Article 3 was a systematic review, policy convergence and policy coherence Zambian case study. The methodology used was similar to the one used by Rivera (2016) in Nicaragua with a similar focus as in Article 3 in this thesis. Thus Article 3 used secondary data only and 46 documents with 2010-2020 exclusion / inclusion criteria. An additional 36 documents were reviewed to support the theoretical and methodological frameworks used in the Article. Systematically reviewed documents were analysed using content analysis to saturate the research objective.

Through this Article 3, it was established that some other guidelines for IDP existed that were just released by the Ministry of Local Government in January 2019 but were weak on harmonising CCA-M and DRR. These guidelines were more inclined to promote the mainstreaming of CCA-M only into IDPs. There was, however, good political will and good donor support for the mainstreaming agenda of CCA-M into portfolio sectors in general in Zambia but not so much about conceptual harmonisation with DRR.

Overall, there was little progress and evidence by the Zambian government to streamline the existing legislation and policy frameworks to support harmonisation of CCA-M and DRR before and post year 2015. However, there were many developmental project initiatives to mainstream CCA-M into sectoral line ministries programmes but not through municipalities nor municipality IDPs. About 90% of these initiatives to support CCA-M were externally donor-funded. Implicitly international donors and international developmental goals had a lot of influence on how CCA-M were being governed in Zambia. This suggested that donors were in the driving seat as far as CCA-M was concerned. Further suggesting that CCA-M was more appealing to external donor support compared to DRR. This finding was critical as it could help place DRR into CCA-M in Zambia for the proposed alternative guidelines for CCA-M/DRR guidelines to function. Article 3 provided further justification to develop alternative guidelines for harmonising and mainstreaming CCA-M and DRR into IDP in Zambia to help fill in the associated legal and policy gap.

8.2.4 Article 4 - Climate change adaptation-mitigation and disaster risk reduction: global evidence in municipalities' integrated development plans

Article 4 sought to identify best practices, case studies of municipalities globally that had successfully harmonised and mainstreamed both CCA-M and DRR into their respective

integrated development plans and decision-making processes post year 2015. This helped the researcher incorporate lessons learned when developing the alternative guidelines for IDPs that would harmonise and mainstream CCA-M and DRR. Article 4 addressed the research question four (RQ 4): What global models and municipality examples existed to help Zambia and the researcher emulate, develop and propose alternative Guidelines for Integrated Development Planning that would mainstream both CCA-M and DRR into integrated development plans? In answering this question, the article addressed objective four, namely to explore and document the current global models and examples of how to effectively harmonise and mainstream both CCA-M and DRR into decentralised municipality IDPs.

Equally, Article 4 was a systematic review policy convergence and policy coherence multiple cases' study and only utilised secondary data. Country and municipality inclusion-exclusion criteria were to select 10 countries with high Climate Risk Index (CRI) using 2018 as the current, year of global analysis at the time Article 4 was written in 2020. Document review inclusion and exclusion criteria was for those programme documents, legislation, policy frameworks and other enabler documents that discussed both CCA-M and DRR and developmental planning as much as possible, for the 10 countries with high CRI. These documents were to be as close as possible to year 2015 when the four international frameworks that govern CCA-M; DRR; SDGs and Sustainable urban development were signed / endorsed by the United Nations member states. Therefore, a total of 13 models and 108 documents were analysed for all the 10 country case studies. Content analysis was used to analyse the themes in these documents and scored against the model assembled by the researcher to help identify the municipalities with best practices of harmonised and mainstreamed CCA-M and DRR into their developmental practice.

There was no single model globally or at country level that fit into what this sub-study was partly looking for. That is a single model that could help analyse, identify the case studies of municipalities that had best practices of harmonised and mainstreamed CCA-M and DRR into developmental practice. However, there were three models identified that had much potential to be adapted further to help analyse and identify municipalities that had best practices of harmonised and mainstreamed CCA-M and DRR into developmental practice. The only challenge was that all these three models identified through comprehensive literature review were aligned only to promote and incentivise mainstreaming of climate change resilience only into local government development planning, budgeting and decision-making and not DRR nor to harmonise the two CCA-M and DRR options. An adapted blended model was synthesised as a result of this additional sub-study gap identified to use to identify best practice case studies. No specific name was given to this blended model put together for this identification of best practice

case studies. The focus of the blended model was on its functionality in line with the Function Model for Comparing Disaster Risk Management (fmDRM) partly used in this study.

Canada and the Philippines had municipalities and systems that provided good examples of best practices case studies. This was for conceptually and legally harmonised practices of CCA-M and DRR into municipality developmental practice. These two countries identified through content analysis were out of 10 countries initially identified in the same Article 4, based on high Climate Risk Index, to be analysed for municipalities with best practices of harmonised and mainstreamed CCA-M and DRR into IDPs. Lessons learned from these two countries could be adapted by / to other countries to harmonise and mainstream both CCA-M and DRR into Municipality IDPs. Some of these harmonisation and mainstreaming lessons from these countries were unbundled and incorporated into the developing of the proposed alternative guidelines for mainstreaming both CCA-M/DRR into IDPs, developed through this thesis and outlined in Chapter 7.

8.2.5 Chapter 7 – Proposed alternative guidelines for mainstreaming both climate change adaptation – mitigation and disaster risk reduction for Zambia

Chapter 7 was a synthesis of all the findings and recommendations from Articles 1 to 4. Chapter 7 also incorporated similarity scenarios identified in Zambia between CCA-M and DRR as identified through a comprehensive literature review in Chapter 2. Chapter 7 culminated into the development of the *proposed alternative guidelines for integrated development planning that harmonises and mainstreams both CCA-M and DRR into integrated development plans*. Through this Chapter 7, the researcher sought to address research question five (RQ 5). The research question was: What elements did the proposed alternative guidelines for harmonising and mainstreaming both CCA-M and DRR into IDPs for Zambia supposed to contain? Consequently, Chapter 7 addressed objective five, thus: To synthesise findings and recommendations from objectives 1 to 4 and propose alternative policy implementation guidelines for mainstreaming both CCA-M and DRR options into IDPs for Zambia.

The researcher used a heuristic and functional modelling process to synthesis and rationally developed these proposed guidelines in Chapter 7. An incidental finding, the blended approach or model to analyse both climate and disaster risk at the same time, and to identify harmonised CCA-M and DRR options at municipality level within the framework of integrated development planning was developed. This was in addition to the developed detailed nine technical steps on how this harmonisation and mainstreaming process of both CCA-M and DRR could be undertaken to make improved IDPs.

8.3 Thesis contribution to existing body of knowledge (based on articles)

One of the main prevailing debate globally in climate change science, disaster risk science, urban and regional planning, and sustainable development are the similarities between CCA-M and DRR as sustainable developmental strategies. There is further debate on the need for developmental practitioners to harmonise and later to mainstream these two concepts and practices of CCA-M and DRR into national and local developmental administration to enhance natural, built environment and societal systems resilience. In line with this debate, this thesis sought to harmonise the two concepts of CCA-M and DRR for mainstreaming purposes into the integrated development planning process (first stage harmonisation), and later develop alternative public policy implementation Guidelines for Integrated Development Planning (second stage harmonisation) that would mainstream both CCA-M and DRR into integrated development plans (third stage harmonisation) for Zambia as outlined in the theory of change in (Figure 1.2) in Chapter 1.

Through Article 1, Chapter 3, of this thesis has added clarity to what the concept of IDP is all about globally and in the Zambian context. This is critical for all developmental planners globally and in Zambia to appreciate what this concept and practice are all about from a political economy ideological perspective, the alternative developmental theory, participatory municipality and spatial planning theory, importance of legal frameworks, and professional planning ethics. Through this process, the thesis has demonstrated that IDP concept is not a locally Zambian grown concept. Neither is it a developing country grown concept but has evolved from the West. Consequently the developed countries have influenced this concept thus, policy lesson diffused and coerced to some extent into developing countries through policy integration, convergence, coherence, globalisation model to modernise their political, economic systems to conform to the neo-liberal ideology of the West.

The thesis has further contributed to highlighting that this concept and practice of integrated development planning is still very fluid along the lines of neo-liberal political, economic ideology and can still favour the elite. It still remains a top-down master planning developmental theoretical concept and practice in Zambia. In other words, the concept and practice are very much shaped by the prevailing political-economic ideology prevailing in a given country. Therefore, the IDP planners ought to have an open mind and need to understand what, why and how they should develop their municipality IDPs to balance up with various political, elite and vulnerable people's interest as well as their own professional planner's interests/ethics. The thesis has also demonstrated that the top-down master planning theory is still a resilient developmental planning theory and that IDP in Zambia is actually a spatial developmental planning concept instead of a general municipality strategic development planning concept. For instance, Zambia's IDP concept

and practice are not well funded by central government or locally mobilised municipality resources. Neither is IDP a central or even local municipality budgeting tool. The other contribution that this thesis has made is to caution developmental practitioners that development planning let alone to harmonise and mainstream both CC-M and DRR into municipality developmental plans is not simply adding a few municipalities sector plans together. The process should involve all devolved government departmental sectors and is a highly political as well very technical.

From Article 2, the thesis has demonstrated that decentralised municipality governance system by devolution and proper financing of municipalities is critical to the successful implementation of developmental programmes, including enhancing climate change and disaster risk resilience. Harmonised legislation, policy guidelines and other enablers to facilitate the harmonisation and mainstreaming of both CCA-M and DRR into IDPs are equally important. This contribution is also manifest through Article 3, which has demonstrated that there is very little action in Zambia by government to harmonise CCA-M and DRR by revising the current legal, policy, and enabler documents. Some semblance of action to harmonise these two concepts and practices was found when the legislation, policy frameworks, and enablers related to IDP, CCA-M, and DRR were analysed, but were not coherent enough to conclude that there was much action in the positive direction.

Another contribution emanating from Article 3 was that the bilateral and multilateral agencies well-funded CCA-M compared to DRR in Zambia. Zambia, as a developing country, was highly dependent on bilateral and multilateral donor, external funding for CCA-M developmental projects. This funding situation contributed to these two phenomena of CCA-M and DRR to be implemented in parallel along line ministries and sectors. Even though the 7th National Development Plan for Zambia for the period 2017-2021 promoted clustered developmental approach, the legal, policy frameworks and enabler documents analysed in Article 3, demonstrated that the implementation of CCA-M and DRR were still skewed to parallel ways at national and district level. This could be seen further, through the three development planning mechanisms or systems that still prevailed in Zambia as demonstrated in Article 1, 2 and 3.

Based on Article 3, another contribution of this thesis towards knowledge generation and the overall CCA-M and DRR harmonisation debate was the way DRR terminology was used even among the disaster management fraternity in Zambia. It was more inclined to the emergency response perspective.

This thesis has further demonstrated that debate on CCA-M and DRR policy integration into other public policies which is similar to Environmental Policy Integration (EPI) or Climate Policy

Integration (CPI) concepts, and on CCA-M and DRR mainstreaming into actual developmental programmes cannot be separated. Thus CCA-M and DRR policy integration and mainstreaming debate cannot be separated either. This is very much prevalent in Article 4 and Chapter 7.

By attempting to identify the framework through which climate change and associated disaster risk, and then to identify CCA-M and DRR interventions after risk analysis / assessment, introduced the concept of policy integration which is commonly referred to as harmonisation in this thesis. Thus, through Article 4, and Chapter 7, the thesis has demonstrated that there are indeed three stages of horizontal harmonisation / integration / mainstreaming undertaken and debated at length in this thesis. The first level of harmonisation is conceptual between CCA-M and DRR. The second level of harmonisation highlighted through this thesis is functionality and embedding of the harmonised tertiary operating guidelines into the primary operational guidelines. The third level highlighted is operationalizing of the guidelines thus, the actual implementation of the harmonised concept and the alternative guidelines to make actual IDPs.

Another contribution based on Article 4, is that there is no single municipality level model on the shelf globally that can be adapted and replicated by respective countries on how to harmonise CCA-M and DRR for mainstreaming into decentralised even non-decentralised municipality IDPs. There are a number of models, however, that either and exclusively discusses CCA-M, or DRR mainstreaming into IDPs. This thesis reviewed these exclusive CCA-M or DRR mainstreaming models globally to develop a harmonised framework in Article 4. This harmonised model was later used in Chapter 7 to propose the harmonisation and mainstreaming of both CCA-M and DRR into IDP.

Further contribution through Article 4 was identifying three exclusive CCA-M mainstreaming models at the municipality level that were promising. These were the UN-Habitat CityRAP model being piloted in information scarce cities, especially in Africa. The other model was the UNCDF LoCAL and associated ACCAF. The third model was the Experimental Climate Resilience Mainstreaming into Municipality Integrated Development Planning in Cape Town. The weakness for these three promising models as already stated in Article 4 was that they were much inclined to promoting and incentivising the mainstreaming of CCA-M only into municipality IDPs. The other specific major weakness for CityRAP was that it is was promoted as a standalone programming tool and not integrated into the overall municipality legal, development planning and budgeting process.

An incidental contribution was on the placement of CCA-M into DRR (or vice versa). CCA-M seem to be better funded in Zambia than DRR. Suggesting that DRR could be placed into CCA-M in the case of Zambia to benefit from the better long-term developmental financing that CCA-M

enjoys. This was not the main focus of the study. Implicitly through Articles 3 and 4, it is evident that CCA-M was a better funded concept for long-term developmental orientation through the UNFCCC adaptation and mitigation funding mechanisms such as Green Climate Fund. Furthermore, there are many interventions for CCA-M initiatives through individual line ministries compared to DRR and through decentralised municipalities in Zambia.

Final contribution of this thesis towards knowledge generation is the demonstration that it is feasible to develop and propose evidence-based policy implementation guidelines for mainstreaming both CCA-M and DRR into IDPs, through an academic study with methodological rigor.

8.4 Recommendations

Placing CCA-M into DRR or Vice Versa. Scholars and practitioners must continue pursuing the processes to find optimum ways to place CCA-M into DRR or vice versa, depending on which theme is better funded and is more favoured by the respective government to lead the other. This is so since CCA-M and DRR are still implemented in parallel ways at the municipality level in Zambia. Researchers and scholars must also try to find a blend or balance of how to harmonise and mainstream CCA-M / DRR into IDPs. There still is so much support at the moment for CCA-M only, and support into parallel ways of developmental planning and administration of CCA-M versus DRR at national level and individual sectors. Despite these parallel ways of thematic implementation, there is already converging recognition at the global and national levels that CCA-M and DRR are similar concepts that need harmonisation and streamlining into development practice at national and local government levels.

Convert academically developed policy into public policy. The developed and proposed policy implementation guidelines through this research are not yet officially public policy. They have to be subjected to another government process – public participation developmental interface before the Zambian Cabinet can officially adopt them as public policy. As such, these developed and proposed guidelines have to be packaged into a scientific report format and as policy agenda-setting document before they can be presented to the Ministry of Local Government to escalate to Cabinet. This would be done post this doctorate thesis.

Decentralisation by devolution debate. Is decentralisation by devolution still a better developmental option for Zambia? Since 1964 when Zambia obtained its political-economic independence from the British and specifically from 1980, decentralisation attempts by devolution have been ongoing but there seem to be little outcomes to showcase progress of this effort on the ground apart from on paper. Technically lack of good progress to decentralise the local

government system by devolution may render the IDP concept in future to be futile. Candid debate on decentralisation by devolution in Zambia ought to continue taking place as the lack of such debate would affect progress on mainstreaming CCA-M and DRR into IDPs to enhance resilience.

Harmonise the three-way planning systems in Zambia. Public policy specialists should continue to assist government in streamlining legislation to support harmonisation and placement of CCA-M/DRR into the other. Policy implementation guidelines for mainstreaming both or harmonised CCA-M/DRR into municipality development planning have been developed and proposed by this thesis to be considered as public policy. Additional legal support is therefore required at a higher level to harmonise the rudimentary legislations further to support this mainstreaming process. As demonstrated in Article 3, Chapter 5 of this thesis, current legislation to support CCA-M/DRR harmonisation and mainstreaming into IDP is still fragmented mainly between Ministry of National Development Planning; Disaster Management and Mitigation Unit; Ministry of Lands and Natural Resources; and Ministry of Local Government the custodians of municipality integrated development planning in Zambia. Specific areas that need to be revisited are the provisions on how to reconcile the decentralised municipality integrated development planning process, the District Development Planning process, and how CCA-M/DRR should be implemented at the district level, by who and when.

Revisiting the URP Act (3 of 2015) in terms of terminology. In Zambia, attempts should be made to revisit the URP Act (3 of 2015) in terms of terminology. When analysed for content, the URP Act (3 of 2015) seem to be more inclined to clarifying that the piece of legislation is for spatial planning and not so much about overall municipality or strategic decentralised municipality management. Ministry of National Development Planning; Ministry of Local Government; and Cabinet should also make additional efforts to re-clarify the relationship between District Development Planning and IDP in a decentralised local government set up.

At the moment, the URP Act and the three-way planning systems seem to create a lot of ambiguity regarding the way forward in terms of development planning and cooperative governance in Zambia. On the other hand the Ministry of National Development Planning champions the District Development Planning system. District Development Planning has no strong emphasis on spatial development planning framework but merely social-economic themes to feed into the central government budgeting and centralised government programme monitoring and evaluation and now into the Nationally Designated Authority arrangement for CCA-M funding. The linkages between District Development Planning and IDP are not clear, functionally and legally either, even though the government just promulgated the National Development Planning and Budgeting Act (1 of 2020).

Disaster Management and Mitigation Unit (DMMU) should revisit disaster management / DRR terminology use in their current 2015 - 2020 policy document. Terminology in the current Disaster Management Policy in Zambia is still more inclined to traditional disaster management of emergency response as opposed to contemporary Disaster Risk Reduction. Even though DMMU claims that DRR is the basis on which they revised their 2005 Policy Document. The terminology used in the current policy document of 2015 does not reflect that shift, when this document is critically analysed for content.

Lobby government to second municipality staff to South African municipalities to learn more on IDPs. As reflected in Article 2, Zambian public policy advocates should lobby the government to second even about 30 municipality staff to South Africa for about three months to understudy how municipalities are supposed to be run effectively concerning IDP, and DRM mainstreaming. This would be helpful to the cause of advancing this concept and practice and mainstreaming of both CCA-M and DRR in Zambia even though South Africa equally needs to revisit their harmonisation interface between CCA-M and DRR. In South Africa their IDP and DRR mainstreaming in general on the one hand, and their IDP and CCA-M mainstreaming in Cape Town, on the other hand, is good.

8.5 Limitations and identified research frontiers for future

Specifically, Article 4 was limited to analysing countries with high Climate Risk Index (CRI) at global level. This analysis was to identify countries at a global level with good CCA-M and DRR management systems that could be considered good case studies of best practices (that harmonised and integrated both CCA-M/DRR concepts into their development planning guidelines for municipalities). Countries like South Africa with a low Climate Risk Index (CRI) were excluded in the analysis to identify examples of countries with best practices on how to harmonise and mainstream CCA-M and DRR into IDPs. However, based on the literature review for Article 4 thus Chapter 6, the City of Cape Town in South Africa seem to have successfully documented how they had mainstreamed CCA-M into IDP through mode-2, trans-disciplinary co-production of knowledge in third space. The challenge is that this model did not document how the DRR could be incorporated into this process as well. This could be a good follow up study to document how this particular model could be used to mainstream both CCA-M and DRR into IDPs and how guidelines to guide this comprehensive process could be developed. It would be good to also pilot the UN-Habitat concept of City Resilience Action Planning (CityRAP) alongside or within this co-production of knowledge in third space in South African City Context and along the UNCDF LoCAL ACCAF model to be able to compare the effectiveness of these three promising models to enhance climate and disaster resilience at municipality level through municipality IDPs.

Locally in Zambia, the major limitation was to obtain additional input for Chapter 7 from municipality planners on the subject matter of the study, to enhance the development of the alternative guidelines for mainstreaming CCA-M and DRR into IDPs. The 42 municipality planners approached in six municipalities of Lusaka, Chongwe, Chibombo, Livingstone, Pemba and Mongu from October 2019 to February 2020 were non-committal to providing additional perception views on how they would have wanted the proposed alternative guidelines to be shaped. Hence this line of inquiry was not pursued any further apart from relying on the findings from the four journal articles which was successful. However, this partial challenge can be addressed when converting these proposed policy guidelines into public policy, where the public could be requested to provide additional input into the conversion process to legitimise it.

8.6 Conclusion

Conceptually this study was based on the argument that climate change and associated disaster risk were on the increase globally and were projected to continue increasing with increased global warming due to increased emissions of greenhouse gases. This phenomenon required urgent actions by governments and other stakeholders to reverse. This reversal could be done by addressing underlying root causes of this risk and increasing climate and disaster resilience capacity of the natural, built environment and societal systems. On the other hand, climate change adaptation-mitigation were considered to share similar objectives with disaster risk reduction. However, these two concepts and practices continued to be implemented in parallel. Thus, there was need to harmonise these two concepts and practices, as well, and streamline their implementation into local government development practice if countries were to effectively enhance their communities' natural, built environment and general societal systems resilience using the same developmental public resources in a given time frame. Thus, the study further recognised that municipalities were more ideal government pillars and tiers, developmental administrative units that were closer to the natural, built environment and societal systems. They were more effective branches of governments to reach out to the community to create this resilience using the same developmental public resources. However, this required additional legal and policy frameworks to harmonise, and these were missing in Zambia at the time of conceptualising this study in 2017.

Therefore, epistemologically, this study was motivated by the need to harmonise and formulate credible, salient, legitimate policy implementation guidelines with simplified thematic boundaries that could be used to promote the mainstreaming of CCA-M/DRR into decentralised municipality development planning, budgeting and decision-making process. The researcher was further motivated to apply a forward reasoning approach to develop policy implementation guidelines for

mainstreaming a super wicked problem of climate change adaptation-mitigation and disaster risk reduction into integrated local government development planning practice to enhance resilience.

Overall, this thesis addressed the overall research question of why were there no primary guidelines on how to formulate municipality IDPs that would even mainstream CCA-M and DRR into the IDPs?

In line with the need for credible, salient, legitimate policy implementation guidelines with simplified thematic boundaries and in line with forward reason policy-making approach, overall research aim was to review, analyse, develop and propose alternative guidelines for an integrated development planning process that mainstreamed both climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR) options into decentralised municipality integrated development plans (IDP).

Through this thesis, the overall research aim has been achieved through the anticipatory forward reasoning and pragmatic research paradigm. Anticipatory in the sense that there was no indication from any stakeholders as to when overall IDP formulating guidelines would be made by the Government that would even harmonise and promote mainstreaming of CCA-M and DRR into IDPs in Zambia at the start of this study in 2017. Furthermore, the overall aim has been achieved through four peer reviewed journal articles of which two have been published. The other two articles have been submitted to disaster risk reduction journal for publishing consideration and were undertaking peer review process at the time of finalising this thesis.

Article 1 therefore framed IDP problem broadly and laid a foundation that IDP was part of the overall participatory municipality developmental concept. It was also part of the global developmental Agenda 2030 and SDG target number 17.14 which is the overall policy coherence approach to successfully attain the SDGs globally. Thus Article 1 laid the broader foundation on which other articles were built on. Article 2 expanded the framing and added more conceptual and practice depth to the IDP concept and practice as used in the Zambian context compared to South Africa in context for policy convergence and coherence. Thus a cross - nation comparative public policy study that required the researcher to use both secondary and primary data in both Zambia and South Africa was done that culminated into Article 2. Article 3 addressed and analysed the legal and public policy framework interface between CCA-M/DRR and IDP and equally framed the problem from this perspective again in the context of policy convergence and coherence theoretical framework. Article 4 analysed global case studies and theoretical framework of how to harmonise these two concepts and practices of CCA-M/DRR, culminating in the drafting and proposing of actual guidelines for harmonising and mainstreaming both CCA-M and DRR into IDPs in Chapter 7. These proposed alternative guidelines would be submitted as

policy agenda-setting document to the Ministry of Local Government to further escalate into public policy. The actual submission of the proposed guidelines to the Ministry of Local Government to commence the process of adopting these into public policy is beyond the scope of this doctorate thesis. That would be part of post-doctorate studies or part of individual citizen's moral responsibility as a potential policy advocate.

Other scholars and practitioners might argue that journal articles might not be the effective way to communicate policy-making recommendations because they take longer to publish. However, peer review process is part of the rigorous validation process advocated for in this study as demonstrated through already published journal Articles 1 and 2. Journal Articles adds a lot of rigor and thus, salience and credibility to the whole process of policy and public policy-making.

In further trying to ensure methodological rigor for super wicked public policy problem, this study has utilised many theoretical frameworks outlined in Chapter 2 and outlined in the respective Articles in the thesis. As such, these theoretical frameworks helped the researcher's academic / rational, scientific and functional process of developing these guidelines and later packaging them for this study.

The municipalities in Zambia are not yet decentralised by devolution, and yet this has been government policy since 1980 to decentralise them by devolution. Hence decentralisation by devolution is still work-in-progress. In line with the public policy-making paradigm and forward reasoning theoretical approach, this thesis developed the alternative guidelines in advance even though the municipalities are not yet devolved. The guidelines were also developed based on the need to provide secondary legislation to clarify rudimentary legislation the URP Act (3 of 2015) and the need to operationalize Article 147 (2) of the Constitution of Zambia 2016 as amended.

Ultimately, this thesis has demonstrated that it is feasible in Zambia to: harmonise and develop policy implementation guidelines for the super wicked problem of climate change, variability and associated disaster risk. Therefore, this study has contributed knowledge generation to the global and local debate to harmonise CCA-M and DRR, and to develop alternative guidelines for integrated development planning that mainstreams both CCA-M and DRR options into integrated development plans.

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APPENDIX A: LETTERS OF PERMISSION FROM CO-AUTHORS



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01 March 2021

To whom it may concern,

Re: Letter of permission to include co-authored articles in PhD thesis: Bowen Banda

This letter confirms that Mr. Bowen Banda (PhD Student, Number 28385586) has been granted permission to include the following four co-authored research articles in his PhD thesis submission;

- Banda, B., van Niekerk, D., Nema-konde, L. D. & Granvorka, C. 2021. Integrated development planning in Zambia: ideological lens, theoretical underpinnings, current practices, views of the planners. *Development Southern Africa* <https://doi.org/10.1080/0376835X.2020.1868289>
- Banda, B., van Niekerk, D., Nema-konde, L. D. & Granvorka, C. 2020. Integrated development planning and related financing practice: A comparison case study of Zambia and South Africa. *SABINET Journal of Public Administration (JOPA)*, 55 (1). <https://hdl.handle.net/10520/EJC-1f3c9c3692>
- Banda, B., van Niekerk, D., Nema-konde, L. D. & Granvorka, C. 2021. Legal and policy frameworks to harmonise and mainstream climate change adaptation-mitigation and disaster risk reduction into municipality integrated development plans: A case of Zambia. *Submitted to International Journal of Disaster Risk Reduction* <https://www.journals.elsevier.com/international-journal-of-disaster-risk-reduction>
- Banda, B., van Niekerk, D., Nema-konde, L. D. & Granvorka, C. 2021. Climate change adaptation-mitigation and disaster risk reduction: global evidence in municipality integrated development plans. *Submitted to International Journal of Disaster Risk Reduction* <https://www.journals.elsevier.com/international-journal-of-disaster-risk-reduction>

Mr. Banda was the main author in all the articles that constitute his PhD study. We provided academic direction and support in the conceptualisation, review and editing in all the papers as promotor, co-promotor and mentor respectively,

I do hope this is in order.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Dewald van Niekerk', written in a cursive style.

Prof. Dewald van Niekerk (and on behalf of Prof. L.D. Nemaikonde)

Head: African Centre for Disaster Studies
Unit for Environmental Sciences and Management
Faculty of Natural and Agricultural Sciences
North-West University
South Africa

01 March 2021

To whom it may concern,

Re: Conformation of co-authorship of the four Articles by: Bowen Banda

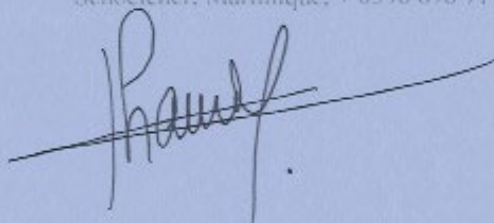
This is to confirm that, I the undersigned, provided permission to be added to the co-authorship of the four Articles written by Mr. Bowen Banda and co-authored by Prof. Dewald Van Niekerk and Prof. Livhuwani Nemaokonde. I provide additional field practice mentorship to Mr. Banda in international development, environmental public policy analysis, development and drafting.

I have no objection for these articles being used for PhD thesis submission purposes.

- Banda, B., Van Niekerk, D., Nemaokonde, L. D. & Granvorka, C. 2021. Integrated development planning in Zambia: ideological lens, theoretical underpinnings, current practices, views of the planners. *Development Southern Africa* <https://doi.org/10.1080/0376835X.2020.1868289>
- Banda, B., Van Niekerk, D., Nemaokonde, L. D. & Granvorka, C. 2020. Integrated development planning and related financing practice: A comparison case study of Zambia and South Africa. *Journal of Public Administration (JOPA)*, 55 (1). <https://hdl.handle.net/10520/EJC-1f3c9c3692>
- Banda, B., Van Niekerk, D., Nemaokonde, L. D. & Granvorka, C. 2021. Legal and policy frameworks to harmonise and mainstream climate change adaptation-mitigation and disaster risk reduction into municipality integrated development plans: A case of Zambia. *Submitted to International Journal of Disaster Risk Reduction* <https://www.journals.elsevier.com/international-journal-of-disaster-risk-reduction>
- Banda, B., Van Niekerk, D., Nemaokonde, L. D. & Granvorka, C. 2021. Climate change adaptation-mitigation and disaster risk reduction: global evidence in municipality integrated development plans. *Submitted to International Journal of Disaster Risk Reduction* <https://www.journals.elsevier.com/international-journal-of-disaster-risk-reduction>

I trust you will find this in order.

Charley Granvorka (Ms).
Economist-Independent International Consultant,
Schoelcher, Martinique, + 0596 696 71 66 35



APPENDIX B: PROOF OF LANGUAGE EDITING



Dynamic Language &
Translation Specialists

Antoinette Bisschoff
71 Esselen Street,
Potchefstroom
Tel: 018 293 3046
Cell: 082 878 5183
Language@dlts.co.za
CC No: 1995/017794/23

Monday, 01 March 2021

To whom it may concern

Re: Confirmation of language edit, typography and technical precision

The abstract and Chapters 1, 2, 7 and 8 of the PhD thesis **Alternative guidelines for mainstreaming climate and disaster resilience options into municipality integrated development planning: A case of Zambia** by Bowen Banda (28385586) was edited for language and technical precision. The referencing and sources were checked and comply to the Harvard guidelines specified by the 2020 NWU Reference guide.

Final, last minute corrections remain the responsibility of the author.

Antoinette Bisschoff

BA Languages (UPE – now NMU); MBA (PU for CHE – now NWU); Translation and Linguistic Studies (NWU)

Officially approved language editor of the NWU since 1998
Member of SA Translators Institute (no. 100181)

Precision ... to the last letter

APPENDIX C: RESEARCH ETHICS

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the Faculty of Natural and Agricultural Sciences Ethics Committee (FNASREC), the Faculty of Natural and Agricultural Sciences Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-SCRE) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Alternative guidelines for integrated development planning in Zambia: mainstreaming climate change adaptation and disaster risk reduction															
Study Leader/Supervisor: Prof D Van Niekerk															
Student: B Banda															
Ethics number:	N	W	U	-	0	1	5	6	3	-	2	0	-	A	9
	Institution				Study Number				Year				Status		
Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation															
Application type: Single					Risk Category: Minimal										
Commencement date: 01/02/2020															
Expiry date: 01/04/2021															
Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.															

Special in process conditions of the research for approval (if applicable):

- The following documentation are archived by FNASREC and should be complete and kept up to date:
 - Research proposal
 - Signed approval from the scientific committee indicating the proposed risk category
- All researchers involved in the study should submit signed NWU code of conduct statements annually.
- All researchers of low risk studies should submit proof of relevant ethics training every two years.
- All researchers that take part in activities that pose a safety and security threat to the researchers or the environment should submit a risk assessment form annually.
- All research involving human interaction should follow best ethical practise and keep documents as proof. This includes informed consent, questionnaires, incorporation of risk-benefit, and responsible data management.
- Any research at governmental or private institutions, permission must still be obtained from relevant authorities and provided to the FNASREC. Ethics approval is required BEFORE approval can be obtained from these authorities.

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the FNASREC:*
 - *annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and*
 - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the FNASREC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*
- *Annually a number of studies may be randomly selected for an external audit.*
- *The date of approval indicates the first date that the study may be started.*
- *In the interest of ethical responsibility, the NWU-SCRE and FNASREC reserves the right to:*
 - *request access to any information or data at any time during the course or after completion of the study;*
 - *to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*
 - *withdraw or postpone approval if:*
 - * *any unethical principles or practices of the study are revealed or suspected;*
 - * *it becomes apparent that any relevant information was withheld from the FNASREC or that information has been false or misrepresented;*
 - * *submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or*
 - * *new institutional rules, national legislation or international conventions deem it necessary.*
- *FNAS-REC can be contacted for further information or any report templates via Roelof.Burger@nwu.ac.za 018 299 4269*

The FNASREC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the FNASREC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely,



Prof Roelof Burger
Chairperson Faculty of Natural and Agricultural Sciences Ethics Committee (FNASREC)

APPENDIX D: STUDY PERMISSIONS

AFRICAN CENTRE FOR DISASTER STUDIES
Research Unit for Environmental Sciences and Management
Faculty of Natural Sciences
North-West University
Private Bag X6001
Potchefstroom, 2520
SOUTH AFRICA

Tel: +27 (0)18 299 1620
Fax: +27 (0)87 231 5590
E-mail: suna.meyer@nwu.ac.za
Web: <http://acds.co.za>

27 June 2017

TO WHOM IT MAY CONCERN

Re: **MR BOWEN BANDA: PERMISSION TO COLLECT DATA**

Mr Bowen Banda is currently enrolled **Ph.D student** in the programme: **Philosophiae Doctor in Science (Disaster Risk Science)** at the North-West University (Potchefstroom Campus).

The title of his thesis is:

**GUIDELINES FOR INTEGRATED DEVELOPMENT PLANNING IN ZAMBIA:
MAINSTREAMING CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION**

In order to complete his thesis the candidate must conduct a substantial part of empirical investigation and fieldwork in the country, Zambia on the subject matter that is multi-dimensional.

May you kindly allow Mr. Banda to collect the necessary data in order complete his studies. All the data collected will be treated with the confidentiality it deserves. Mr Banda has the necessary orientation, motivation and capacity to deal responsibly with confidential information. Your kind consideration of this request will be greatly appreciated.

Yours sincerely,



Prof. Dewald van Niekerk
Director: African Centre for Disaster Studies
North-West University

Bowen Banda
Plot 1226/15 Station Road
Fairview Area
MONZE
Tel: +260977429927
Email: bowenbanda@yahoo.com

12th July 2017

The Permanent Secretary
Ministry of Local Government
Plot 2020, Church Road
P. O. Box 50027
LUSAKA

ATTN: THE DIRECTOR, PHYSICAL PLANNING

Dear Sir,

MY PROPOSED PhD STUDY IN INTEGRATED DEVELOPMENT PLANNING IN ZAMBIA

I am a Zambian domicile in Monze but pursuing a PhD program in disaster risk sciences in South Africa on fulltime basis. I just commenced my studies in March 2017 after defending my research proposal for admission purposes. I will spend most of my research time in Zambia undertaking the study in the next three years.

I am researching on integrated development planning in Zambia, climate change adaptation and disaster risk reduction. I am trying to propose guidelines for mainstreaming climate change adaptation and disaster risk reduction options into integrated development planning process and plans. I was motivated to undertake this study in 2015 after I reviewed the Pilot Program for Climate Resilience documents and noticed the gap in policy implementation guidelines for integrated development planning that mainstream CCA and DRR.

My plan is to work along side your department / ministry and the councils to undertake this study. One of my arguments is the need to involve end users of the co-produced scientific knowledge as co-researchers to enhance ownership of the outcomes in terms of credibility, salience and legitimacy.

Given an opportunity I would like to undertake this academic / policy study on behalf of your department / ministry and the councils whilst the study goes to fulfil the requirements for the award of my degree. I would like to involve the GIZ advisor on urban and regional planning and a total of eight staff members (including your office) at national, provincial and council level as my study co-researchers. I will do most of the work as principal investigator, but your team should have an input and

opportunity to sign off my journal papers and the final guidelines. In this way, you will co-own the final outcome. The study might be a mere academic exercise if end users do not co-own the outcomes, is my other argument.

With your permission, I would like to propose the involvement of the following technical officers (technical means professional) as co-researchers.

- your office,
- Ms. Changula being the principal planner for forward planning,
- two provincial planners preferably Southern province where you already have the decentralisation for development pilot project dedicated to IDP promotion among other things and maybe planner for Eastern province. Eastern province has relatively higher incidences of drought a major climate change / disaster risk hazard but less IDPs developed I presume whilst western province is already covered by the PPCR II hence not preferred for now,
- six council planners divided as follows
 - 3 with already developed IDPs (from a City, Municipal and District council preferable in flood and drought prone districts)
 - 3 without developed IDP (from City, Municipal and District preferable in flood and drought prone districts as well)

My writing is to introduce myself and my study. My proposal and proof of registration are attached. My other official introductory letter will be delivered in a week's time when my professor signs it off in South Africa.

The second purpose of my letter is to request for a meeting with your office to explain the study in person to your office and your Lusaka IDP Advisory team. I have already made contact with Ms. Wilson the D4D GIZ advisor where I had wanted to undertake internship before I was made aware that they work closely with your office.

Sincerely yours,



Bowen Banda, MDM
PhD Science – Candidate

Cc: Urban and Regional Planning Advisor,
GIZ/Decentralisation for Development Project

Bowen Banda
Plot 1226/15 Station Road
Fairview Area
MONZE
Tel: +260977429927
Email: bowenbanda@yahoo.com

25th July 2017

The National Co-ordinator
Pilot Programme for Climate Resilience
Plot 118, Independence Avenue
Woodlands
LUSAKA

Dear Sir / Madam,

REQUEST FOR PUBLIC DOCUMENTS ON PPCR PROGRESS TO FACILITATE CLIMATE RESILIENCE INTEGRATION INTO LOCAL DEVELOPMENTAL PLANS

I am a Zambian and fulltime PhD student in disaster risk sciences at North-West University Potchefstroom South Africa but conducting research in Zambia. I am focusing on climate change adaptation, disaster risk reduction and local government integrated development planning in Zambia. Attached is my proof of registration and additional introductory letter from my promoter.

My writing is to introduce myself and request for any help with public documents / information on the extent of PPCR II to facilitate mainstreaming or integration of climate resilience in local adaptation plans in your operational area.

I am currently collecting grey literature just to appreciate what has been done so far on the subject matter, before I design empirical data collection instruments. I will be writing another letter for specific information early next year once I understand the current existing gaps. As for now I am just looking at general information on the subject matter.

Preliminary review of literature has shown me that, PPCR II is attempting to build adaptation planning capacity at provincial and local government council, district and ward level for the stakeholders to mainstream or integrate climate resilience into their local adaptation plans. As of 2015 and apart from your Participatory Adaptation Implementation Manual (PAIM) which was too generic in my view, there were no specific or detailed guidelines on how climate resilience mainstreaming should have been facilitated technically. The situation could be different by now but I am trying to develop these guidelines for the whole country across municipalities and ecological zones as part of my PhD work, based on the gaps I identified in 2015.

Sincerely yours,



Bowen Banda, MDM
PhD Science – Candidate

Bowen Banda
Plot 1226/15 Station Road
Fairview Area
MONZE
Tel: +260 977 429927
Email: bowenbanda@yahoo.com

13 November 2018

The Council Secretary
Monze Town Council
PO Box 660149
MONZE

Dear Sir/Madam

Request for 2 to 4 weeks attachment / internship at your institution

The subject matter refers.

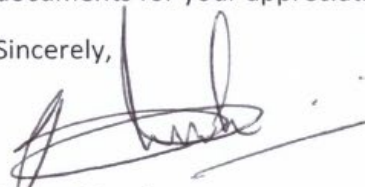
I would like undertake some internship at your municipality within November and December 2018, at my own cost to help me with my doctor of philosophy (PhD) studies in knowledge management of local authorities in Zambia. My request is however two in one:

- a. for internship to learn how municipalities function in general, in Zambia; and
- b. to collect some data for my study in knowledge management in municipalities. The specific focus of my studies is how climate change adaptation, mitigation and disaster risk science can be integrated into overall municipal knowledge management system and be used to enhance human and natural systems resilience using public resources.

I am full time PhD student in applied sciences (municipal local government, disaster risk and climate change studies) at North West University in South Africa but domicile in Monze, Fairview area. I have been studying this subject for the last two years full time but I am back into Zambia to collect my data sets for the next eight months till July 2019. I intend to collect my data sets in eight (8) municipalities: that is in four municipalities with Integrated Development Plans (IDPs) already developed and finally approved by the Minister; and in another four municipalities without developed IDPs. I will sample the four municipalities with already developed and approved IDPs from the following seven (7) districts (Chavuma, Mongu, Limulunga, Livingstone, Chongwe, Mambwe and Kalumbila). I have sampled Kazungula, Monze, Lusaka and Luwingu districts without developed nor approved IDPs from the remaining one hundred and eleven (111) districts in Zambia.

Your consideration for this request will be highly appreciated. I have attached other supporting documents for your appreciation.

Sincerely,



Bowen Banda
PhD Student



MONZE TOWN COUNCIL

Plot No. 100
Independence Avenue
Tel/Fax: + 260-32-50201

All correspondence to be addressed
to the Council Secretary

Office of the Council Secretary
P.O. Box 660149
MONZE

21st November, 2018

Bowen Banda
Plot 1226115 Station Road
Fairview Area
MONZE

Dear Sir,



REF: APPLICATION FOR INTERNSHIP

Refer to the above subject matter.

Reference is made to your letter dated 13th November, 2018 in which you had applied for internship to learn how municipalities function in Zambia and to study on how climate change adaptation under Planning Department.

I wish to inform you that your application has been successful. However be informed that the internship will not attract any monetary gain and all academic requirements will be met by yourself during one month period from 21st November, 2018 to 21st December, 2018.

Therefore you are requested to report to the office of District Planning Officer for assignment of duties.

By copy of this letter, the District Planning Officer is informed of the development.

Yours faithfully,
Monze Town Council

Justin Chombo
CHIEF HUMAN RESOURCE OFFICER
FOR/ COUNCIL SECRETARY

Cc: District Planning Officer
File



Bowen Banda
Plot 1226/15 Station Road
Fairview Area
MONZE
Tel: +260 977 42 99 27
Email: bowenbanda@yahoo.com

28th October 2019

The National Co-ordinator
Pilot Programme for Climate Resilience
Plot 118, Independence Avenue
Woodlands
LUSAKA

Dear Sir / Madam,

REQUEST FOR PERMISSION TO INTERVIEW YOUR NATIONAL ADAPTATION SPECIALIST AND CRAFs AS PART OF MY PhD STUDY

I refer to my letter dated 25th July 2017 where I indicated that I would make a follow up on the subject matter.

In this current letter, I would like to seek permission from your office to interview your national adaptation specialist or equivalent and your field based climate risk adaptation facilitators. I have informally interacted with some of your CRAFs in the Barotse sub basin that did not consider themselves to be under the jurisdiction of the Town Clerks or Council Secretaries nor District Development Planners. They considered themselves be answerable to NCCS or PPCRII in Mongu, hence my approaching your office for this permission request. Without which the CRAFs will not give me any in-depth interview.

I am in my last phase of my PhD study that is looking at four main variables.

- Integrated development planning (IDP)
- Climate change adaptation-mitigation (CCA-M)
- Disaster risk reduction (DRR)
- Mainstreaming of the above two developmental options into IDPs

My ultimate study goal is to develop validated regulations for mainstreaming both climate change and disaster resilience options into local government integrated development planning process: A case of Zambia. I am aware that Dr. Katharine Vincent and Mr. Willem Colenbrander have already developed guidelines for mainstreaming climate resilience into IDPs for Zambia. My argument from conception of my study in 2015, is that CCA-M and DRR are similar concepts that needs harmonisation and mainstreaming at the same time to enhance public resource utilisation efficiency and effectiveness.

I am pursuing my PhD by journal article publications that will form part of my main thesis. I have since drafted and written the first three articles outlined below. I am yet to write the last three before I graduate in 2021.

List of journal articles written / to write.

- i. Integrated development planning in Zambia: theoretical underpinnings, historical perceptive and current practices (undergoing peer review)

- ii. Integrated development planning and related financing practice: A compared case of Zambia and South Africa (undergoing peer review)
- iii. Climate change adaptation-mitigation and disaster risk reduction evidence in local government integrated development planning (Systematic review – in progress);
- iv. Policy framework and regulations in Zambia: mainstreaming climate change adaptation-mitigation and disaster risk reduction in integrated development plans (Currently obtaining data for this article. Format already outlined and publisher already identified)
- v. Perceptions, practices and local government institutional capacity in Zambia: mainstreaming climate change adaptation-mitigation and disaster risk reduction in integrated development plans (Currently obtaining data for this article. Format already outlined and publisher already identified)
- vi. Regulations for mainstreaming both climate change and disaster resilience options in local government integrated development plans: A case of Zambia

I have already identified three major projects that are supporting Integrated Development Planning in Zambia being:

- GIZ D4D
- Commonwealth Local Government Forum
- World Bank Pilot Program for Climate Resilience (barotse sub basin programme)

Specific issues I would like to seek clarification from your National Adaptation Specialist are:

- i. What other projects is the NCCS implementing that are supporting IDP capacity building at municipality level?
- ii. What other policy frameworks is NCCS working on to try to harmonise CCA-M and DRR for both decentralised and non-decentralised municipalities?
- iii. On what activities is NCCS collaborating with DMMU, Department of Environment, Meteorological Department, GIZ, Commonwealth Local Government Forum, and other tertiary institutions providing specialised training in municipality development planning?
- iv. Duration of the current PPCRII for Zambia?.
- v. Obtain any publications for public consumption on midterm evaluation of the PPCRII Zambia with respect to IDP sub component of the program.
- vi. Seek clarification concerning which municipalities supported by PPCRII have performed well at formulating IDPs in line with current Urban and Regional planning Act 3 of 2015 and in line with the current January 2019 Guidelines for formulating IDPs in Zambia?
- vii. Seek clarification concerning which municipalities supported by PPCRII have not performed well at formulating IDPs in line with current Urban and Regional planning Act 3 of 2015 and in line with the current January 2019 Guidelines for formulating IDPs in Zambia?

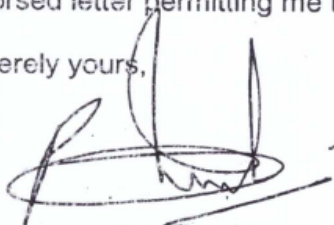
- viii. To be educated as to why PPCRII was designed to build municipalities capacity in IDP in 2009-13 before the act was promulgated? Was it World Bank conditionality to support decentralised IDPs?
- ix. Perceived future of IDP Concept in Zambia? Should we start looking for alternative developmental planning theory and practice like the newly proposed neo-mercantilism urban and regional planning theory and practice for Africa?

Specific issues I would like to seek clarification from your Climate Risk Adaptation Facilitators are according to my five qualitative research themes below. Please note that these questions will be extended to all the four categories of planners at municipality's level thus: district planning officer; town planner; social economic planner and; environmental planner including some community development officers in some instances.

- i. Issues are to seek clarification about CRAFs and Planners general understanding of my main research variables of: IDP, mainstreaming, CCA-M and DRR, including ecosystems resilience, build environment resilience and community resilience.
- ii. Obtain CRAFs and Planners' views of prevailing opportunities and challenges for harmonizing CCA-M and DRR into one concept for implementation or as developmental strategy.
- iii. Obtain CRAFs and Planners' views of prevailing opportunities for using CCA-M and DRR to enhance real resilience (ecosystems resilience, build environment resilience and community resilience) on the ground through IDP.
- iv. Obtain views from the CRAFs and Planners on challenges of transitioning from non- decentralised municipality development planning experience to decentralised municipality development planning or from using District Development Plans; Municipalities Strategic Management Plans to IDPs?
- v. Obtains CRAFs and Planners view regarding were they obtain their technical support for their IDP formulation, implementation.
- vi. CRAFs and Planners views as to why they believe their municipality is performing well or not regarding IDP formulation compared to other municipalities.
- vii. Obtain CRAFs and Planners' view of prevailing opportunities and challenges for using IDP as developmental local government planning, budgeting and decision making tool, or as decentralised municipality planning, budgeting and decision making tool.

I will be making a personalised follow up to NCCS in Lusaka to obtain a hard copy of the endorsed letter permitting me to engage the NCCS staff in reference.

Sincerely yours,



Bowen Banda, MDM
PhD Science – Candidate

Cc: Respective City, Municipal and Town Councils in Zambia

Bowen Banda
Plot 1226/15 Station Road
Fairview Area
MONZE

Tel: +260 977 42 99 27

Email: bowenbanda@yahoo.com

31st October 2019

The Permanent Secretary
Ministry of Lands and Natural Resources
Mulungushi House
P O Box 50694
LUSAKA



Dear Sir,

REQUEST FOR PERMISSION TO COLLECT DATA FROM THE DEPARTMENT OF CLIMATE CHANGE AND NATURAL RESOURCES FOR MY PhD STUDY

I am Zambian but studying for my PhD (in Environmental Sciences with Disaster Risk Science). I am pursuing my studies full time in South Africa at North West University, Potchefstroom Campus in North West Province.

My study topic, in full is, *developing alternative policy implementation guidelines for mainstreaming both climate change adaptation-mitigation and disaster risk reduction into decentralised local government integrated development planning: A case of Zambia.*

I am aware of the already existing mainstreaming guidelines developed by Dr. Katharine Vincent in 2017 on behalf of the Pilot Project for Climate Resilience (PPCR), and that these are part of the overall guidelines for formulating IDPs in Zambia. My point of departure is to develop guidelines that mainstream both CCA-M and DRR at the same time because these are similar concepts even though they are implemented in parallel. My topic cuts across ministries of environment, development planning, local government and disaster management and mitigation.

I am in my last phase of my studies and would like to collect the last set of data. I therefore seek permission from your office for me to seek clarification and collect data from your department of climate change and natural resources.

I would like to seek clarification on the following:

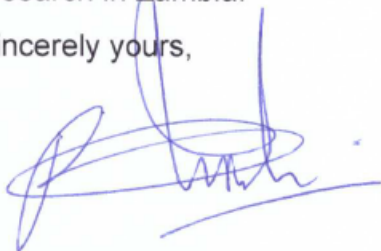
- i. What other projects is the Ministry implementing that are supporting capacity building of the municipalities to implement integrated development plans and mainstreaming climate change adaptation at the same time? This is besides the Pilot Project for Climate Resilience (PPCRII),
- ii. What other policy frameworks is the Ministry working on to try to harmonise climate change adaptation-mitigation (CCA-M) and disaster risk reduction (DRR). That is both natural resources based disaster risk reduction and

humanitarian based disaster risk reduction for both decentralised and non-decentralised municipalities?

- iii. Through what other activities is the Ministry collaborating with Disaster Management and Mitigation Unit (DMMU), Meteorological Department, GIZ, Commonwealth Local Government Forum, and other tertiary institutions providing specialised training in municipality integrated development planning?
- iv. What is the duration of the current PPCRII for Zambia? 2009-2019?
- v. Obtain any publications on midterm evaluation of the PPCR II Zambia with respect to IDP sub component of the program.
- vi. Which of the municipalities supported by PPCRII have performed well at formulating IDPs that mainstream CCA-M but in line with current Urban and Regional Planning Act 3 of 2015 and in line with the current January 2019 Guidelines for formulating IDPs in Zambia?
- vii. Which municipalities supported by PPCRII have not performed well at formulating IDPs in line with current Urban and Regional Planning Act 3 of 2015 and in line with the current January 2019 Guidelines for formulating IDPs in Zambia?
- viii. To be educated as to why PPCRII was designed to build municipalities capacity in IDP in 2009-13 before the URP Act was promulgated? Was it World Bank conditionality to support decentralised IDPs before they could give Zambia money?
- ix. What is the future of IDP Concept in Zambia at enhancing harmonisation and implementation of CCA-M and DRR at local government level? Should we start looking for alternative environmental developmental planning theory and practice like the newly proposed neo-mercantile theory for spatial regional integration especially for newly formed districts in Zambia?

I will visit the department of climate change and natural resources next week, at Mulungushi house to obtain this information requested for, once permission is granted. I have attached supporting documents from my university authorising me to undertake research in Zambia.

Sincerely yours,



Bowen Banda

PhD Science – Candidate



Bowen Banda
Plot 1226/15 Station Road
Fairview Area
MONZE

Tel: +260 977 42 99 27
Email: bowenbanda@yahoo.com

31st October 2019

The National Co-ordinator
Disaster Management and Mitigation Unit
Office of the Vice President
25 Tito Road, Rhodespark
P O Box 38963
LUSAKA

Dear Sir/Madam,

REQUEST FOR PERMISSION TO COLLECT DATA FROM YOUR RESEARCH DEPARTMENT FOR MY PhD STUDY

I am Zambian but studying for my PhD (in Environmental Sciences with Disaster Risk Science). I pursuing my studies full time in South Africa at North West University, Potchefstroom Campus in North West Province.

My study topic, in full is, *developing alternative policy implementation guidelines for mainstreaming both climate change adaptation-mitigation and disaster risk reduction into decentralised local government integrated development planning: A case of Zambia.*

I am aware of the already existing mainstreaming guidelines developed by Dr. Katharine Vincent in 2017 on behalf of the Pilot Project for Climate Resilience (PPCR II), and that these are part of the overall guidelines for formulating IDPs in Zambia. My point of departure is to develop guidelines that mainstream both CCA-M and DRR at the same time because these are similar concepts even though they are implemented in parallel. My topic cuts across ministries of environment, development planning, local government and disaster management and mitigation.

I am in my last phase of my studies and would like to collect the last set of data. I therefore seek permission from your office for me to seek clarification and collect data from your research department.

I would like to seek clarification on the following:

- i. What long-term developmental projects is DMMU implementing that are supporting operational capacity building of the decentralised local government to harmonise and mainstream both climate change adaptation-mitigation and disaster risk reduction into local government integrated development plans? I am aware of the World Bank Ministry of National Development Planning Pilot Project for Climate Resilience that is try to undertake two things: Build local government capacity to formulate and

implement Integrated Development Plans and; mainstream climate change adaptation into IDP. This project does not articulate nor advocate for mainstreaming of humanitarian DRR into IDPs. Mainstreaming of natural resources DRR into the PPCR is implied but not articulated as a stand alone concept.

- ii. What other policy frameworks is DMMU working on to try to harmonise climate change adaptation, and mitigation (CCA-M) and both natural resources based disaster risk reduction and humanitarian based disaster risk reduction into decentralised local government?
- iii. How is the Zambia Vulnerability Assessment and Mapping done is with respect to urban planning and Ministry of Lands and Natural Resources Planning needs?
- iv. What is the current role of the decentralised municipalities in the VAM and what are the future DMMU plans to institutionalise the VAM in decentralised municipalities or local government structure.

I will visit the DMMU next week to obtain this information requested for, once permission is granted. I have attached supporting documents from my university authorising me to undertake research in Zambia.

Sincerely yours,



Bowen Banda

PhD Science – Candidate

APPENDIX E: CORRESPONDENCE OF EMAILS TO COLLECT DATA IN SOUTH AFRICA

Your Contact at Klerksdorp Municipality

Yahoo/Sent

•

Bowen Banda <bowenbanda@yahoo.com>

To:18016758@nwu.ac.za

Mon, May 21, 2018 at 8:35 AM

Dear Bradley,

I would like to visit Klerksdorp Municipality this Thursday 24 May 2018, to informally familiarise myself with their operations and how I can request for a formal meeting to administer my instrument. This trip will also help me finalise my research instrument before the formal research meeting.

Kindly help me with the contact phone, preferably email address of your contact in Klerksdorp municipality.

Regards,

Bowen

•

Lesego Shoroma <18016758@nwu.ac.za>

To: Bowen Banda

Mon, May 21, 2018 at 11:46 AM

Dear Bowen,

Hope this finds you well.

I will suggest you only go to Klerksdorp once for your formal meeting, because at the moment local government is experiencing major setbacks as a result of the Premier dilemma. Maybe you can even go to Klerksdorp after the whole political debacle has ended. In the meantime I will get an email address of the IDP Manager for you and send it as soon as I receive it.

Kind regards

Lesego

>>> Bowen Banda <bowenbanda@yahoo.com> 5/21/2018 8:35 AM >>>

Appointment Request - Individual PhD Study on IDP from NWU

Yahoo/Sent

Bowen Banda <bowenbanda@yahoo.com>

To:mokatsanet@kaundadistrict.gov.za

Cc:tmokatsane@gmail.com

Fri, Jun 8, 2018 at 11:10 AM

Dear Mr. Mokatsane,

I would like to make an appointment with your office, to learn about how you support local municipalities to formulate and manage IDPs. I learnt a bit from Sanet in Klerksdorp, that their local municipality does not have fully fledged disaster management officer/department apart from fire department nor environmental management officer/department and that fully fledged departments are at district level. I will therefore zero in to ask you more questions about how these two departments at district level support the local municipalities.

My entry point for my study is IDP Managers because I am looking at IDP and how climate change adaptation, mitigation, environmental management and disaster risk reduction can be mainstreamed into IDPs. As much as possible I would like to learn from IDP managers and get their perspectives before I get to have the opportunity to speak to Environmental and Disaster risk officers, because I believe all feed into IDP strategy.

As you suggested, any meeting day for me between Tuesday and Friday next week will be fine. I have reserved the whole of next week to learn from your district municipality.

My full names are Bowen Banda. I am pursuing PhD in disaster risk sciences at North West University in Potchefstroom. I am currently in my second year of studies. I am looking at integrated development planning, climate change adaptation / mitigation, environmental management and disaster risk reduction. I am trying to develop alternative guidelines for integrated development planning that mainstream climate change adaptation / mitigation, environmental management and disaster risk reduction for Zambia, for my research. I am using South Africa as my baseline because indications are that Zambia borrowed and adapted its IDP model from South Africa even though the real motivation for adopting the South African model is not documented.

I am therefore trying to learn in more detail how IDPs are formulated at metro, district, urban local and rural local municipality in South Africa to help me develop the guidelines for Zambia. I have selected your municipality to represent a District municipality, then will go to Ratlou rural municipality in Setlagole once I am done with your district. I will then move to Mangaung in Free State for the metro and the provincial level before winding down my data collection process in South Africa with the National level in Pretoria. I am not collecting data at community level in South Africa but will only do that in Zambia. My study is quite comprehensive and hence I have very comprehensive questions in the attached checklist that I would like to ask you as IDP Manager during our meeting. The discussion might take 1 and half hours. In case time might not be sufficient for use to exhaust the discussion, I will make follow ups later and you can assist in typing the answers just below the questions at your own convenient, again if this will be fine with you.

I have attached other supporting letters-- introduction letters from my supervisor. Initially the study was just focusing on Zambia but we are now using South Africa as my baseline as already mentioned hence my two introduction letters being attached. One was signed last year, the other will be signed this week.

Sincerely yours,

Bowen Banda

Request for Email Addresses - IDP and Environmental Managers
Yahoo/Sent

•

Bowen Banda <bowenbanda@yahoo.com>

To: Billy.Barnes@mangaung.co.za

Thu, Jun 14, 2018 at 2:34 PM

Mr. Barnes,

Sorry to bother you once again. Would you have email address and phone numbers for your IDP and Environmental Managers.

Sincerely

Bowen Banda

----- Forwarded Message -----

From: Bowen Banda <bowenbanda@yahoo.com>

To: Billy.Barnes@mangaung.co.za <billy.barnes@mangaung.co.za>

Sent: Thursday, June 14, 2018, 2:34:44 PM GMT+2

Subject: Request for Email Addresses - IDP and Environmental Managers

Mr. Barnes,

Sorry to bother you once again. Would you have email address and phone numbers for your IDP and Environmental Managers.

Sincerely

Bowen Banda

Appointment Request - My PhD Study on IDP, CCA, EM & DRR from NWU
Yahoo/Sent

•

Bowen Banda <bowenbanda@yahoo.com>

To: Monyake.Mothekge@fscogta.gov.za, Markes.Butler@fscogta.gov.za

Fri, Jun 15, 2018 at 2:41 PM

Dear Sirs,

My full names are Bowen Banda. I am full time PhD disaster risk sciences student at North-West University in Potchefstroom.

I would like to request for a thirty minutes meeting with your respective offices, separately, sometime next week on either

Thursday 21 June or

Friday 22nd June 2018

If these dates are permissible. I am traveling on Monday from Potchefstroom, North West University and have secured appointments with the Metro on Tuesday and Wednesday.

The purpose for my appointment request is to obtain some data for my PhD research on Integrated development planning (IDP) at provincial level. I would like to learn how the province supports the municipalities to formulate their IDPs and later on how the province is supporting attempts to mainstream climate change adaptation/mitigation, environmental management issues in general and other disaster risk reduction activities into integrated development planning process. I am trying to develop alternative policy implementation and operational guidelines for mainstreaming these three themes into IDPs for resilience building using local government public resources but for Zambia. I am using the South Africa IDP process platform as my baseline. I realized in the course of reviewing literature extensively for my chapter two thesis, that Zambia borrowed its IDP model from South Africa in 2015 but very little is written about IDPs in Zambia. Hence I expanded my research scope to include at least four municipalities in South Africa, one province and the national.

I am trying to learn how IDPs are formulated and managed in South Africa from the people that actually formulate them to complement what I will read. I have already been to a local municipality in Klerksdorp (Matlosana Municipality), a District Municipality (Dr Kenneth Kaunda, in Orkney) and now coming to Mangaung Metro and the Free State Provincial. I will later go to Pretoria and Ratlou local municipality in Setlagole in the North West respectively.

Attached is my semi structured checklist to guide our discussions. I have also attached other supporting letters from my supervisor. Initially my study just focused on Zambia as already state, but we are now using South Africa as my baseline hence my two introduction letters being attached. One was signed last year, the other will be signed this week. I have also attached a check list that I will be using at the metro just for your information.

Sincerely

Bowen Banda

[Download all attachments as a zip file](#)

•

[Provincial level KII Data Collection Guide_Banda_B 15 June 2018_Final.docx](#)
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[Municipal level KII Data Collection Guide_Banda_14 June 2018_Final.docx](#)
[23.3kB](#)

•

Bowen Banda <bowenbanda@yahoo.com>

To:tauk@detea.fs.gov.za

Fri, Jun 15, 2018 at 2:58 PM

Dear Mr. Tau,

Director of Communications,

May you kindly assist me forward this email to the Manager / Director in Charge of Environmental Management. I would like to extend my request to make an appointment with the Director/Manager for next week Thursday or Friday as outlined in the email. I have already sent a copy to the Director for IDP and Head of Disaster Management. I did not manage to obtain email address for Environmental Management Manager.

Sincerely

Bowen Banda

Appointment Request - My PhD Study on IDP, CCA, EM & DRR from NWU

Yahoo/Sent

19, TUE, JUN

RE: Appointment Request - My PhD Study on IDP, CCA, EM & DRR from NWU

[View on Calendar](#)

When

Tue, Jun 19, 2018, 11:30 AM - Wed, Jun 20, 2018, 3:00 PM

Where

BRAM FISCHER BUILDING, SECOND FLOOR, ROOM 213B ON THE 19TH JUNE 2018
AT 15:30

Who

bowenbanda@yahoo.com

Are you going? [Yes](#) [Maybe](#) [No](#)

•

Bowen Banda <bowenbanda@yahoo.com>

To: Lebohang.pita@mangaung.co.za, Vivian.Minnaar@mangaung.co.za

Thu, Jun 14, 2018 at 3:57 PM

Dear Mr. Pita and Mr. Minnaar,

My full names are Bowen Banda. I am full time PhD disaster risk sciences student at North-West University in Potchefstroom. I obtained your email addresses from Mr. Barnes.

I would like to request for a thirty minutes to one hour meeting with your respective offices separately, sometime next week on either

Tuesday 19th June or

Wednesday 20th June 2018

If these dates are fine with you, I will be travelling from Potchefstroom for the said meetings once confirmed. I have already secured an appointment separately with Mr. Barnes for Wednesday 20th June 2018 between at 10:00 to 12:00hrs.

The purpose for these meetings is the same, to obtain some data for my PhD research on IDP. I would like to learn how your metro mainstreams climate change adaptation/mitigation, environmental management issues in general (for risk reduction and resilience building) and other disaster risk reduction activities into integrated development planning process. I am trying to develop alternative policy implementation and operational guidelines for mainstreaming these three elements into IDPs for resilience building using local government public resources but for Zambia. I am using the South Africa IDP process platform as my baseline. I realized in the course of reviewing literature extensively for my chapter two thesis, that Zambia borrowed its IDP model from South Africa in 2015 but very little is written about IDPs in Zambia hence expanded my research scope to include at least four municipalities in South Africa.

I am therefore trying to learn how IDPs are formulated and managed in South Africa from the people that actually formulate them to complement what I will read. I have been to a local municipality (Matlosana in Klerksdorp, North West), a District Municipality (Dr Kenneth Kaunda, in Orkney) and now coming to Mangaung Metro. I will go to the Free State province and national level thereafter.

Attached is my semi structured checklist to guide our discussion that will be more open than the outline. I will be using the same check list to collect data from Zambia. The questions in the checklist may sound repetitive or obvious in South Africa but may not in Zambia.

I have also attached other supporting letters from my supervisor. My study was just focusing on Zambia initially as already state, but we are now using South Africa as my baseline hence my two introduction letters being attached. One was signed last year, the other will be signed this week.

Sincerely

Bowen Banda

[Download all attachments as a zip file](#)

•

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•

Vivian Minnaar

Good Day Sir If it fits you, we can arrange for 8h00 – 10h00 or the late one from 14h00 to 16h00 on the same day that you met with Mr Barnes Venue: Office 915 Bram Fischer Building.

Regards Vivian Minnaar GM: Environmental Management

Fri, Jun 15, 2018 at 11:43 AM

Bowen Banda <bowenbanda@yahoo.com>

To: Vivian Minnaar

Fri, Jun 15, 2018 at 1:50 PM

Dear Mr Minnar,

Thank you for your email.

The early one from 08:00 to 10:00hrs, Wednesday will be fine with me to have some insights from environmental management before I meet with Mr. Barnes.

Sincerely,

Bowen

• •

Bowen Banda <bowenbanda@yahoo.com>

To:lebohang.pita@mangaung.co.za

Fri, Jun 15, 2018 at 1:53 PM

Dear Mr. Pita,

I forgot to copy you this email just sent a minute ago.

Sincerely

Bowen

• •

Lebohang.Pita

Good Morning Mr Banda.

Your email is well received, my apology for getting back to you this late, was in Pretoria the whole of last week at National Treasury.

May I humbly request that we meet on the 19th June 2018 which is tomorrow at 15:30. Warm

Regards

Lebohang Pita 0726332367

Mon, Jun 18, 2018 at 8:50 AM

Bowen Banda <bowenbanda@yahoo.com>

To:Lebohang.Pita

Mon, Jun 18, 2018 at 11:07 AM

Dear Mr. Pita,

Thank you for your email. Tomorrow 15:30hrs is fine with me.

Sincerely

Bowen

Appointment Request - My PhD Study on IDP & DRR from NWU
Yahoo/Sent

Bowen Banda <bowenbanda@yahoo.com>

To: Billy.Barnes@mangaung.co.za

Thu, Jun 14, 2018 at 2:18 PM

Dear Mr. Barnes,

My full names are Bowen Banda. I am full time PhD disaster risk sciences student at North-West University in Potchefstroom. I obtained your email address from Ms Lizzy Morake, at your Provincial Disaster Management Office.

My writing is to request for a thirty minutes to one hour meeting with your office sometime next week

Tuesday 19th June or
Wednesday 20th June 2018,

if these dates are fine with. I will be travelling from Potchefstroom for the said meeting once confirmed.

I am planning to meet three officers in your municipality: your office; the IDP planning manager; and the environmental management officer or Manager but at different times based on their convenience. I will write them separately as a matter of courtesy but the purpose of meeting them is the same. It is to obtain some data for my PhD research on IDP.

I would like to learn how your metro mainstreams climate change adaptation/mitigation, environmental management in general (for risk reduction) and disaster risk reduction activities or intervention options into integrated development planning process. I am trying to develop alternative policy implementation and operational guidelines for mainstreaming these three elements into IDPs for resilience building using local government public resources but for Zambia. I am using the South Africa IDP process platform as my baseline. I realized that Zambia borrowed its IDP model from South Africa but very little is written about IDPs in Zambia hence having expanded my research scope to include at least four municipalities in South Africa.

I am therefore trying to learn how IDPs are formulated and managed in South Africa from the people that actually formulate them to complement what I have read or what I will read. I have already been to local municipality (Matlosana in Klerksdorp, North West), The District Municipality (Dr Kenneth Kaunda, in Orkney, Klerksdorp as well) and now coming to Mangaung Metro and later the Free State Province and National level.

Attached is my checklist to guide our discussions. Questions pertaining to disaster risk management are from question number 20. I am using the same check list to collect data from Zambia as well. They questions may sound repetitive or obvious in South Africa but not, in Zambia.

I have also attached other supporting letters-- introduction letters from my supervisor. As already stated, initially the study was just focusing on Zambia but we are now using South Africa as my baseline hence my two introduction letters being attached. One was signed last year, the other will be signed this week.

Sincerely

Bowen Banda

•

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•

Billy B.J.H. Barnes <billy.barnes@mangaung.co.za>
To: Bowen Banda
Thu, Jun 14, 2018 at 3:00 PM

Dear Bowen

You are most welcome to visit, I am available on Wednesday, 20 June 2018, depending on your programme from 10:00 till 12:00, however it is not cast in stone.

Herewith the other relevant colleagues' details:

- IDP : Mr Lebohang Pita; Lebohang.pita@mangaung.co.za
- EM : Mr Vivian Minnaar; Vivian.Minnaar@mangaung.co.za

Kind regards

Billy Barnes

General Manager Disaster Management

Mangaung Metro Municipality

Tel: 051 406 6353

Cell: 072 380 6025

Email billy.barnes@mangaung.co.za

“Be kind whenever possible. It is always possible”

Disaster Control Centre: 051 406 66 66 // 051 409 9600

Control Centre Smart No: 107

• •

Bowen Banda <bowenbanda@yahoo.com>

To: Billy B.J.H. Barnes

Thu, Jun 14, 2018 at 3:13 PM

Dear Mr. Barnes,

Wednesday 10:00 to 11:00 hrs is fine with me but will be as flexible as possible in case you have other urgent commitments that might come up. I will be in Bloemfontein from Tuesday to Thursday.

And thanks for the other email addresses for colleagues.

Regards,

Bowen

• •

Billy B.J.H. Barnes <billy.barnes@mangaung.co.za>

To: Bowen Banda

Tue, Jun 19, 2018 at 11:49 AM

Bowen

Hope you are well.

Sorry to inconvenience you but due to unplanned urgent work commitment I will not be able to make tomorrow's morning set appointment between 10:00 – 12:00, however I will now have the following opening slots: Tomorrow afternoon between 14:30 till 16:30 and Thursday morning 10:00 till 12:30.

Please revert back to me on your availability.

Kind regards

Billy

Bowen Banda <bowenbanda@yahoo.com>

To: Billy B.J.H. Barnes

Tue, Jun 19, 2018 at 12:21 PM

Dear Mr Barnes,

Tomorrow 14:30 to 16:30hrs is fine with me.

Regards

Bowen

[Sent from Yahoo Mail on Android](#)

APPENDIX F: JOURNAL STYLE REQUIREMENTS

DEVELOPMENTAL SOUTHERN AFRICA
ARTICLE 1 PUBLISHED IN THIS JOURNAL



Journal

Development Southern Africa

Instructions for authors

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As a result of the significant disruption that is being caused by the COVID-19 pandemic we understand that many authors and peer reviewers will be making adjustments to their professional and personal lives. As a result they may have difficulty in meeting the timelines associated with our peer review process. Please let the journal editorial office know if you need additional time. Our systems will continue to remind you of the original timelines but we intend to be flexible.

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Contents

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- [Open Access](#)
- [Peer Review and Ethics](#)
- [Preparing Your Paper](#)
- [Style Guidelines](#)
- [Formatting and Templates](#)
- [References](#)
- [Editing Services](#)
- [Checklist](#)
- [Using Third-Party Material](#)
- [Submitting Your Paper](#)
- [Publication Charges](#)
- [Copyright Options](#)
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- Article
- Research Note

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Article

- Should be written with the following elements in the following order: title page; abstract; keywords; main text introduction, materials and methods, results, discussion; acknowledgments; declaration of interest statement; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figures; figure captions (as a list)
- Should be no more than 7000 words, inclusive of the abstract, references.
- Should contain an unstructured abstract of 150 words.
- Should contain between 3 and 6 **keywords**. Read [making your article more discoverable](#), including information on choosing a title and search engine optimization.

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- Should be written with the following elements in the following order: title page; abstract; keywords; main text introduction, materials and methods, results, discussion; acknowledgments; declaration of interest statement; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figures; figure captions (as a list)
- Should be between 3500 and 5000 words, inclusive of the abstract, references.

- Should contain an unstructured abstract of 150 words.
- Should contain between 3 and 6 **keywords**. Read [making your article more discoverable](#), including information on choosing a title and search engine optimization.

Style Guidelines

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Please use single quotation marks, except where 'a quotation is "within" a quotation'. Please note that long quotations should be indented without quotation marks.

Supply JEL classification codes if used.

Express ranges of dates and pages in the smallest number of digits, e.g. 1974–94, not 1974–1994, and 325–7, not 325–327.

Number the sections of your papers beginning with 1. Introduction, using DSA heading styles (all headings in sentence case and bold, numbered manually and not with auto numbering function), for example:

4. Agriculture

4.1 Market for existing crops

4.1.1 Maize and wheat

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For multiple agency grants
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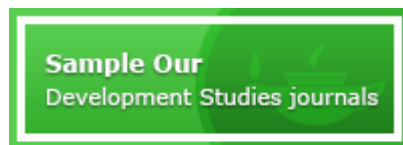
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DESCRIPTION

The International Journal of Disaster Risk Reduction (IJDRR) is the journal for researchers, policymakers and practitioners across diverse disciplines: earth sciences and their implications; environmental sciences; engineering; urban studies; geography; and the social sciences. IJDRR publishes fundamental and applied research, critical reviews, policy papers and case studies with a particular focus on multi-disciplinary research that aims to reduce the impact of natural, technological, social and intentional disasters. IJDRR stimulates exchange of ideas and knowledge transfer on disaster research, mitigation, adaptation, prevention and risk reduction at all geographical scales: local, national and international.

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Examples:

Reference to a journal publication:

[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, J. Sci. Commun.163 (2010) 51–59. <https://doi.org/10.1016/j.Sc.2010.00372>.

Reference to a journal publication with an article number:

[2] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, 2018. The art of writing a scientific article. Heliyon.19, e00205. <https://doi.org/10.1016/j.heliyon.2018.e00205>.

Reference to a book:

[3] W. Strunk Jr., E.B. White, The Elements of Style, fourth ed., Longman, New York, 2000.

Reference to a chapter in an edited book:

[4] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), Introduction to the Electronic Age, E-Publishing Inc., New York, 2009, pp. 281–304.

Reference to a website:

[5] Cancer Research UK, Cancer statistics reports for the UK. <http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>, 2003 (accessed 13 March 2003).

Reference to a dataset: [dataset]

[6] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1, 2015. <https://doi.org/10.17632/xwj98nb39r.1>.

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